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Strengthening organizations and collective action in fisheries

Towards the formulation of a capacity development programme

Workshop report and case studies
4–6 November 2014, Barbados

Cover photograph:
Top left: Message of thanks to the community after the Ocracoke Working Watermen's Association (OWWA) purchased the Ocracoke Seafood Company collectively. Courtesy of Robin Payne.
Bottom left and right: Fisherfolk developing leadership capacity. Courtesy of Patrick McConney.

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Preparation of this document

This document provides a summary of the presentations, discussions, working group sessions and recommendations of the workshop "Strengthening organizations and collective action in fisheries: towards the formulation of a capacity development programme," held in Barbados on 4–6 November 2014. The document also includes the nine in-depth case studies presented during the workshop and a contributed paper. The Centre for Resource Management and Environmental Studies of The University of the West Indies in Barbados co-organized and hosted the workshop under a letter of agreement with FAO and prepared the workshop summary.

The case studies are reproduced as submitted, after undergoing a peer review process agreed during the workshop.

Abstract

Organizations and collective action in small-scale fisheries (SSFs) are a way of maximizing long-term community benefits to deal with the threats of fisheries mismanagement, livelihood insecurity and poverty. Formal and informal fisheries organizations provide a platform for stakeholders to exercise their right to organize, participate in the development and decision-making processes, access markets, financial services, and infrastructure, and influence fisheries management outcomes.

In March 2013, FAO convened the expert workshop on "Strengthening organizations and collective action in fisheries: a way forward in implementing the International Guidelines for Securing Sustainable Small-scale Fisheries." Among the outputs was a typology of fisheries organizations and collective action in fisheries, as well as the elements for undertaking in-depth analysis of these organizations. Using the typology and the framework, in-depth case studies of fisheries organizations and collective action were undertaken in Barbados, Belize, Brazil, Costa Rica, Indonesia, Norway, Timor-Leste, the United Republic of Tanzania, and the United States of America.

The workshop "Strengthening organizations and collective action in fisheries: towards the formulation of a capacity development programme" was held on 4–6 November, 2014 in Barbados to present the findings of the in-depth case studies and recommend actions for strengthening organizations and collective action in SSFs. The Centre for Resource Management and Environmental Studies of The University of the West Indies in Barbados co-organized and hosted the workshop under a letter of agreement with FAO and prepared the workshop summary. The workshop objectives were achieved through presentations and discussion, along with two small working group sessions and further plenary discussion.

With respect to the formulation of a capacity development programme to strengthen fisherfolk organizations and collective action, the recommendations extracted from the working group sessions were:

- The aim should be to increase the capability of fisherfolk organizations to be self-reliant, self-organizing, and to be able to build strategic partnerships in SSF through networking.
- There must be an enabling environment of institutions, policies, legislation and state support underpinning the efforts of public-private partnerships to develop capacity.
- Existing norms, values, adaptive capacities and resilience features of fisherfolk and their organizations, from regional to community level, need to be understood and nurtured.
- Good governance within fisherfolk organizations is essential and requires considerable emphasis by developing capacity in organizational leadership and succession planning.
- Developing capacity means changing dimensions such as world view, organizational culture, knowledge systems, skills, financial resources, networks and equipment.
- Global programme guidance requires a steering committee that includes fisherfolk, governments, development partners, civil society and others participating on the basis of equity, and connected to the community level on the basis of subsidiarity.
- Change management needs to be a design element of capacity development so that the success of making positive change is not left to chance or become low priority.

- The human rights principles that have shaped the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication must also be applied in the development of capacity such that there is empowerment, respect and equity.
- The relationship between collective action and formal organization needs to be clearly understood as organizations are both outcomes and instruments of collective action.
- To develop capacity, it is necessary to understand how organizations help to ensure continuous attention to problems that are "wicked" and in need of sustained collective action.
- Organizations must be learning systems in order to be adaptive, so that what leaders and members learn must somehow be stored in the organization via appropriate systems.
- Differences between formal and informal organizations, and the consequences of the differences, need to be understood, especially when organizations become formalized.
- Organizations usually have a critical mass and can often remain small but effective only if they are well networked such as in a federation or similar well-designed collective.
- Organizations can be more or less multipurpose and multifunctional in scope and this is linked to diversity, inclusiveness and other features of resilience positively or negatively.
- Organizational success and failure should not be understood strictly in binary terms, but as degrees of either, and the criteria for evaluating them must be clear and dynamic.
- For fisherfolk, financial viability of organizations (especially cooperatives) is essential to support livelihoods and in turn allow them to be supported by active membership.

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Abbreviations and acronyms

ARC	American Red Cross
BARNUFO	Barbados National Union of Fisherfolk Organisations
BMU	beach management unit
CERMES	Centre for Resource Management and Environmental Studies
CNFO	Caribbean Network of Fisherfolk Organisations
COFI	FAO Committee on Fisheries
EAFM	ecosystem approach to fisheries management
F4F	Fisheries for Fishers
GAP	Global Assistance Programme
GCFI	Gulf and Caribbean Fisheries Institute
GMA	Gladding Memorial Award
LAC	Latin America and the Caribbean
LMMA	Locally Managed Marine Area
MCS	monitoring, control and surveillance
MER	marine extractive reserve
NFPCSL	National Fishermen Producers Cooperative Society Limited
NGO	non-governmental organization
OFI	Ocracoke Foundation Inc.
OWWA	Ocracoke Working Watermen's Association
RFLP	Regional Fisheries Livelihoods Programme
SSF	small-scale fishery
SSF Guidelines	Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication
VG Tenure	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security
WAFCO	West Aceh Fishers Co-Management Organization

Workshop summary

1. VENUE AND PARTICIPATION

The workshop took place at the Accra Beach Hotel in Barbados from 4 to 6 November 2014. It was organized to take place in conjunction with the sixty-seventh annual meeting of the Gulf and Caribbean Fisheries Institute (GCFI). The GCFI (www.gcfi.org) is the oldest and largest regional annual gathering of marine scientists, managers, students and fisherfolk in the Wider Caribbean Region. The workshop agenda is presented in Appendix 1. The twenty-four workshop participants from Africa, the Americas, Asia, the Caribbean and Europe (Appendix 2) were among the almost 250 people who attended this GCFI. The workshop was locally organized by the Centre for Resource Management and Environmental Studies (CERMES) of The University of the West Indies, which was also the host of the sixty-seventh GCFI. On 3 November 2014, workshop participants attended the GCFI Fishers Forum session that focused on fisheries livelihoods as the theme for fisherfolk presentations. This report is organized by the thematic section of the agenda rather than by the chronological order of the sessions.

2. OPENING SESSION

Raymon van Anrooy of the FAO Subregional Office for the Caribbean delivered the welcoming remarks that opened the workshop (Appendix 3). In thanking the participants for accepting the workshop invitation, he recalled the consultative events that had facilitated the development of the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines). The recent endorsement of the SSF Guidelines by the FAO Committee on Fisheries (COFI) represented an important step along the path for small-scale fisheries (SSFs) and fisheries livelihoods to become sustainable within the framework of a human rights-based approach. Participants were encouraged to have lively and productive debate to inform the emerging FAO programme.

Patrick McConney of CERMES also welcomed participants and thanked them for attending the workshop. He stated that initially the workshop had been conceived as a stand-alone event but its evolution to be a concurrent event of GCFI had opened additional opportunities for networking. In particular, he was pleased to see the large number of fisherfolk leaders who were participating.

The participants introduced themselves, following which Daniela Kalikoski of FAO presented the workshop objectives and agenda (Appendix 1). By the end of the workshop it was expected that participants would have shared their expertise and knowledge to assist in outlining a global programme for fisherfolk organization capacity development with recommendations on how to put that programme into action. She stated that FAO was working with many partners in this quest, and that there was good momentum to implement the SSF Guidelines. Patrick McConney ended the opening session by briefly addressing administrative matters.

3. FINDINGS FROM IN-DEPTH CASE STUDIES PRESENTED AND DISCUSSED

Susana Siar and Daniela Kalikoski of FAO chaired the two days of in-depth case study presentations and discussion. Summaries are presented in the following sections.

3.1 Barbados

The case of the Barbados National Union of Fisherfolk Organisations (BARNUFO) was studied in full collaboration with the organization as a capacity development activity. Patrick McConney's co-authors, consultant Bertha Simmons and President of BARNUFO Vernel Nicholls, participated in the workshop. BARNUFO's evolution has been a mixture of prosperity and struggle. Several enabling organizations have been largely responsible, directly or indirectly, for its resilience.

The participatory applied research methods included document analysis, interviews and two workshops. A brief description of fisheries in Barbados and the history of fisherfolk organizing since the colonial 1960s provided background. BARNUFO was formed in 1999 as an output of a government-led project to promote and strengthen fisherfolk organizations to play meaningful roles in national-level fisheries co-management. Two out of the three presidents of BARNUFO have been women, but most leaders of primary fisherfolk organizations are male. BARNUFO has a seat on the statutory Fisheries Advisory Committee that advises the minister on fisheries policy, but it continues to struggle with effective representation due to the small pool of leaders for implementing its activities. BARNUFO has been engaged increasingly at the regional level since it joined the tertiary level Caribbean Network of Fisherfolk Organizations (CNFO) in 2007.

A case study workshop created a BARNUFO activity and governance timeline with factors of organizational success and failure. BARNUFO's many accomplishments surprised workshop participants. Table 1 shows the factors of success and failure perceived by the fisherfolk.

TABLE 1
Perceived factors of fisherfolk organization success and failure

Factors favouring success	Factors favouring failure
1. Effective and committed organization leadership	1. Members choose leaders poorly with no clear selection criteria
2. Transparency and accountability in all organization finances	2. Diversity of membership pulls the organization apart due to conflict
3. Decisions are followed up on and feedback given to members	3. Cliques and factions hinder collective decisions and action
4. High levels of trust and respect among leaders and members	4. Use of positions in organization primarily as means of power
5. Focused and strategic decision-making with good planning	5. Poor succession planning to prepare leaders, use talent
6. Effective communication within and among organizations	6. Poor administrative procedures cause confusion and frustration
7. Member benefits and incentives are real and tangible	7. Organizations do not seek to network to build capacity
8. Government departments genuinely want to help fisheries	8. Organization is run like the private business of the leader
9. Effective representation of members in collective action	9. Insufficient funding and poor financial management
10. Members share real urgent needs; not just "wanting unity"	10. Low capacity; cannot effectively delegate tasks to members

There was more concern about vulnerability to socio-economic and governance matters than ecological issues, even though fisheries in Barbados are open access with minimal management. Adaptive capacity and self-organization are scarcely being achieved. BARNUFO is resilient in a non-progressive situation. Transformation is needed for significant improvement in BARNUFO.

The discussion first addressed the successful adaptation of the Sri Lankan cooperative model to the Barbadian fisherfolk association constitutions. Participants stressed the importance of fully engaging local fisherfolk in the process of adapting models introduced from elsewhere. In this case, adaptation of the imported constitutional model was authentic and unconstrained.

This led to an examination of BARNUFO's autonomy from government influence and control. Both the government and BARNUFO representatives at the workshop claimed a relationship of respect and support from government that did not compromise BARNUFO's autonomy. However, it was suggested that the generous support from government to the fishing industry, available to both members and non-members of fisherfolk organizations, encouraged free-ridership and eroded incentives for collective action.

Other points raised included the government's increasing involvement of BARNUFO in fisheries management, the election of officers to posts in BARNUFO being without government influence, the administrative registration of BARNUFO, and payments by fishers to receive benefits from being self-employed under the national social security scheme.

3.2 Costa Rica

Vivienne Solis Rivera presented a case study from the Pacific coast of Costa Rica, where SSFs and traditional coastal communities were said to feel threatened by both marine conservation and development contesting the coastal space. Costa Rica is a country with ten times more marine space than land area. The extensive marine space makes the use of marine and coastal resources important for the country's sustainable development.

These resources are also vital for the well-being of communities that are deeply linked to marine ecosystems, on both the Pacific and Caribbean coasts, in relation to food security, recreation and tourism.

Coope Tárcoles R.L., a small-scale fishing cooperative on the Pacific Coast was established in 1984 and has a goal of integrated well-being of its members, not only via economic profit. The cooperative is a productive organization in a legitimate coastal community with a strong cultural identity. It has offered social resistance to the massive coastal development model that prevails around it by maintaining local identity, with small-scale fishing as a main activity, and nurturing local decision-making organizations.

Coope Tárcoles R.L. uses an organizational model in which the fisherfolk work individually but they share the cooperative's operations and the market as a group. It has been a "learning through action" experience. The standard cooperative model was adapted to a way of life, based on local culture and economy. The organization has strengthened fisherfolk self-esteem so that they trust in their ability to manage the fishing company. This has brought about greater safety and benefits, not just economic, but social as well, for its members and the community in general.

Coope Tárcoles R.L. is without doubt an exemplary organization both at the local and national level in the field of community-based fisheries. It has gained experience and provides important lessons about the three dimensions of sustainable fisheries development: social, environmental and economic aspects. The cooperative venture has served to strengthen both the fishery economy of the community and the social structures needed to support small-scale fishery activities. Responsible fisheries were championed, and a responsible fishing area was designated after negotiation. Since inshore trawling was restricted, the shrimp and other marine resources have improved.

Enabling policies support social development and provide SSFs with adequate infrastructure, the necessary conditions of access, and the possibility to become better organized. Policy support has also been valuable in strengthening the cultural and productive identity of the community. It is essential for achieving the conditions necessary for responsible fisheries that guarantee ecological sustainability, economic viability and social well-being. The cooperative provides learning opportunities and serves as the foundation for leadership. This and the above factors allow the

cooperative to remain flexible in a changing environment, which can also be seen as potential capacities such as resilience, governance, and an integrated management that considers human-rights-based approaches to conservation.

The discussion that followed addressed the importance of good leadership, election of leaders and succession planning that included leaders serving in several posts on the board of directors. The high financial cost of hiring external management and the lack of trust in outsiders are key factors that motivate the development of capacity from within the cooperative. Coope Tárcoles R.L. also networks to some extent with other organizations but it is quite self-reliant and self-organizing.

Further discussion addressed the removal of intermediaries by the cooperative and the variation in intermediaries with community ties ranging from being good to bad. While the cooperative does not encourage intermediaries, from the community or otherwise, it treats them as fair competitors in the market for fish and does not try to monopolize. This allows members to comparatively appreciate the benefits (e.g. higher price paid) of the cooperative. The workshop agreed that Coope Tárcoles R.L. provided an interesting and unusual example of quite holistic cooperative success. The extent to which it could inform adaptation elsewhere remained a key question.

3.3 Belize

Romaldo Lewis presented the case of the National Fishermen Producers Cooperative Society Limited (NFPCSL) of Belize in order to determine, among other things, the drivers, problems, causes, effects and consequences of the drivers that have limited or minimized stakeholder (fishers, employees, retailers and consumers) participation in the organization. A participatory approach was used with emphasis on the financial aspects of the cooperative, such as incentives and disincentives for membership.

Fishing communities have seen changes over the past few years, particularly due to the direct or indirect influence of tourism. Some cooperatives have closed in recent times. Most (94 percent) of NFPCSL's management and membership are male. The highest value and most (95 percent) of the seafood products are exported to the United States of America. The cooperative performed poorly in self-evaluation, learning, innovation and goal setting. It identified the reasons for success and failure, summarized in Table 2.

TABLE 2
Reasons for success and failure

Success	Reasons
• Productive members	Productive members are needed all the time
• Committed members	Be part of the organization for a long time
• Committed staff	Staff that perform constantly and when needed
• Secure market	Production can always be sold
• Quality product	Product must meet export and legal requirement
Failure	**Reasons**
• Poor pricing management	Utilization of one market
• Poor market negotiations	Lack of knowledge of other competitive markets
• Poor management	Limited education
• Deficiency in capacity	Lack of interest to upgrade knowledge or rotate management

Fisheries cooperatives are popular in Belize. They wield policy influence, but they need to see themselves as businesses and operate accordingly. Some have large debts and cash flow constraints owing to members not paying their dues on time. Value chain analysis can reveal strengths and weaknesses. Recommendations for improvement concern the governance structure, business strategy, networking and

external relations, empowerment, self-reliance, coherence, distributive justice and knowledge mobilization.

Discussion addressed the problem that strong personal commitment to a cooperative and an enabling or preferential policy environment do not necessarily lead to financial success if the business management systems are deficient. This led to an examination of mechanisms for financial oversight and regulation that are usually State responsibilities, but may not be properly discharged if cooperatives authorities are weak. It was pointed out that cooperatives are also social and political organizations, and these dimensions are worth examining. The positive and negative interactions between fisheries and tourism were also discussed in the context of the cooperative's success and failure.

3.4 Brazil

Daniela Kalikoski presented on the achievements and challenges in the cases of two cooperatives in Brazil. The case study was prepared by Adriane Lobo, Renato Rivaben de Sales and Antonio Diegues. The cooperatives were the Cooperative of Oyster Producers of Cananéia in São Paulo State, and the Cooperative of Artisanal Fishers of Santa Isabel in the southern part of Rio Grande do Sul State. The case study focused on how co-management arrangements and collective action arise out of crisis and how fisher organizations fight for better seafood marketing conditions.

The Santa Isabel cooperative was created in 2002 with 20 people and now has 41 members. It aimed to improve quality, add value to seafood products and find alternative markets for them. Several enabling policies favoured this progress, and the impacts included better prices, greater solidarity and women's empowerment. The oyster producers' cooperative is associated with a marine extractive reserve (MER) where the value chain is dominated by traders, outside fishers are increasing, incomes are low and there is overharvesting of oysters with habitat degradation. The improvements included rules introduced for oyster rearing and conservation, environmental protection, reduced illegal harvesting, better marketing and new opportunities with tourism.

By their success, the positive impacts on increasing community self-esteem were considerable in both cases. However, several challenges still need to be addressed. For example, the problems with intermediaries continue, demand cannot always be met and market competition is fierce. The capacities for business administration and leadership are low, but increasingly the latter is being addressed through experience with leading collective action. There is need for access to credit, infrastructure and benefits for women. The cooperatives have to meet stricter health and safety standards than intermediaries, making for unfair competition. Yet, despite the challenges, associations and cooperatives represent a seed for transforming social relationships within communities. They have the potential to address some of the major socio-economic threats to SSF livelihoods.

The discussion touched on social security policy and the special unemployment benefit status that fisherfolk households enjoy in Brazil. Many of the fishers in the areas are not members of the cooperatives. Cooperative networks are seen as a way to create economies of scale and power in the market for seafood. The training of women and youth in management was thought to be progressive.

3.5 United Republic of Tanzania

Paul Onyango presented a case study on beach management units (BMUs) around Lake Victoria, the United Republic of Tanzania. Derived from Amartya Sen, his main argument was that in order to strengthen collective action it is important to recognize and enhance fishers' abilities, including the capability to make choices. This results in the expansion of human freedoms and capabilities.

Community fisheries management around Lake Victoria has become increasingly mixed with formal measures. Co-management was introduced in 1997 and the Tanzanian constitution is strong on enabling collective action. There are more than 400 BMUs around Lake Victoria along with other groups. The case examined the Nyakasenge BMU, formed in 1999, as an example. The BMU by-laws, functions, membership and governance structure were presented. Although about half of the members are women, and many own fishing boats and gear, representation in formal governance is minimal. The BMUs are networked with other organizations and into larger units. Nyakasenge BMU successes and challenges include those in Table 3.

TABLE 3
Nyakasenge BMU successes and challenges

Successes	Challenges
• Facilitation in the registration of boats • Reduction in number of beach seines (illegal gear) • Conflict resolution among fishers • Cooperation with other BMUs • Representation of various fisher groups in the BMU • Addressing members welfare at landing e.g. during bereavement	• Poor record-keeping, not even minutes of the BMU's executive committee meetings • Inability to control theft and loss of property at the landing • Perceiving themselves as part of the fisheries authority rather than being independent • Not walking the talk with respect to illegal fishing practices

Strategies to strengthen collective action should:

- Enable BMUs to gain autonomy and or independence.
- Improve participation and networking from landing site to lake-wide level.
- Provide clear roles for each participant.
- Rethink ownership of the lake.
- Restructure capacity enhancement of BMU members.

The discussion highlighted heterogeneity in the BMU by-laws despite their relative uniformity. It seems that diversity remains advantageous even if limited. Although the Nyakasenge BMU was a governance structure established by the State, the community has taken ownership to some extent and shaped it to achieve their aims, even beyond fishery resource management. The BMUs have a lot of things that they can do for themselves, fisherfolk have capacity, but if these capacities are not recognized they will not be able to move forward.

3.6 Timor-Leste

Enrique Alonso Población presented a case study of the "tara bandu" of the hamlet of Beacou, Bobonaro District, in northwest Timor-Leste. The fisheries sector in Timor-Leste is characterized by its small-scale nature despite the continuous attempts by the different State regimes (especially the Indonesian New Order – 1975 to 1999) to trigger a sectoral transformation in order to boost production. Following independence in 2002, the State institutions developed various policy and legal frameworks for the sector. However, the subsequent legal provisions were not adapted to the local context, hindering their implementation and enforcement. Despite this low capacity for fisheries management, caused by a lack of human resources, infrastructure and investment among others, investment in fisheries has increased in recent years.

In this context, two main forms of collective action are active in country: cooperatives and customary-based systems for resource management. While the only active cooperatives are located on Atauro island, where the major part of the population is Protestant, customary-based systems are alive along the main island, where the majority is Catholic. The tara bandu is a newly supported type of organization based on a customary system that, broadly speaking, serves to regulate the relationships

among humans and between humans and non-human entities. Its existence and recent revitalization should be understood in light of the state lack of enforcement of the legal provisions as regards resource management, the pursuit of a national identity after the Indonesian withdrawal, as well as in the different policies of conversion of the diverse religious regimes in the island and the maintenance of some social structural forms. In sum, the presentation explored the historical, social, cosmological and religious dimensions of this customary system.

The case of the tara bandu of Beacou shows how global-level discourses and concepts intrude into the lives of the local villagers of a coastal community in a developing context. It also shows how they incorporate these external influences and re-construct their own customary practices according to their contemporary needs and aspirations. In the case of Beacou, the community initiative to re-establish this traditional system found the support of the Regional Fisheries Livelihoods Programme (RFLP) and the National Directorate of Fisheries and Aquaculture. In this process, the roles of the fisheries officer and the hamlet chief were key. Through this collaborative work, the community received assistance in writing down the local regulations, producing maps using GPS cameras, drawing the map of the hamlet, producing copies and disseminating the founding document.

The experience reveals that external recognition of local cosmologies and knowledge of the sector idiosyncrasies are a definitive advantage in strengthening collective action, which depends largely upon historical, cultural and social factors, with special attention to leadership. More specifically, the study showed that the tara bandu was successful with regard to: (i) resource protection; (ii) increased transparency and (iii) recognition, although informal, from the State administration. However, the system is not completely without challenges. It was found that the implementation of the tara bandu: (i) increased the workload of salt producers, (ii) increased household expenditures in lime powder for chewing areca nut and betel leaf; and (iii) resulted in little effective involvement of women (they appear as signatories but do not participate in the dialogue process of the settlement of disputes).

Discussion started with considering how to better use the customary system by integrating it with fisheries co-management. This was done in establishing the Locally Managed Marine Area (LMMA) network in several Pacific countries. It was noted that the integration process can be quite slow, especially if legally rooted, and this process may be overtaken by the urgency of fisheries management issues. The process of integration has to be well managed to avoid the confusion of conflicting agencies. In this case, gender was also an important factor along with putting capacity development into the local context rather than imposing external perspectives.

3.7 Indonesia

John Kurien presented the case of the five entities created in Aceh Province of Indonesia in the post-tsunami period (2008–2013). The case study dealt with a capacity development programme undertaken in four western coastal districts of Aceh Province after the devastating tsunami of 2004. The programme was part of an UN/FAO and American Red Cross (ARC) post-disaster initiative that focused importantly on introducing the concept of fisheries co-management to the coastal fisheries of the devastated districts.

The programme's approach to capacity development had four subcomponents: awareness creation, training, field action and networking. Four interest groups or stakeholders of the coastal community in Aceh benefited from this initiative: (i) the youth from the coastal villages; (ii) fisher leaders of a customary fisher organization; (iii) officers of the fisheries department; and (iv) women's groups. The main objective of these capacity development initiatives was to start new "hybrid organizations" with

the joint action of these groups to put the concept of fisheries co-management into practice in the coastal districts. The organizations were to be an amalgam of the existing customary institutions (called Panglima Laot) and fresh structures created for the new challenges of co-management.

Five new co-management organizations were thus initiated. They are collectively referred to in the case study as the West Aceh Fishers Co-Management Organization (WAFCO). The case study describes how the WAFCO entities were formed between 2008 and 2010, and how they fared until 2013. The five entities undertook a wide variety of initiatives, which included: coastal resource rejuvenation; responsible fishing; conservation of coastal forests, mangroves and corals; banning of illegal fishing practices; community monitoring, control and surveillance (MCS) initiatives; formation of self-help groups; and community tourism. The case study details how each of these five entities started, functioned, flourished and, finally, how three of them failed while two succeeded.

The case study also provided an assessment of the functional experience of these hybrid organizations for undertaking fisheries co-management, showing that:

- The hybrid entities did provide the material basis for coastal communities to work together enthusiastically to revive and renew their relationship with the sea and its resources after a massive natural disaster.
- The preparatory human capacity building actions were a necessary investment in human capital.
- The sudden termination of the "facilitation process" (due to the closure of the UN/FAO/ARC programme in 2010) was an important element in the faltering of some of the entities.
- The amorphous nature of hybrid organizations made informality and familiarity take precedence over the need for structure and institutional memory.
- The mainstreaming of women into the governance of the entities did not take the priority envisaged.
- The involvement of the State in co-management can only be ensured if officers adopt a mindset allowing people to be creatively involved in the decisions that affect their lives.
- Moral leadership is essential for hybrid organizations. There must be an amalgam of personal and social characteristics to ensure success.
- Hybrid organizations can be more easily prone to disbanding following failure. Success and failures must never be viewed as events of finality. They must be viewed as part of an institution-building trajectory with lessons to be learned and internalized.
- Where the product market (for fish) was vibrant and expanding, there was greater scope for success of the entity.

The case study reflected on the relevance of hybrid organization in the rebuilding of coastal communities where post-disaster and post-conflict events have occurred. There has been increasing recognition that sustainability of relief and rehabilitation efforts finally rest on the success of the organizational structures that are created to move the coastal communities towards re-establishing their normal livelihoods with dignity and self-reliance. These post-conflict/disaster scenarios also provide the possibilities for establishing new relationships between people and the resources of the sea. In such contexts, hybrid organizational initiatives, which draw upon the lessons of the past, are created by multi-interest groups and are more participatory, come to have increasing relevance in the future.

Discussion started with the opportunity here to build co-management afresh rather than fit it into existing institutional arrangements. It appeared that the fresh start was no guarantee of success although it ensured that the status quo, or "do nothing", was not an option. There may be a big difference between post-conflict and post-disaster

experience in how institutions are re-established. In post-conflict, communities are often starting from nothing in terms of willingness to trust. However, in post-disaster, there would be lost livelihoods, but collective institutions remain. In post-conflict, it is often difficult for people to come together. How matters are organized is different in the two situations.

The differences between formality and informality between countries and cultures were also explored. In Indonesia, there was a tendency to have many rules and regulations, and to have legal recognition as the basis for institution building in concert with less formal approaches. This led to a brief exploration of the impacts of co-management failures on socio-economics. Market and community need to work together in order to achieve prosperity.

3.8 United States of America

Using video-conferencing technology, Anna Child presented a case study on the Ocracoke Working Watermen's Association (OWWA) and Ocracoke Seafood Company in Ocracoke, a small island community in North Carolina, the United States of America.

When the last remaining fish house (a wholesaler and buyer) on the island was put up for sale by a private owner in 2006, the above two entities were established as a way to ensure fishing as a viable economic activity and preserve the island's fishing heritage. OWWA was established as a direct educational project in 2006, and Ocracoke Seafood as a for-profit subsidiary in 2007: both have been incorporated under the Ocracoke Foundation Inc. (OFI), a community non-governmental organization (NGO). It was demonstrated that OWWA and Ocracoke Seafood are separate but linked entities that are multifaceted, innovative and have evolved with a focus on economic, environmental and social sustainability with significant support from OFI, the watermen themselves, the larger community, politicians and dedicated state organizations. The form is most similar to a new supported organizational form, based on collective action, which is cooperational, multi-interest (cross-class) and multilayered with revived interest by state, international organizations and NGOs. For the case study, research was conducted primarily through interviews of the watermen that make up these organizations as well as with community, NGO and academic stakeholders within the SSF sector. Research was carried out from December 2013 to April 2014.

The presentation first provided a national context, summarizing some of the general characteristics of collective action within SSFs in the country, which historically has had strong ties to unions in the northeast of the United States of America; although in North Carolina, it has had a shorter history, mostly through auxiliaries or associations. It also offered a regional/state context, by presenting a background of North Carolina, its fisheries sector and an overview of the history of collective action in the state, also underscoring the important roles of women. Commercial fishing in North Carolina has undergone rapid change in the last decade, with the state facing significant declines in landings (both in volume and value) as well as in the number of commercial fishing licences, highlighting the strong need for collective action in the state's fisheries sector if it is to survive.

The presentation then delved into OWWA and the Ocracoke Seafood Company as a new supported organizational form, discussing the process of how the form evolved via a thorough needs assessment in which many different organizational forms were considered. The presentation further detailed the entities' legal framework and documents, funding model, main outcomes and activities, as well as how their form aligns with the principles of the International Cooperative Association.

The main outcome of Ocracoke Seafood was the reopening of the fish house, with both a wholesale and retail side. The fish house is now collectively owned by the watermen of OWWA, with OFI (the NGO) acting as the sole shareholders of the

company in order to help the company ensure its mission and to keep it from falling into private ownership again. All profits made are either reinvested into the business and/or divided up between the watermen, based on their catch volume that year. The company has been profitable; between 2007 and 2013, it was estimated that Ocracoke Seafood paid a total of between USD400 000 and USD500 000 a year to local watermen, with gross sales of USD750 000–900 000 a year. One of the main outcomes of OWWA was to build a Working Watermen's Exhibit, which serves as a mini-museum and a venue for tourists and school groups, among other things. The community leaders saw such a venue as a unique opportunity to tell the watermen's story of reopening the fish house, as this reopening was occurring in a context of so many others up and down the east coast closing. OWWA has also established itself as a respected, unified voice on fishing regulations, providing public comments to the North Carolina Division of Marine Fisheries on issues that will have a direct impact on livelihoods.

In conclusion, it was highlighted that OWWA and Ocracoke Seafood go beyond their tangible outcomes. The entities are a long-term means towards building an economically sustainable fishing sector in their small island community. For example, youth now see that fishing has a viable future on the island and there has been a resurgence of youth wanting to work in the industry. The presentation also identified the factors that have played roles in various successes and challenges. Regulations, participation and leadership succession planning are all challenges being faced. Strategies and ways to strengthen the organization were identified, with the need to bring in more formality to the entities a recurrent theme, especially by developing clearer leadership roles and possibly redrafting the memorandum of understanding between OWWA, Ocracoke Seafood and OFI.

Discussion focused on gender, recognizing the role of women who work behind the scenes to raise funds, but also fish, manage the retail side of the fish house and participate in public commentary meetings with political leaders. Participants also discovered that the term "watermen" is usefully inclusive of a variety of stakeholders, providing an important collective identity.

3.9 Norway

Svein Jentoft made a presentation prepared by himself and Bjørn Petter Finstad on 'The Fisher's Constitution: Turning the table for small-scale fisheries in Norway". He started by arguing that organization addressed the power of speaking with one voice, bargaining from strength, the need for collective action, and enhancement of governability. Until oil was discovered, fish was Norway's main export, and this importance helped its SSFs to create a national enabling policy environment for organizing. The Raw Fish Act of 14 December 1951 was pivotal in this process.

The act was the result of a grassroots movement that mobilized fisherfolk who were dissatisfied with the price of fish. The law basically says that if one wishes to sell fish, it has to be done through a fisher organization, otherwise it is illegal. The law thus protects the place of fisher organizations in the market and value chain. The law also gives them the power to set a minimum price. If there is competition in the local market for fish, the processor can increase the price but cannot go below the set level. This turned the tables for the fishers, shifting them from price takers to price setters. It empowered fisherfolk. The law relates to the two first transactions: from fishers to organizations, and from organizations to processors.

By giving fishers authority to fix a minimum price, this secures a price that can sustain livelihoods but also force processors to deal with the export market to remain competitive. It assists the financial situation of a nation as a whole, to counteract lazy monopoly. This system was one of the last things the previous government did before

leaving office and the law has always been controversial. New functions have been added to the responsibilities of fisher organizations to formalize in law their role in fisheries management.

It is difficult to talk about this law in the context of poverty and poverty alleviation as Norway is considered one of the richest countries in Europe, but it was not always so. It was once among the poorest countries in Europe, as when this law was introduced. The law was one of the most important institutional innovations that reduced poverty in the fishing sector. Now, people are leaving the fishing industry in the hope of a better life in the oil industry. Such a law would probably not be introduced today, but it was transformational in its era, illustrating the importance of the legal–institutional and enabling policy environment. This case addressed key issues such as marginalization, empowerment, and poverty alleviation, so it may still be relevant. It shows that there are ways to change the conditions of fisherfolk.

In discussion, participants appreciated the application of lessons from history to the present. The governments in some countries may be less interested in changing laws to benefit ordinary people and more geared towards perceived powerful sectors of the economy to generate wealth, but with less concern for the distribution of that wealth. In other parts of Europe, fish auctions result in low ex-vessel prices that disadvantage the harvest sector. There are several components and conditions working in combination that made the Norway case a success that may not easily be replicated there or anywhere else today. Removing a component may cause the entire system to collapse. Its resilience is a delicate balance.

The discussion also addressed whether the 1951 government legal intervention was due to the perceived benefits to the country or to the fisherfolk. The conclusion was that it concerned both. However, it was unclear if or how the Raw Fish Act affected fish stocks. Yet, without the law causing organizations to gather fisheries data, government would have had to do this by another means for management at some additional cost.

4. FORMULATING A CAPACITY DEVELOPMENT STRATEGY

The workshop organizers used presentations and working groups to begin the process of collectively formulating a capacity development strategy.

4.1 Review of FAO Corporate Strategy on Capacity Development

Susana Siar noted that FAO was rethinking its capacity development strategy. There is shift from the term "capacity building" to "capacity development", reflecting a shift from a provider of technical assistance to a facilitator of change. There is more emphasis on dialogue, and a move from supply driven to demand driven interventions. An increased emphasis on integration and partnerships with other capacity building organizations is also evident.

Technical and functional capacities are now encompassing all areas of FAO work to formulate and implement policy, manage knowledge, sustain partnerships and address implementation comprehensively. FAO has identified critical capacity development success factors (Table 4).

TABLE 4
Critical success factors in capacity development

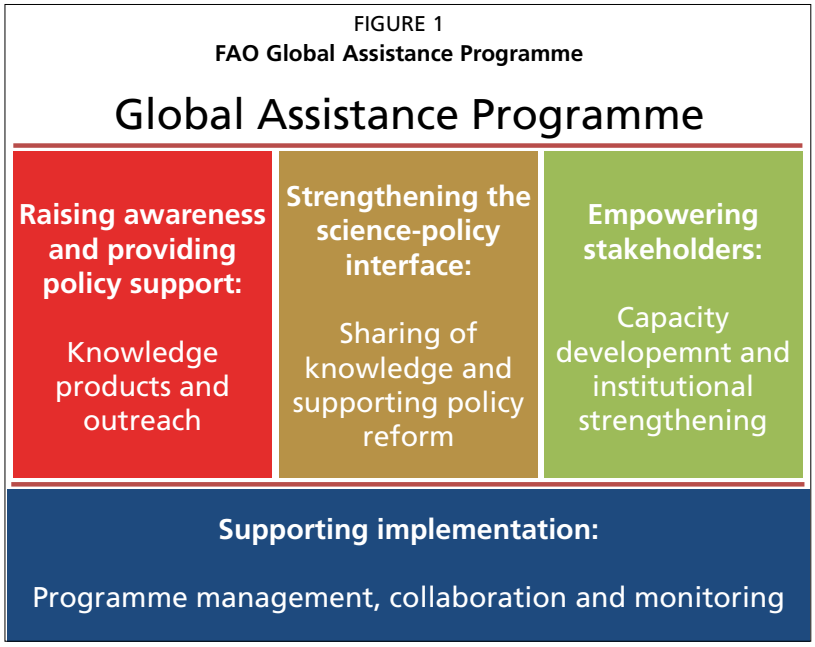
Early stage: identification of capacity development demands	Formulation and implementation	Finalization and sustainability aspects
• Use of frameworks derived from international initiatives (e.g. conventions, treaties) • Early involvement of national actors using participatory approaches • Commitment of national actors to policy implementation and performance improvement • Undertaking of targeted needs assessment	• Attention to national, regional and subregional context • Attention to all 3 dimensions of capacity • Attention to technical and functional capacities • Combination of modalities of intervention • Application of sound training methodologies with appropriate pedagogy • Adoption of medium to long-term approaches • Creation of networks for knowledge and experience sharing	• Internalization of changes by national actors into their priorities, systems and processes • Ongoing strategic budget allocation • Incremental approaches building on feedback from previous phases • Empowerment of local communities • Monitoring and evaluation of outcomes and impact

4.2 Review of the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication

Daniela Kalikoski briefly reviewed the first international instrument specifically for SSF, which goes beyond fisheries to touch on several human dimensions of well-being, and is particularly grounded in human rights principles. It is an instrument that guides governments, but it should also be used to guide fisherfolk directly. She explained the structure of the SSF Guidelines and the extensive consultation process that culminated in their approval in 2014.

Countries and stakeholders will need to bring the SSF Guidelines into their regional, national and local contexts. This includes translation, not only into different languages but into different meanings that resonate with the people who are to be engaged. Within this, a key component of implementing the SSF Guidelines is the Global Assistance Programme (GAP) agreed to by the Thirtieth Session of COFI. One section of the GAP concerns empowerment via capacity development and institutional strengthening. This workshop focused on informing this section of the GAP (Figure 1).

FIGURE 1
FAO Global Assistance Programme



4.3 Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security

Raymon van Anrooy of FAO made this presentation on the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VG Tenure). They talk about how to deal with common property, tenure rights, spatial planning and transboundary matters. FAO is also raising funds in support of implementing the VG Tenure but they need to be better known in the region, and to have a greater impact it is necessary to work at the national and local level. There is an e-learning facility in support of the guidelines, and additional means of support and dissemination are being planned.

The discussion covered all three presentations. Participants noted that international processes, even if expedited, could be slow by the standards of anxiously waiting stakeholders. Simpler administrative procedures could reduce response times and make implementation more cost-effective. In the Caribbean, where agriculture often takes precedence over fisheries, interested parties need to make their voices heard by raising awareness of the importance of guidelines. A brief comparison of the VG Tenure and SSF Guidelines ensued, noting that the former were much more far-reaching in content and were relevant to coastal lands. Participants were reminded that both sets of guidelines were voluntary, and hence active support was needed. The discussion also tackled practical means for supporting implementation and demonstrating relevance through success. Incremental scaling up with networking was one suggested strategy.

5. WORKING GROUP SESSION 1: FORMULATION OF A CAPACITY DEVELOPMENT PROGRAMME

The guidance note for this session offered the following instruction to the three working groups.

"Using the information from presentations, brief discussions, the general lessons derived from the second day's plenary discussion and the FAO strategic guidance, each working group will discuss:

1. What do we mean by strengthening organizations and collective action in SSF? (An easily understood way to communicate these concepts to a diversity of stakeholders).
2. Are there any additions to these general lessons on strengthening organizations and collective action? (We acknowledge situation specificity, but seek generalizations)
3. Which of the lessons identified are most crucial for strengthening organizations and collective action in SSF, using a globally generalized perspective? (Rank if possible)
4. Based on these crucial lessons, what could constitute the main components of a global programme to strengthen organizations and collective action in SSF?
5. How should the programme deal with gender, power and other inequities encountered in implementation?"

A summary table was provided for recording some of the outputs. After deliberation, each group presented and discussed its findings as summarized below.

5.1 Presentation of working group outputs

Group 1

TABLE 6
Group 1 discussion summary

Guiding question	Group response
1. What do we mean by strengthening organizations and collective action in SSF? (An easily understood way to communicate these concepts to a diversity of stakeholders)	Increase the capability of fisherfolk organization to be self-reliant and build strategic partnership in SSF.
2. Are there any additions to these general lessons on strengthening organizations and collective action? (We acknowledge situation specificity, but seek generalizations)	(a) Non-economic dimensions. (b) Increase the ability to understand the exceptions of people. (c) Appreciation of the value system of the community and the association. (d) Good internal governance. This includes leadership and succession. (e) Need enabling environment. To have institutions, policies, legislations and government support. (f) Crisis provides opportunity to increase the ability of fisherfolk organizations. (g) Resilience and adaptive capacities of fisherfolks and the communities.
3. Which of the lessons identified are most crucial for strengthening organizations and collective action in SSF, using a globally generalized perspective? (Rank if possible)	Need enabling environment at the external and community level. Along with good governance which includes leadership and succession.
4. Based on these crucial lessons, what could constitute the main components of a global programme to strengthen organizations and collective action in SSF?	(a) To access information and provide training for building capacity (knowledge, world view, culture, skills and equipment) to work in an enabling environment. (b) Need a steering committee that includes fisherfolk, government, developmental partners, civil society and others with equity. These bodies should be connected with the community levels.
5. How should the programme deal with gender, power and other inequities encountered in implementation?	**(a) Follow SSF general principles** and use different application based on community setting. Change should not be imposed. **(b) Non-discrimination and inclusiveness,** using preferential treatment when required for achieving equitable outcomes for all, men and women, including vulnerable and marginalized people. **(c) Equity and equality, ensuring justice and fair treatment** – both legally and in practice – of all people, including equal rights of women and men to the enjoyment of all human rights, while acknowledging differences between women and men and taking specific measures aimed at accelerating de facto equality when necessary. Gender concerns and perspectives and empowerment of women as well as vulnerable and disadvantaged groups should be integrated in policies, programmes and activities.

TABLE 7
Capacity matrix

Dimensions	Capacity areas	Existing situation (based on the case-studies) WHERE ARE WE NOW?	Desired situation WHERE DO WE WANT TO BE?	Capacity development needs (based on the case-studies)	Suggested interventions WHAT IS THE BEST WAY TO GET THERE?	Responsible actors	Priorities 1 = urgent 2 = medium term 3 = long-term 4 = not a priority
Enabling Environment	**External enabling environment** Support from other agencies	Asymmetry Conditions, it is not a real priority. Have an enabling legislation	It should be treated urgently. We want to see these reflected regionally and nationally		We need to build capacity of the key supporting agencies.	The need for technical assistance Financial assistance Formal commitment	1
	Internal enabling environment Asymmetric in terms of community organizations, leadership We do not know how communities work.	Better understand community dynamics to make it better to address the needs of the groups	Inter-disciplinary/ participatory approach of research Empower communities to lead the implementation process of the SSF guidelines		Engage community locally and regionally Develop capacities in the institutions to develop participatory research and community work Research agenda	Community Leaders Development partners Government agents (collective actions) Management boards	1

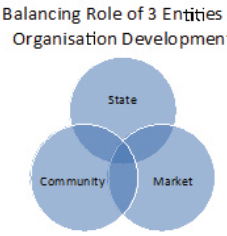
- Terms must be defined such as capacity development, technical assistance, financial etc.
- Organizations component is very important; one cannot have one without the other.

In discussion, the use of the term "asymmetric" was clarified, and several meanings were noted, with heterogeneity being the most acceptable except in relation to describing power. Fisherfolk participants called for the use of common language with shared meanings where feasible.

Civil society needs to have an overarching steering committee of various stakeholders having a say in the decision-making. "Community" has many different meanings, and what was meant here was an internal enabling community. It is necessary to understand first how communities are organized. All case studies brought out the need for an enabling environment that involves the State and external assistance for capacity development in the process of change. People make choices based on their conditions, and as conditions change so too may choices also change. The development of capacity helps them to make other, preferably better, choices by changing their conditions. Changes should not be imposed, but there must be systematic change management.

Group 2

TABLE 8
Group 2 discussion summary

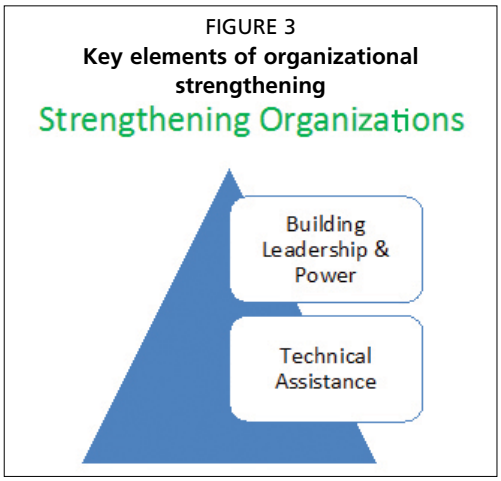
Guiding question	Group response
1. What do we mean by strengthening organizations and collective action in SSF? (An easily understood way to communicate these concepts to a diversity of stakeholders)	This question was rearranged as: "what do you mean by collective action (CA) and strengthening organizations (SO)?" • Triggers or events that cause or give reason to: come together as a group to 'act' on a common issue. • Must have a context – economic pressure? • Concept that one individual alone cannot obtain the desired result with his/her own resources alone. • Collective action needs some structure to be effective. • This structure is becoming organized. • Organizations may exist but there is no collective action. • Collective action lends itself to organization development
2. Are there any additions to these general lessons on strengthening organizations and collective action? (We acknowledge situation specificity, but seek generalizations)	Additional lessons learned • A – Support politically. • B – A legal framework. • A & B Two important players in CA/SO, BUT • Collective action is an innate response in any human community (in the face of triggers). • Collective action is influenced by culture and history. • To engender or foster a particular collective action, culture and history should be taken into account. • Better organizations are formed when culture and history are taken into account. • A champion is necessary, one who speaks up. • Agreement on a common issue as a group. • Support/mentor important in leading the group. • Engaging the State is necessary, those with legal power.
3. Which of the lessons identified are most crucial for strengthening organizations and collective action in SSF, using a globally generalized perspective? (Rank if possible)	• Can organizations strengthen themselves? • External "help" may be necessary. • Internal strengthening important. • Empowerment, training needed. • Qualities expected in those helping. • Professional ability/capability. • Interest in the cause (but may not be sufficient).
4. Based on these crucial lessons, what could constitute the main components of a global programme to strengthen organizations and collective action in SSF?	
5. How should the programme deal with gender, power and other inequities encountered in implementation?	

Is it necessary to have organization in order to have collective action in SSFs? Perhaps not always. First, identify the common problem that catapults collective action. Then, organize and formulate actions once organization is built. Collective action exerts power of collective identity and acts on common problem. This way, people recognize the different stages the organization has to go through (Figure 2).

FIGURE 2
Relationship between organizations and collective action

Figure 3 shows what needs to be done in order to reach the top where all is organized and fully functional. First develop skills through technical assistance. Once there is the ability to build capability of members of the group, then the leadership is strengthening and the confidence of leaders is built until they are able to exert the power of the organization. This has to start with individual members recognizing the need for strong leadership.

FIGURE 3
Key elements of organizational strengthening



The discussion related to how external assistance in capacity development is implemented. Objectives need to be met within a time frame. It is necessary to know how the donor system works, and who implements what, in order for the strengthening to function properly. Similarly, it is necessary to closely examine leadership – how many leaders, succession, gender and age, issue of corruption, etc. The process of organizing and the difference between collective action and an organization was debated, especially regarding the extent to which the latter is a consequence of the former. Organization seemed essential for sustained or repetitive collective action.

Group 3

Unlike the other two, this group did not tackle the guiding questions specifically, but instead made a number of observations arranged around themes of concern arising from the studies.

Conceptual clarification:

- Organizations are both outcomes and instruments of collective action.
- The former is "first order", the latter "second order" collective action.
- Strengthening the first order requires other initiatives and resources than what are required in second order action.
- To form an organization is different from running it, i.e. making it a viable and effective instrument of collective action.
- The former often requires an external initiative, from a government or an NGO, but also incentives that will encourage/entice people to join, and discourage free riding.
- The latter requires capacity development, skills that enable effective and professional design and operation of an organization.

Collective action in SSFs:

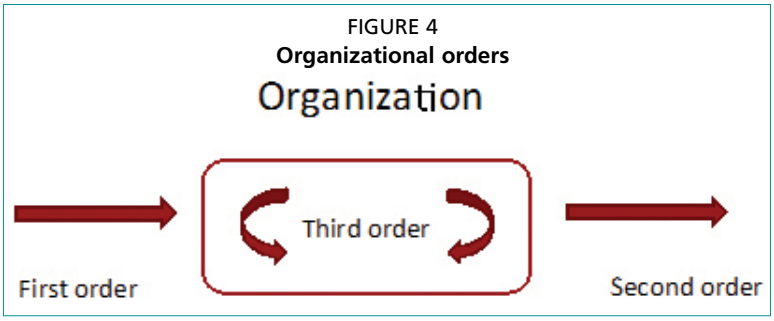
- The problems that need collective action in SSF are typically "wicked". They are not solved once and for all, they must be re-solved.
- Poverty and food security are example: one must not only help bring people out of poverty but one must also avoid people descending into it.
- Organizations help to ensure continuous attention to problems that are wicked and in need of collective action

Observations ("third order"):

- Organizations remain, survive and develop not just because the individual calculus of benefits and costs are in plus.
- People remain if the organization builds loyalty, solidarity and trust.
- People stay loyal and committed to the goals of the organization if they have a sense of ownership to it, if they can see the organization as an expression of a collective will, a shared identity, a "we."
- These "third order" values and perceptions help solving both the first and the second order problem.
- How can organizations compensate for their initial absence?

Collective action orders:

FIGURE 4
Organizational orders



Third order conditions:

- Organizations must be responsive to the problems and needs that people have.
- Organizations create opportunities for people to build capacity and realize their own potential.

- Organizations must be learning systems to be adaptive.
- What leaders and members learn must somehow be stored in the organization.

Formal vs informal:
- Organizations such as cooperatives are formal/legal entities, and need legal backing and recognition.
- Customary organizations in SSFs are often informal without such legal recognition.
- Organizations can remain informal to begin with, when they are still small, when they are exceptions from the rule, when they are "outliers".
- As soon as organizations grow and magnify, they cannot operate in the same way as before, but are in need of professionalization and building networks.
- Organizations can remain small if part of networks, such as a federation.

Single vs multipurpose organizations:
- SSF organizations such as cooperatives link fisherfolk to community, State and market.
- Organizations can be more or less multipurpose and multifunctional.
- Community cooperatives often have a much broader social responsibility than private firms (more functions), which make them more complex as organizations and more challenging for leaders to lead.
- SSF cooperatives cannot be expected to compensate for government inaction or failure, for example in providing needed infrastructure, but often that is what they have to do.
- The broader the functional responsibility, the more inclusive the organization; fishermen cannot any longer be the only eligible member. The broader the purpose, the more important the gender perspective, representation of women.

Leadership:
- Fishers often see the cooperative as an extension of their fishing business, and not as an organization in its own right, one that needs to be able to stand on its own feet.
- This makes leadership complicated; cooperative leaders find themselves between a rock and a hard place.
- The broader is the purpose, the more demanding is the leadership, and the greater is the need for broad skills and capacity building.

Organizational design:
- Organizations are means through which one can create a balance of power, gender equity, good values.
- For this, organization needs a charter, an ethical code, rules to ensure equity and transparency.
- Members must understand what they see, which requires capacity building of individual members and elected representatives and leaders.

Autonomy vs dependence:
- SSF organizations must be autonomous to be instruments of empowerment and collective action. They are not meant to be instruments of external power.
- Still, they may be in need of external support (from the government or an NGO), which easily creates dependence.
- If not initially, to be sustainable in the long run, they must build self-sufficiency (generate internal funding capacity).

- The problem of duplication; build on organizations that are already there. Avoid creating new institutions if things can be done with those that exist.

Expectations – What constitutes success?:
- Success and failure should not be understood in binary terms, as either-or.
- Success is relative.
- Does the organization make a positive difference?
- What is the bottom line?
- Success for whom?

Enabling environment:
- Table 9 summarizes the group's views on the enabling environment for capacity development.

TABLE 9
Enabling environment for capacity development

Capacity areas	Existing situation	Desired situation	Capacity development needs	Suggested interventions	Responsible actors	Priority
Policy and legal frameworks	Room for improvement and need for implementation.	The rights of fishing people are recognized and respected and their contributions to society are recognized and supported.	Enhanced understanding on: 1. linking fishers' rights with human rights and collective rights; 2. how to integrate fishers in management; 3. a glossary of concepts.	Awareness raising and education to all sectors.	NGOs and development actors, academia and their networks.	1 = urgent 3= long term
Economic framework and national public sector budget allocations	States allocation is not enough for extension services in support of organizations or the resources are wrongly allocated.	A scenario where the states provide enough support for the establishment of collective action and provides extension support/ programmes for their continuous operations.	Government should support fishing with basic infrastructure so that fishing people can be focused on their primary fishing activity.	To implement a holistic approach as the one described in the guidelines.	States	1 = urgent 3= long term

Organizations:
- Table 10 summarizes the group's views on organizational capacity development.

TABLE 10
Organizational capacity development

Capacity areas	Existing situation	Desired situation	Capacity development needs	Suggested interventions	Responsible actors	Priority
Institutional motivation	There is a lot of motivation and enthusiasm. A lot of expectations	We want a situation where fishers are able to get tangible outcomes in line with their aspirations	Problem resolution. Ethical issues (corruption). Self reliance and autonomy.	Ownership. Commitment. Leadership. Participation in decision making.	NGOs, development actors, academia government.	1 = urgent
Operational capacity	Organizations show weaknesses in terms of operations	We want organizations which are able to manage, administer, are accountable in a sustainable way	Bookkeeping, basic financial skills, keeping records for those who have management or monitoring roles.	Exchanges of experiences. Mentoring. Learning from examples.	Government, higher level fisheries organizations, NGOs and academia.	1 = urgent

Individuals:

- Table 11 summarizes the group's views on individual capacity development

TABLE 11
Individual capacity development

Capacity areas	Existing situation	Desired situation	Capacity development needs	Suggested interventions	Responsible actors	Priority
Skills levels	Good in terms of fishing, weak in terms of organization	Excellent organizational skills	Rights and responsibilities, commitment, sense of identity, ideals, loyalty.	Strengthening sense of ownership, commitment, responsibility: to feel that you are part of something bigger than yourself	The organizations, state and educational institutions, state	2 = medium term
Competency development	Weak. Needs improvement	We need competent members who know the implications and responsibilities of being part of the organization and competent managers to take decisions	Leadership, education	Guidance, extension, support	The organizations, networks, NGOs, the state, academia.	2 = medium term

Conclusions:

- In SSFs, it is important to live with and respect diversity.
- One organization model will not work – context always matters and must be taken into account.
- People need cooperation not necessarily cooperatives.
- People need collective action, equal representation, and empowerment in the policy process and in the organization.

The discussion started with the challenge of managing expectations. In many cases, members leave organizations when their expectations (whether realistic or not) have not been met. A body with diverse memberships has many more expectations to manage and all may not be compatible. First of all, a cooperative must be a financially viable enterprise regardless of other expectations of its functions. This is what most fishers want. Expectations, agendas and functions also need to align often with those of the State, such as through policy and law. A few participants noted that the legal basis for fisherfolk organizing could be restrictive, e.g. the laws governing cooperatives. The workshop also noted that organizations evolve and change their purpose, either formally or informally. The role of the State in such changes varies with each case.

6. INVENTORY AND IDENTIFICATION OF REGIONAL INSTITUTIONS INVOLVED IN CAPACITY DEVELOPMENT

To inform the capacity development programme, CERMES was asked to identify and develop an inventory of the institutions (academic, research, NGOs) with mandates related to the capacity development of fisheries organizations in Latin America and the Caribbean (LAC). Patrick McConney presented an Excel database of institutions (found via online sources) that were engaged in, or had the potential to assist, capacity development in SSFs.

The geographic scope of the inventory was based on the FAO definition of LAC that lists 34 countries. FAO clarified that "fisheries organizations" meant fisherfolk organizations of all types along the entire value chain, as well as fisheries management, research and development organizations that are not in the industry but work with

the industry. Furthermore, "mandate" included agencies that work with fisheries organizations (as clarified above), whether or not it was their formal mandates to do so. About 180 organizations were listed in the inventory. The number of organizations per country is not related to size as much as to the accessibility of fishery-specific information online or in reports that were accessible online. There are more organizations than currently listed in the database, but more precise specification of scope, more time to pursue offline information and additional assistance to investigate in all languages of the region were some of the suggestions for developing the database further.

Participants noted that there would be regional differences if the database was replicated elsewhere. For example, there would be a relative abundance of fisheries schools in Asia. In that region there is much fisheries educational infrastructure provided by states and directed to develop industrial fleets but not SSF. Instructors in the fisheries schools do not know much about SSF. Fisherfolk youth are also largely neglected. Globally there are huge capacity gaps.

Participants recommended devising courses that highlight specifics of SSF organizations. There are examples, such as on the Ecosystem Approach to Fisheries Management (EAFM) under the Bay of Bengal Programme (http://www.boblme.org/eafm) that could be used as models and adapted to specific situations elsewhere. The capacity development working of the project Too Big To Ignore (http://toobigtoignore.net/) was also mentioned. Accreditation and matriculation were issues to be tackled in the higher level courses leading to certification or professional qualifications. Training for government officials must be included.

7. WORKING GROUP SESSION 2: DESIGN A ROAD MAP FOR IMPLEMENTING CAPACITY DEVELOPMENT PROGRAMME

In the second working group session the workshop addressed the design of a road map for implementing the capacity development programme. Following up on the outputs from the first working group session, each working group discussed:

1. What actions should be taken by whom and how? What is the timeline?
2. What is the approach/methodology?
3. What are the opportunities for partnerships, networks and alliances?
4. What are anticipated challenges to achieve the goal of strengthening organizations and collective action in SSF?
5. What criteria could be used to select pilot sites for implementation? What could be the candidate pilot sites?

Again there were plenary presentations of group findings followed by general discussion as summarized below.

7.1 Presentation of working group outputs

Group 1

TABLE 12
Group 1 road map

ACTIONS	WHO	HOW	WHEN
Establishment of an SSF implementation committee	FAO takes the lead	Participation at GAP (Global Assistance Programme)	December 2014
Equal participation in global, regional, national and local fisheries governance (COFI)	GFO (WFFP & WFF)/RFOs/NFOs/PFOs COFI	Create an agenda to put fisherfolk in a leading position to implement the guidelines Formulating and implementing lobbying and advocating strategy Develop capacity of FFOs to lobby, advocate and negotiate	January 2015 – December 2020
Formulate appropriate policies and legislations to incorporate SSF at the regional and national levels	RFBs/NFAs/FFOs	Analyse existing policies and legislation Develop model policies and legislation through participatory processes	
Build capacity in support agencies e.g. NFAs, Coop Depts	Govts. RFBs/FAO/Dev partners	Develop and implement capacity building programmes	
Build capacity in communities and FFOs to secure sustainable livelihoods, etc.	FFOs RFBs/Dev. Partners/CSOs/academia	Develop tools to secure sustainable livelihoods, etc.	
Develop capacities in research and related institutions to undertake participatory research and community work	Coordination group	Develop and implement a Research agenda	

The discussion centred on the need for a multilevel institutional structure for implementation, monitoring and evaluation. The group paid most attention to the global level of the GAP.

Group 2

TABLE 13
Group 2 road map

Guiding questions	Group responses
1. What actions should be taken by whom and how? What is the timeline?	
2. What is the approach/methodology?	STEP 1 – Information Review • Assess the status of collective action and organizational capacity in Region (EU CANARI CNFO Project) in organizational categories. • Stakeholder organization categories in the fisheries sector in the Region (CRFM Report) • Regional Training Institutions Inventory (UWI CERMES) STEP 2. SUCCESS STORIES –Modelling • Critical analysis of what has been done including success stories • Choosing suitable success stories that can be modelled

Guiding questions	Group responses
3. What are the opportunities for partnerships, networks and alliances?	• WECAFC • CRFM • CNFO • BARNUFO • CANARI • UNIVERSITIES (UWI – CERMES, UN UNIV,) • OSPESCA • NOAA • CGIAR-CAPRI • CTA • GCFI
4. What are anticipated challenges to achieve the goal of strengthening organizations and collective action in SSF?	• Insufficiency of leadership • Financial resources • Political will
5. What criteria could be used to select pilot sites for implementation? What could be the candidate pilot sites?	• Site with small-scale fisheries • Site(s) with functioning organizations (strengthen) • Site(s) with no organizations (new organization) • Site with a national enabling environment Potential sites: • Caribbean coast of Nicaragua • British Virgin Islands • Barbados • Saint Lucia • Suriname • Haiti • Dominican Republic

This group looked at what was best for the LAC region rather than globally, and the discussion expanded the consideration to Asia for comparison. A good relationship between the State and fisherfolk organizations should be an essential part of successful implementation. Fisherfolk leadership was again flagged as a critical element, especially for self-organization. Participants pondered on whether civil society can compensate (e.g. in awareness building) where the State capacity is low. This led to consideration of partner roles in resource mobilization.

Group 3

Table 14 summaries the road map of Group 3.

TABLE 14
Group 3 road map

What	FAO	State	NGOs	Academia	Fisheries organizations
Awareness	Mobilizing funds Monitoring Targeting government civil society, academia, and industry organizations	Provide funding for capacity: internal and external Provide facilities and other support Extension services Research funding	Working in partnership in a diagnosis Advocacy in the political arena Team up with other partners such as academia	Design of awareness materials and methods Advise Targeting state and NGOs and industry	Provide leadership at national and local levels Advise Mobilize members
Recognition	Clarify what the role of other actors should preferably be and provide political and moral support for actions taken to build organizational capacity and awareness Developing a conceptual framework (as collective action) – produce a document	Understand, accept and respect the existing modes of collective action and governance. Recognize what problems and challenges exist for governance, organizations and collective action	Understand, accept and respect the existing modes of collective action and governance. Recognize what problems and challenges exist for governance, organizations and collective action	Advise and contribute to the conceptual framework for better understanding of situations and challenges in SSF and what conditions are essential for enhancing governability	Door opener to the knowledge and information about SSF and what they know on what needs to be done and what they have learned about the problems and obstacles to capacity development and collective action.

What	FAO	State	NGOs	Academia	Fisheries organizations
Policy development	Advise on the implementation and operationalization of the SSF guidelines. Develop an instrument for the monitoring and evaluation of the implementation of the SSF guidelines	Adopt, operationalize, contextualize and implement the SSF guidelines with regards to capacity development and organization. Provide the enabling legislation that facilitates and solidify such processes. Commitment to formulate evidence-based policies	Develop their own SSF policies to enable their constructive participation and involvement in multi-stakeholders partnerships. Be an important watchdog: advocacy, monitoring and evaluation. Be active in the public domain. Provide feedback	Assist in providing policy advice on small-scale fisheries issues. Develop their own research agenda in accordance with these policies. Promote and engage in research networks to enhance the profile of SSF locally, nationally and globally. Watchdog role in the implementation process.	Advocate for their effective engagement in policy discussions. Being constructive in their contributions to policy development processes. Watchdog role: having a critical as well as a constructive role. So that it is possible to have an enlightening and realistic discourse on SSF in the public domain.
Develop a implementation strategy	A global strategy on the implementation.	Create a domestic strategy in accordance with the international guidelines.	Engage in the strategy development and clarify their own role.	Pose good research questions in regards to the implementation processes. Engage in the development of the strategy.	Key actor in developing a strategy at all levels (national, global, local) that is inclusive, transparent and beneficial to their constituency.
Develop a support system	Help mobilize resources by talking to governments and donors	Appoint specific state tsar whose responsibility is to promote, support and oversee and coordinate the implementation of the SSF guidelines to the full.	Help mobilize resources by talking to governments and donors	Build, maintain and provide updated knowledge and databases for SSF that the research community and other partners draw from	Need to sharpen their focus on SSF helping provide the knowledge that is needed
Implementation	Allocate money for good projects that can provide lessons for best practices to be emulated elsewhere.	Ensure a corrupt-free environment. States should help to clarify the legal status of SSF in country. Develop a legal framework or amend the existing one in line with the guidelines to enable SSF collective action. Implement!	Play an important in initiating and facilitating collective action and development of organizations.	Provide knowledge available on the formation and operation of collective action for ensuring to ensure the process and outcomes are sound.	Key actors in the implementation of the guideline
Monitor and evaluate. Integrate feedback	Develop a global baseline and an appropriate monitoring framework able to provide feedback information during the implementation process.	Provide funding. Keep their political interests outside.	Spread and help disseminating the results and lead the public discussions on the implications of the knowledge gained	Engage in the development of baseline data. Develop methodologies and indicators for successful implementation of mechanisms for enhancing collective action and organization	Provide accurate information. Participate in the public debates on implications of knowledge gained

Participants discussed how implementation partners have to be involved in formal partnership. If structured well, and cooperation occurs, a collective effort can be developed. The need to use terms with shared meaning also arose again. Academics have a role to play in implementing, monitoring and evaluating the SSF Guidelines.

8. OTHER CONTRIBUTING SESSIONS

In addition to the above sessions that focused on the workshop's main outputs there were other sessions that contributed to the workshop programme. They are briefly described below.

8.1 Fishers Forum Field Trip (joint with GCFI conference)

This session hosted by CERMES and BARNUFO was implemented jointly with the GCFI conference. Workshop participants joined conference delegates, local fisherfolk and other specially invited guests on a four-hour bus tour to visit commercial fish landing activities and sites, with an emphasis on livelihoods. The busy Bridgetown fishing harbour and public market was the first stop, then across the island to the scenic Tent Bay fish landing site. The field trip ended at secluded Conset Bay to provide an opportunity for participants from overseas to interact informally with fisherfolk from Barbados while sampling refreshments, exchanging information and sharing perspectives.

8.2 Fishers Forum planning for Gulf and Caribbean regional fisherfolk organizing

This short session was led by Mitchell Lay, coordinator of the CNFO and chair of the GCFI Gladding Memorial Award (GMA) Committee that is part of the GCFI Fisheries for Fishers (F4F) initiative. He explained the history of these organizations and initiatives, noting the increasing involvement of fishers especially in GCFI.

Aspects of the F4F initiative were quite compatible with the SSF Guidelines and could be used as a vehicle for their implementation in the Gulf and Caribbean region. He singled out the fisher ambassador programme that would see role model fishers regionally promoting responsible fisheries and the SSF Guidelines. There was a strategic plan with additional actions synergistic with the SSF Guidelines. He shared this. Supporting fisher travel annually to GCFI and fisher exchanges for learning between conferences was also very important. He urged FAO to consider incorporating the GCFI into the LAC implementation plan.

In discussion, participants were highly supportive of the initiatives. They also suggested greater government involvement and active support, such as to fund fisher travel and promote the GMA. Fisherfolk also needed to become better connected with one another through the Internet and across language barriers. Regional participants identified several projects that could become more significant partners. The role of FAO in sponsoring fishers and activities in recent years was applauded. Large-scale fishing enterprises and fishing input supply firms need to be more engaged. All agreed that fisherfolk had to be proactive about looking after their interests and livelihoods and that the SSF Guidelines could be used to leverage resources for progress.

8.3 Implementing the Small-Scale Fisheries Guidelines

During lunchtime Susana Siar presented to conference delegates a shortened version of the workshop slide show on implementing the SSF Guidelines. A short discussion session ensued in which those present sought clarification on a number of points concerning the guidelines. The amount of and access to resources available to scientists, students and others to become involved in their implementation was a recurrent topic. It was also another opportunity for fisherfolk to reinforce communication of commitment to seeing the guidelines implemented in the region.

9. NEXT STEPS TO BE UNDERTAKEN AND WORKSHOP CLOSE

Patrick McConney led participants through a discussion of the next steps. The workshop would provide input into the capacity development discussions at the workshop on the SSF Guidelines at FAO headquarters in Rome on 8 –11 December 2014. Several participants at this workshop would also be there. All agreed to conduct internal peer reviews of the presented case studies by mid-December preferably (early January latest) and submit to FAO, which would provide editorial comments by mid-January 2015.

Participants also agreed that the case study papers would be published in the FAO Fisheries and Aquaculture Proceedings. Moreover, the open access peer-reviewed journal Maritime Studies (MAST) would be approached about publishing a special issue on collective action featuring the case studies. Beyond publication, participants looked ahead to a follow-up gathering at the sixty-eighth annual GCFI to take place in November in Panama as a possible venue for those in the region to promote and evaluate the activities related to the SSF Guidelines in the region.

In closing, Susana Siar thanked all for coming and sharing their experience and knowledge, so making the workshop a success. She thanked CERMES for arranging a pleasant stay in Barbados, and wished participants safe journeys to their next destinations.

Appendix 1 – **Workshop agenda**

Strengthening organizations and collective action in fisheries: Towards the formulation of a capacity development programme
Karissa Meeting Room, Accra Beach Hotel, 4–6 November 2014, Barbados

Date/Time	Event or activity
Tue 4 Nov	**Day One**
08:00	Opening session • Welcome remarks – Raymon van Anrooy, FAO Subregional Office for the Caribbean and Patrick McConney, UWI-CERMES • Participant introductions • Workshop objectives, agenda and expectations – Daniela Kalikoski • Workshop process and administrative matters – Patrick McConney
09:00	Presentation of findings from in-depth case studies followed by brief discussion Chair: Susana Siar • Barbados — Patrick McConney
09:30	• Costa Rica –- Vivienne Solis Rivera
10:00	Break (shared with GCFI conference — a chance to network)
10:15	• Belize — Romaldo Isaac Lewis
10:45	• Brazil — Daniela Kalikoski
11:15	• Tanzania — Paul Onyango
11:45	• Timor Leste — Enrique Alonso Poblacion
12:15	Plenary discussion: Questions and Identification of lessons learned on capacity and collective action
12:30	Lunch (provided on-site — conversations can continue)
13:30	Fishers Forum Field Trip (joint field trip with GCFI conference) • Fisherfolk and other specially invited guests will tour by bus to view and visit commercial fish landing activities and sites with emphasis on livelihoods. The field trip ends at scenic Conset Bay to provide an opportunity for participants from elsewhere to interact with fisherfolk from Barbados informally with refreshments, fostering information exchange and sharing of perspectives.
18:00	Return to hotel by bus
19:30	Implementing the Small-Scale Fisheries Guidelines (GCFI poster reception side event hosted by FAO; workshop participants are especially encouraged to attend the event)
Wed 5 Nov	**Day Two**
08:00	Fishers Forum — planning for Gulf and Caribbean regional fisherfolk organizing • Caribbean Network of Fisherfolk Organizations (CNFO) • GCFI Fisheries for Fishers (F4F) Initiative and GMA • Recommendations for implementing the SSF Guidelines
08:30	Presentation of in-depth case studies with brief discussion (continuation) Chair: Daniela Kalikoski • Indonesia — John Kurien
09:00	• United States of America — Anna Child

Date/Time	Event or activity
09:30	• Norway — Svein Jentoft
10:00	Break (shared with GCFI conference — a chance to network)
10:15	Plenary discussion: Questions and Identification of lessons learned on strengthening organizations and collective action — workshop organizers • Summarize key lessons learned from individual cases • Combine these lessons to derive a set of general lessons
11:15	Formulating a capacity development strategy — workshop organizers • Review of FAO Corporate Strategy on Capacity Development – Susana Siar • Review of the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication – Daniela Kalikoski • Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security – Raymon van Anrooy
12:30	Lunch (provided on-site — conversations can continue)
14:00	Working group session 1: Formulation of a capacity development programme
16:00	Break (workshop participants only)
16:15	Continuation of working group session
18:00	Close
Thu 6 Nov	**Day Three**
08:00	Presentation of working group outputs
10:00	Break (shared with GCFI conference — a chance to network)
10:15	Presentation: Inventory and identification of regional institutions involved in capacity development — Patrick McConney
10:30	Working group session 2: Design a road map for implementing capacity development programme
12:30	Lunch (provided on-site — conversations can continue)
13:30	Continuation of working group session
15:00	Presentation of working group outputs
16:00	Break (shared with GCFI conference — a chance to network)
16:15	Agree on the next steps to be undertaken following the workshop Chair: Patrick McConney
17:00	**Close**
18:30	Oistins excursion dinner event (joint with GCFI conference; transportation provided)

Appendix 2 – List of participants

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Appendix 3 – **Opening address**

Delivered by Raymon van Anrooy, Fishery and Aquaculture Officer
Food and Agriculture Organization of the United Nations
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Ladies and Gentlemen,

Welcome to Barbados. I'm very grateful you have accepted our invitation to participate in the Workshop on Strengthening organizations and collective action in fisheries: Towards the formulation of a capacity development programme.

Strengthened rural institutions, producer and local community organizations are key to ensure more equitable and secure access to productive resources, strengthen policy and legal frameworks for co-management of natural resources, improve governance of tenure of fisheries and land and to ensure more effective delivery of basic services.

Empowering small-scale fishers through collective action and successful organizations is key to food security and poverty alleviation. Many small-scale fishers worldwide suffer from low incomes and inadequate access to markets.

They face social and political marginalization, exclusion and discrimination, and have low levels of health and education. Women are often amongst the most marginalized and need strengthened rights to the natural resources on which they depend.

The crucial role of organizations in SSFs was underscored during the 2008 Global Conference on Small-scale Fisheries, held in Bangkok, Thailand.

The consultative workshops and related events supporting the development of the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) recently endorsed by the FAO Committee on Fisheries (COFI) also represent an important instrument for small-scale fishers to fight for their rights within the framework of human rights-based approach.

Important also were the 2012 International Year of Cooperatives with the theme Cooperative Enterprises Build a Better World and the 2014 International Year on Family Farming declared by the United Nations.

These events provide momentum for championing fishers' organizations and collective action towards alleviating poverty, while promoting responsible fisheries and achieving the twin objectives of human and ecosystem well-being.

For the Wider Caribbean Region, where more than 80% of fisheries is small-scale, and fishers organizations are working hard to improve their role in the sectoral development and management, this workshop is very timely.

An estimated 900 thousand fishers and 3 million other people are employed in the fisheries sector in the Wider Caribbean Region. The livelihoods of millions of people depend on fisheries in this region. Therefore, we are very happy to have you here in Barbados to discuss a joint capacity development programme in support of small-scale fisheries.

This workshop seeks your experience and expertise in finding the best way and means how FAO and partners can contribute towards initiating a global programme.

A Programme that will build the capacity to strengthen collective action and organizations in small-scale fisheries in terms of their ability to exercise their rights to

organize, participate in policy dialogues and resource management initiatives, as well as to access markets, financial services, infrastructure and more.

Thus we look forward to three days of productive and creative discussion, lively debate and recommendations on how to move forward.

At this point I would like to thank Daniela Kalikoski, Susana Siar and Patrick McConney for their hard work in making this workshop possible.

They will provide you with more background and the objectives for this workshop.

I thank you once again for your participation and remind you that there is a long way ahead of us and we need your inputs now and in the future to make progress in this important endeavour.

I wish you a fruitful workshop and a pleasant stay in Barbados, "the home of the flying fish".

CASE STUDIES

1. Introduction and background

There is an old saying that goes "United, we stand; divided, we fall" that captures succinctly the motivation of people to organize and group together to face a mutual challenge or achieve a common set of objectives.

The right to organize is one of the fundamental human rights enshrined in the Universal Declaration of Human Rights. Through their participation in organizations, fisherfolk exercise this right and are enabled to negotiate with other stakeholders so that they can fully exercise their basic human rights. Fisheries organizations empower stakeholders to participate and have a voice in social, economic, and political processes and share in the responsibility of promoting and practicing responsible fisheries.

FAO's work on fisheries organizations and cooperatives dates back to 1959, when FAO and the International Labour Organization organized a technical meeting on fishery cooperatives in Naples, Italy. Organizing fishers into cooperatives was believed to be a means towards modernizing fisheries and solving the problems confronting fishermen such as marketing and indebtedness. In 1971, FAO published a Manual on Fishermen's Cooperatives[1] to provide guidance on solving the management problems being encountered by fishing cooperatives at that time. In 1973, Margaret Digby, widely regarded as a champion of cooperation, published "The Organisation of Fishermen's Co-operatives".[2] This publication provided a critical analysis of how successful cooperatives could be organized in the fisheries sector and looked at case studies from 16 countries, both developed and developing. These publications were considered as the two standard works on fisheries cooperatives at that time (Meynell, 1985).[3]

In 1975, the International Cooperative Alliance organized the first conference by the private sector on cooperative fisheries in which FAO participated (ICA, 1976).[4] It is remarkable that at that time, overfishing and pollution were already identified as two of the major problems confronting fisheries. Quite interestingly, the idea of elite capture, or decision-making and benefit capture by a few powerful individuals and groups, as a threat to genuine cooperation was also noted. The activities being undertaken by women in the cooperatives were also promoted. The conference suggested that the focus of action from the international cooperative movement should be on the following: (1) creation of more cooperative fishery organizations; (2) training and education in or by the cooperative movements of advanced countries, including the production of educational material; (3) mutual exchanges among sister movements on a regional basis, of information, personnel and techniques; and (4) pilot projects (ICA, 1976: 84).

In the 1980s, Meynell (1985) explored the reasons for success and failure of fishery cooperatives by looking at the following areas: financial, technical, leadership and management, members' attitudes, communication and training, and government involvement and interference. He identified 16 lessons (Box 1) that should be taken into consideration in organizing fishery cooperatives, many of which are still valid

1 FAO. 1971. *Manual on Fishermen's Cooperatives*. FAO Fisheries Studies No. 13. Rome. 124 pp.
2 Digby, M. 1973. *The organisation of fishermen's cooperatives*. Oxford, UK, Plunkett Foundation.
3 Meynell, P.J. 1985. *Fishery co-operatives in developing countries*. Oxford, UK, Plunkett Foundation.
4 International Cooperative Alliance. 1976. *Report of the First Open World Conference on Co-operative Fisheries. Tokyo, Japan, 29 September – 4 October 1975*.

today. In 1990, FAO published Success and Failure of Fishermen's Organizations (Meynell, 1990)[5] based on case studies from 11 developing countries in Asia, Africa and Latin America. In addition to this work, many other case studies and publications looked at why some fisheries organizations fail and why others succeed. Some of the lessons that can be distilled from the case studies and relevant literature are presented in Table 1.

BOX 1
Lessons for the future of fishery cooperatives

1. Before starting a fishery cooperative all parties – fishers, development agency and government – should be very clear of their aims, objectives and expectations.
2. A feasibility study should be carried out to cover the technical, economic and social viability of the fishery cooperative and the consequences that may be expected from such action. Such a feasibility study should be appropriate to the scale of operation considered.
3. A flexible approach should be taken in setting up fisheries cooperatives. This may require a gradual development process through groups and pre-cooperatives or may mean avoiding the term "cooperative" altogether.
4. Fishery cooperatives law should be included in general cooperative law which should be open enough to allow a flexible interpretation in the individual societies' by-laws to cover different situations.
5. Fishery cooperatives should be started at the primary society level upwards, not from the apex downwards. The members must feel the need for the activities undertaken by the society and for such an organization to carry them out.
6. Members must see the cooperative as their own society, and they must be able to control it themselves. Cooperative meetings and other activities must be held at times when the members can participate fully and they should be encouraged to do so.
7. Membership criteria need careful definition, especially with regard to boat ownership and crew, occupation and residence. The size of the society in terms of numbers should be large enough to ensure viability but not so large that members no longer identify with their society. Intermediaries should not normally be invited to become members.
8. A gradual build-up of functions undertaken by the society according to the needs and skills of the members and their community is recommended. Activities should complement the fishing business of the members, not compete with it.
9. Fishers' cooperatives should aim to become multipurpose rather than single-purpose societies, looking towards both vertical and horizontal integration of the fishing business. This is especially important for smaller societies if they are to achieve greater economic viability. Creation of a cooperative between interest groups within the fishery (e.g. producers and processors) may be possible, but not between interest groups outside the fishing industry (e.g. farmers and fishers).
10. Provision of credit facilities must take into account the variable nature of fishing. Credit should be flexible enough to withstand pressures outside the control of members, but not too easy to encourage irresponsibility. Short-term credit for non-fishing requirements of members may be considered appropriate under some conditions.
11. Extensive social and community activities should only be attempted when the society is economically strong enough, although activities involving the women and youth of the community may serve to strengthen commitment both to fishing and the cooperative.

[5] Meynell, P.J. 1990. *Success and failure in fishermen's organizations. Results and analysis of case studies of fishermen's organizations in developing countries*. FAO Fisheries Circular No. 819. Rome, FAO. 155 pp.

BOX 1 *(continued...)*

Lessons for the future of fishery cooperatives

12. Fishery cooperatives must be well managed. Managers should be both honest and trusted by the members and be good at business. They should be appointed (and discharged) by the members, not by government. Government may have a role in training, provision of advice and in topping up the salary of managers in the early stages.
13. Government support is vital to fisheries cooperatives' development, but such involvement is best when it is indirect. Government attempts to control or to push various measures through the cooperatives may be detrimental. Positive action to channel funds, restrict fishing licences or market certain fish through cooperatives can usually be beneficial in encouraging membership, but need care in their application
14. Fishery cooperatives development requires long-term commitment from the government; frequent changes in government staff and policy will be detrimental, as will unrealistic short-term expectations of cooperative performance. Cooperation between departments involved with fisheries cooperatives is essential.
15. The education of government officials in the potentials and limitations of cooperatives is needed in order that a realistic programme of fishery cooperatives development may be pursued. The national and international cooperative movement and development agencies have an important role to play in this respect.
16. The educational process in cooperatives cannot be underestimated. Education and training in technical aspects of fishing are taken for granted, but training in cooperative principles and skills is very important for members from the beginning. Motivation by experience and examples of successful cooperatives play an important part.

Source: Meynell, P.J. 1985. *Fishery cooperatives in developing countries*. Oxford, UK, Plunkett Foundation.

TABLE 1

Some lessons on working towards successful fisheries organizations

	Lessons
1. Motivation for organizing	• Organizing is a response to an expressed or felt need to address a common issue. • The organization evolved from traditional community organization that control collective fishing rights, e.g. Japan and the Republic of Korea.
2. Membership	• Membership should be open only to those who are actively involved in fishing; non-fishers should not be allowed to join. • In the case of collective and territorial fishing rights, only those active fishers who are residents of the village/community should be accepted for membership. • Women play a key role particularly in fish processing and marketing and their participation in organizations should be supported and encouraged.
3. Purpose/aims of association	• The aims of the association must be clear, specific, reasonable and achievable. • Leaders and members must be clear about the objectives of the association and their roles and responsibilities.
Activities	• Primary organizations must be multipurpose and engaged in more than one activity, e.g. production, marketing and credit, in order to be viable. • Where an organization is engaged in the provision of credit, this should be tied to marketing to ensure loan repayment. • Contrary to popular belief, fishers turned out to be good savers when marketing of catch is tied to credit and savings. • Secondary organizations can be single-purpose and established to carry out functions in support of the primary organizations, e.g. provision of information and advisory services.
Leadership and management	• Leadership is a key to a successful organization. Capacity development needs of leaders and officers must be identified and addressed. • Women should be encouraged to hold leadership positions and supported with capacity development to enable them to lead effectively. • Leaders and managers should be selected by members and accountable to them and not to any outside entity such as the government.

	Lessons
Capacity development	• The organization must engage in continuous updating of knowledge and skills of members, including upgrading of their professional and educational qualifications. • Capacity development specific to the needs of women and youth must be identified and undertaken. • The organization must engage in continuous organizational development and strengthening. • Capacity development on areas such as organizational management, administrative and financial procedures and record-keeping, business planning, project development, financial literacy as well as topics related to resource management is necessary for both leaders and members.
Communication and networking	• Communication channels between members and leaders as well as among members must be clear. • The organization must establish who are authorized to communicate with outside entities on what subjects and how. • Exchanging experiences and lessons with other organizations is important, especially on how they faced and solved their organizational challenges.
Role of government	• Government must provide an enabling environment through policy and legislation promoting organizations and collective action as well as support through capacity development of leaders and members. • Government must support and promote the independence and autonomy of fisheries organizations.
Legal framework	• A general law promoting and supporting organization and collective action and administered by one department is desirable.
Departmental oversight	• Government department involved in overseeing fisheries organizations should be clear about its roles and responsibilities, particularly if there is more than one department involved.
Requirements and process of registration	• The requirements and process for registration must be clear, simple and accessible and decisions must be communicated within a reasonable time frame.
Role of non-government organizations (NGOs) and academic institutions	• Non-government organizations as well as academic institutions are critical to the success of fisheries organizations and are usually the champions of organizing and collective action. Thus, it is important for fisheries organizations to establish alliances with them. • They can provide preparatory organizing support such as awareness-raising and education among prospective members regarding the advantages of having an organization. • They can also provide advocacy and networking support in specific issues and raise these issues at higher levels. • They can also be providers of capacity development activities to strengthen fisheries organizations.

In the 1990s and 2000s, research and development work shifted from fisheries organizations and cooperatives towards community-based management of fisheries resources and co-management. The common property theory has contributed largely to understanding successes, failures and challenges to govern fisheries resources. Ostrom's design principles[6] combined with the interactive governance theory present insights that explain how success can be achieved in the governance of common pool resources. Despite the theoretical development in this field, problems such as depletion of fisheries resources and high degree of poverty in small-scale fishing communities still persist and such conditions deteriorate every day. Jentoft and Chuenpagdee[7] argue that there is no consensus on how to solve fisheries governance problems because there is a lack of consensus as to what the challenges are, why they occur and how to address them. The latest advancement in the theoretic approach to community-based management and co-management shows that strong community mobilization, organization and participation in the management of fishery resources are still required, as revealed by the in-depth case studies in the present publication.

BACKGROUND TO THE CASE STUDIES IN THIS PUBLICATION

Under FAO's new strategic framework, strengthening rural institutions and producer organizations is one of the outputs supporting one of three pillars to reduce rural poverty, i.e. access to resources, services and institutions. The other two pillars considered key to reducing rural poverty are decent rural employment and social protection. In fisheries, of the 39 million fishers in the world over 90 percent are small-

[6] Ostrom, E. 1990. *Governing the commons. The evolution of institutions for collective action.* Cambridge University Press, Cambridge, UK.

[7] Jentoft, S & Chuenpagdee, R., eds. 2015. *Interactive governance for small-scale fisheries.* Global Reflections, Vol. 13. 775 pp.

scale fishers, many of whom live in developing countries in difficult to access fishing communities. Fisheries play an extremely important role in nutrition, food security, employment and foreign exchange. Women in particular play an extremely important role in the processing, marketing and distribution of fish and in some cases involved directly in fishing and other harvesting activities. In spite of this, small-scale fishers have low social status, low incomes, poor living conditions and little political influence (Pomeroy and Williams, 1994).[8] They are extremely food-insecure and lack access to resources and opportunities they need to lift themselves out of poverty.

Key to long-term food security is the sustainable use of fisheries resources. The full participation of stakeholders, both men and women, in the management of fisheries resources through a negotiated process is therefore important.

Part of the challenges that small-scale fishers face is exacerbated due to their general weak organizational structures and their inadequate representation and participation in fisheries decision-making. This reduces the potential for fisheries stakeholders to improve their livelihoods, particularly in terms of access to credit and informational services, tenure rights to land and sea, women's access to productive tools and so on. Therefore strengthening small-scale fisheries organizations and cooperatives is crucial to secure their livelihoods and for them to better fight against poverty and vulnerability.

The relevance and crucial role of fisheries organizations and cooperatives was underscored during the 2008 Global Conference on Small-scale Fisheries[9] and the discussions and consultative workshops leading to the development of the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication[10] (SSF Guidelines). In 2010, FAO organized a regional workshop on promoting and strengthening fisheries and fish farmer organizations in Central Asia.[11]

The United Nations' declaration of 2012 as the International Year of Cooperatives with the theme "Cooperative Enterprises Build a Better World, provided further impetus for championing fisheries organizations and cooperatives as important stakeholders and drivers in promoting responsible fisheries and achieving the twin objectives of human and ecosystem well-being.

To be effective, fisheries organizations need to be strengthened in terms of their ability to exercise their right to organize, participate in policy dialogues and resource management initiatives, as well as access markets, financial services, and infrastructure. In anticipation of the implementation of the SSF Guidelines, it was necessary to look at the diversity and scope of existing organizations and collective action in small-scale fisheries, analyse their strengths and weaknesses, and formulate a capacity development strategy to address those weaknesses. In this regard, a series of activities was undertaken to seek answers to the following key questions:

- How have fisheries organizations and collective action evolved?
- How do fisheries organizations and collective action promote sustainable fisheries livelihoods?
- How do these organizations promote women's empowerment and greater level of autonomy?
- What makes these organizations and initiatives resilient?

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[8] Pomeroy, R.S. & Williams, M.J. 1994. *Fisheries co-management and small-scale fisheries: a policy brief*. Manila, International Center for Living Aquatic Resources Management. 15 pp.

[9] FAO. 2009. *Report of the Global Conference on Small-scale Fisheries, Bangkok, Thailand, 13-17 October 2008*. FAO Fisheries and Aquaculture Report No. 911. Rome. 19 pp. (also available at www.fao.org/docrep/012/i1227t/i1227t.pdf).

[10] Text available in FAO languages at: www.fao.org/fishery/ssf/guidelines/en

[11] Fersoy, H., Siar, S. & Van Anrooy, R., eds. 2011. Report of the Regional Workshop on Promoting and Strengthening Fisheries and Aquaculture Organizations in Central Asia, Izmir, Turkey, 1-4 November 2010. FAO Fisheries and Aquaculture Report No. 968. Rome, FAO. 95 pp. (also available at www.fao.org/docrep/015/i2095b/i2095b00.pdf).

- What are the pitfalls faced by associations and collective actions and how obstacles to their successful implementation can be overcome?
- How can the capacities of associations and collective actions be built and strengthened to allow local community groups to reach their organizational goals and better fight against poverty and vulnerability?

On 18–20 March 2013, FAO organized the workshop "Strengthening organizations and collective action in fisheries: A way forward in implementing the international guidelines for securing sustainable small-scale fisheries".[12] A scoping study[13] prepared for this workshop revealed the diversity of collective action and organizations in the fisheries sector (Table 2). Using the typology in Table 2, in-depth case studies were undertaken in Barbados, Belize, Brazil, Costa Rica, Indonesia, Norway, Timor-Leste, the United Republic of Tanzania, and the United States of America (Table 3) using an outline based on the scoping study as well as on the discussions and recommendations from the workshop (Box 2). The findings from the in-depth case studies were then presented at the "Workshop on Strengthening organizations and collective action in fisheries: Towards the formulation of a capacity development programme" held on 4–6 November 2014 in Barbados, the report of which can be found in Part 1 of this publication.

TABLE 2
History of forms of fish-worker organizations and collective action in developing countries

Organizational form	Approximate time period	Nature of collective action	Current status of initiatives
Customary organizations	At least from 1500 onward	Based on collective action that was identity-oriented, consensual and community-initiated.	Old forms still exist in many countries. In some countries, efforts are being made to revive them within the context of new sociopolitical and cultural realities.
Cooperatives and societies	Some from early 1900s onward, but largely formed during "development decades" – 1950s, 1960s and 1970s	Based on collective action that was sector-oriented and supported/coopted by the State.	Most of the older "supported top-down" forms now defunct or dormant. New ones being organized with more "bottom-up" approaches.
Associations and unions	Largely post-1980 onward	Based on collective action that was sector-oriented, class-based and largely adversarial to State.	Some have lost their earlier vibrancy and strength. Many survive at the federated – national and global – levels.
New "supported" organizational forms	Largely 2000 onward	Based on collective action that is cooperational, multi-interest (cross-class) and multilayered with revived interest from the State, international organizations and non-governmental organizations.	Many interesting initiatives that need to be observed closely.
Hybrid and networked arrangements	Largely post-2010	Based on collective action by a mix of "face-to-face" and "virtual" organizations aided by support groups and even the State with important use of information and communication technology for collective action and organizational management.	Too early to make assessment of status.

Source: Kurien, J. 2014. Collective action and organisations in small-scale fisheries. *In* D.C. Kalikoski & N. Franz, eds. *Strengthening organizations and collective action in fisheries: a way forward in implementing the international guidelines for securing sustainable small-scale fisheries, FAO Workshop, 18–20 March 2013, Rome, Italy*, pp. 41–104. FAO Fisheries and Aquaculture Proceedings No. 32. Rome, FAO. 168 pp. (also available at www.fao.org/3/a-i3540e.pdf).

[12] Kalikoski, D.C. & Franz, N., eds. 2014. *Strengthening organizations and collective action in fisheries: A way forward in implementing the international guidelines for securing sustainable small-scale fisheries, 18-20 March 2013, Rome, Italy*. FAO Fisheries and Aquaculture Proceedings No. 32. Rome, FAO. 168 pp. (also available at www.fao.org/3/a-i3540e.pdf).

[13] Kurien, J. 2014. Collective action and organisations in small-scale fisheries. In D.C. Kalikoski & N. Franz, eds. *Strengthening organizations and collective action in fisheries: A way forward in implementing the international guidelines for securing sustainable small-scale fisheries, 18-20 March 2013, Rome, Italy*, pp. 41–104 FAO Fisheries and Aquaculture Proceedings No. 32. Rome, FAO. 168 pp. (also available at www.fao.org/3/a-i3540e.pdf).

TABLE 3
Location of in-depth case studies

Country	Organization and year of establishment	Organizational type
Indonesia	West Aceh Fisheries Co-management Organization (2008)	Hybrid
Timor-Leste	Tara Bandu (2010 – 2012)	Customary
United Republic of Tanzania	Nyakasenge Beach Management Unit (1999)	New 'Supported' Organizational Form
Brazil	Cooperostra (1997) and Coopesi (2002)	Cooperative
Costa Rica	CoopeTárcoles R.L. (1985)	Cooperative, Hybrid
Belize	National Fishermen Producers Cooperative Society Limited of Belize (1966)	Cooperative
Barbados	Barbados National Union of Fisherfolk (1999)	New 'Supported' Organizational Form
Norway	Raw Fish Act and fishermen's cooperative sales-organizations (1938)	Cooperative
United States of America	Ocracoke Working Watermen's Association (2006) and Ocracoke Seafood Company (2007)	New 'Supported' Organizational Form

BOX 2
Suggested structure and outline for case studies

Part I. General overview of organizations and collective action in fisheries in the country
- Existing legal framework for organizations and support role of government and policies and programmes in the country
- Number of registered organizations in the country

Part II. Review of organization's documents and existing data
- Constitution and by-laws
- Legal framework under which the organization was originally registered

Part III. In-depth study of organization

1. Origins, initiators, motivations, the type of organization
   - History and factors accounting for starting the organisation. Detailing the circumstances and what was the need or problem /s that needed to be addressed. Who were the initiators, what was the background and how were they able to influence the others to join?
   - Core motivations and justifications and processes involved for commencement (e.g. related to markets, formed through government for co-management etc.)
   - Structure and how it evolved to get there
2. Function and purpose of organization (activities)
   - Objectives of the organization
   - Main activities and relationship to fisheries (organize production; provide credit; better marketing; bargain for welfare gains; social and cultural activities; negotiate with state) and how is this done.
   - Unique and/or distinguishing activities
   - Involvement in fisheries management (resource protection; co-management initiatives; regulation and/or allocation decisions)
   - Involvement in capacity building and knowledge transfer (training for youth; transfer of knowledge, skills; passing down custom)
   - Social cohesion (relationship between fishers, power relations among those cooperating or not)
3. Governance structures
   - Nature of the membership
   - Scale
   - Leadership and succession
   - Criteria for membership (participation, inclusiveness, criteria, size, relations in terms of class, gender, power, age) and representation
   - Size of membership
   - Role of supporters and/or facilitators if any
   - Division of labour
   - Is the organization under any specific state legislation (legal and administrative)
   - In what kind of legal system are associations and collective actions embedded in?
   - Is it a customary institution or how did it evolve from a customary type of organization
   - Nature, scope and details of the governance framework
   - Autonomy and independence
   - Involvement of non-members and their role, benefits and dependencies
   - Nature of decision making bodies and decision making processes (transparency, accountability, justice, gender equality, non-discrimination)

BOX 2 *(continued...)*

- Are there democratic elections?
- level of commitment of membership
- Incentives/disincentives to build collective action
- Enabling legislation and policy development to allow and promote self-organization
- Political recognition of the organization in terms of in-kind and cash/economic incentives
- Internal operating mechanisms of the organizations (e.g. meeting schedule, election/decision making procedures, authority, transparency/reporting back mechanisms, self-evaluation, learning, adaptation, flexibility, innovation, goal setting, monitoring/control, sanctions)
- Financial implications of running the organization and related funding mechanisms (how is or has the organization been financed over time), financial management (pros and cons), existing loans or debts.
- Existence of code of conduct
- Statues, procedures, manuals,
- Communication (how are messages communicated, how often, who has authority to communicate on behalf of the organization)

4. Gender issues
   - Gender balance
   - Promotion of women's empowerment and autonomy
   - History of women's involvement

5. Networking and external relations
   - Is organization part of larger network or federated structure?
   - Nature of representation in such larger/higher bodies
   - Relationship with larger community in the area
   - Relationship with political process of country
   - Relationships with the 'outside world'
   - Relationship with NGOs involved in development activity, research etc.
   - Relationship with academia – researchers, students
   - ICT – how has the recent massive improvement in information and communication technologies changed/impacted the organization

6. Finance, infrastructure and marketing
   - Sources of finance (e.g. membership fees, profits on operation, grants, loans, etc.)
   - Access to infrastructure
   - Access to formal and informal microfinance programs
   - Existence of alternative markets
   - Access to productive resources
   - Existence/access to social protection schemes
   - Openness to markets

7. Decent employment and working conditions
   - Status and trends on employment opportunities
   - Migration inside and outside the sector (e.g. low employment opportunities and decent work lead many youth to abandon the SSF sector, territorial integrity, youth retention and engagement).
   - Training and support to organizational and capacity development, with special emphasis on youth, women and children.
   - Access to policy that improves employment and working conditions

8. Coherence with principles

9. Empowerment and self-reliance (including enhanced opportunity to women)

10. Distributive/participative justice

11. Sharing and transference of knowledge

12. Factors for success/dormancy/failure
    - Is organisation still vibrant and functioning, why and what are the supporting or constraining factors?
    - How much of initial objectives, motivations still persist?
    - Does the organization have a monitoring and self-evaluation scheme? How does it work?
    - What are the organization's strengths and self-sustaining factors?
    - Are members and community satisfied?
    - Support, spinoffs (community welfare, social cohesion, development indicators – education, crimes, new organizations, social conflict resolution, reciprocity and trust)
    - *What are its main achievements?*
      (Poverty reduction; food and nutrition security; self-reliance; collective action; avoid exploitation; improve livelihoods and welfare; enhance income; (re)establish identity, retain culture)

BOX 2 *(continued...)*

- What are the keys to success?
- What accounts for dormancy?
- What accounts for failure?
- What needs to be done and in what level to overcome challenges?
- What is the recommended strategy to strengthen the organization?

Source: Modified from Annex 2 in Kurien's report based on the workshop discussions and recommendations. Kurien, J. 2014. Collective action and organisations in small-scale fisheries. In D.C. Kalikoski & N. Franz, eds. *Strengthening organizations and collective action in fisheries: a way forward in implementing the international guidelines for securing sustainable small-scale fisheries*, FAO Workshop, 18–20 March 2013, Rome, Italy, pp. 41–104. FAO Fisheries and Aquaculture Proceedings No. 32. Rome, FAO. 168 pp. (also available at www.fao.org/3/a-i3540e.pdf).

The conduct of the case studies provided an opportunity for members and leaders of the organization to look back and reflect on their beginnings, the reasons why they organized, and the achievements and challenges along the way. Some of the case studies recount the ups and downs of the organization, the leaders and movers who catalyzed the revival, and the struggle of the membership to activate and stand by the organization. The discussions generated by the case studies were a kind of self-evaluation that prompted the members and leaders to look into their past, consider their present, and decide on what they would like their organization to look like in the future.

The case studies presented here show that organizations are made up of people who may have different motivations for joining, some of whom may be more powerful than others, and that an organization could become the victim of the vested interest of one or two persons. But despite the negative experiences the members persevered and leaders rose to the occasion to put things to right.

That the case studies are rich in detail is intentional. They tell the stories of the people who make up the organizations, their dreams and aspirations, and their successes and failures, in order to provide lessons for other organizations in similar situations and for mistakes not to be repeated.

Brief information about each case study is presented below.

Barbados National Union of Fisherfolk Organisations: The Barbados National Union of Fisherfolk Organisations (BARNUFO), a secondary level fisherfolk body, was organized in 1999, with primary or local level site-based fisherfolk groups as members. It is linked to the Caribbean Network of Fisherfolk Organisations (CNFO) as a coordinating alliance of the national fisherfolk organizations of countries in the Caribbean Community (CARICOM). BARNUFO has prospered and it has struggled. Its evolution offers insight into the factors that favour both success and failure in fisherfolk organizations. BARNUFO has an impressive record of activity, but having abandoned a strategic plan early on it has found itself in difficulty with dwindling membership and low capacity. Lessons learned about factors that favour success and failure are shared.

National Fishermen Producers Cooperative Society Limited of Belize: The National Fishermen Producers Cooperative Society Limited was registered on 29 April 1966 by a group of fishers, who wanted to obtain more cash income from export earnings and to maintain a sure market. This cooperative also wanted to promote long-term benefit for its members. The main export market for members' products is the United States of America where almost all of the lobster tails, lobster meat and conch are exported. The case study analysed the financial performance of the cooperative in addition to looking at the perceptions of the members.

Cooperostra and Coopesi, Brazil: The case study presents the role of Cooperostra (The Cooperative of Oyster producers of Cananéia) in São Paulo State and Coopesi (Cooperative of Artisanal Fishers of Santa Isabel in the southern part of Rio Grande do Sul State in the well-being of their members and communities, as well as in the maintenance of the ecological diversity of the regions they are located. Both are situated in a lagoon/estuarine ecosystem although belonging to different biomass: Cooperostra is based on a mangrove area which is part of coastal Atlantic Forest and Coopesi is located in a coastal area with several coastal lagoons with sand dunes, such as Dos Patos and Mirim.

CoopeTárcoles R.L., Costa Rica: CoopeTárcoles R.L., a small- scale fishing cooperative in the Pacific Coast of Costa Rica is analyzed as a good practice from which lessons can be learned on issues related to sustainable use of fishing resources, social resilience and the improvement of small-scale fisheries livelihoods. Among others, the analysis revealed the positive progress made towards improving the living conditions of small-scale fishers and the identity associated with the artisanal fishing sector. The case study identified the positive steps that favour and enable the organization and collective work of artisanal fisheries, which are perceived as necessary attributes in supporting the artisanal production business and livelihoods of thousands of fisherfolk and their families, not only in Costa Rica but also throughout the world.

West Aceh Fishers Co-management Organization: This case study is about a group of five fisher organizations which commenced functioning in the tsunami affected and conflict ravaged Aceh Province of Indonesia after 2008. These five entities were initiated as part of a "transition" programme bridging rehabilitation and development after the tragic event of the 2004 tsunami that hit Aceh Province. This programme was the result of a partnership between FAO and the American Red Cross. The highlight of these entities was that they were not envisaged as conventional fisher organizations of the types well-known around the world – associations, cooperatives, unions and so forth. Instead they were distinguished by being "hybrids" and based on the principle of co-management of fishery resources for sustainable livelihoods by multiple interest groups, most importantly the active fishers, the coastal community and the representatives of the state.

Norwegian Fishers' Sales Organization: The Raw Fish Act (RFA), passed in 1938 in the aftermath of the global financial crisis that hit Norway's fishing industry hard, and the fishers' sales-organizations that it authorized have come to play a crucial part in Norwegian fisheries and society. In fact, one would not be able to understand the social and economic dynamics of this industry and its governance without analysing this law and these organizations. Not only did they help to empower fishers by prioritizing their needs, but by doing so, they also helped to bring fishers out of the poverty that the financial crisis had brought upon them. Since the RFA's enactment, it has undergone reform that has both limited and broadened the mandate and social function of the sales-organizations. Although the historical context and institutional designs of the RFA and sales organizations, respectively, are unique, together they address a problem that small-scale fishers are experiencing all over the world – one of marginalization and exploitation. The RFA and the system of sales-organizations radically altered this predicament.

Beach Management Unit, the United Republic of Tanzania: Beach management units (BMUs) comprise units that have been formed, within the framework of a co-management regime, to partner with the government in managing the lake fisheries resources. They were formed as a means of addressing the increase in the use of

illegal fishing techniques, including banned fishing methods. The case study involved examining the Lake Victoria BMUs in the United Republic of Tanzania, specifically Nyakasenge BMU in Chabula fishing village, Magu District. Understanding an individual BMU requires a broad knowledge of BMU setup and operation in the United Republic of Tanzania, and this was the approach taken for this case study.

Tara bandu, Timor Leste: Tara bandu can be considered both a customary based regulatory system and a newly supported organizational form aimed at governing the relationships among humans and between humans and other entities (spaces, objects, animals, crops, the state, the environment or the spirits). The case of the Tara bandu of Biacou shows how a system rooted in the animist-based traditional system of beliefs can become a measure for resource management. Its development is an example of the results of the local integration of the external influences and discourses and how villagers find a way to re-construct their own customary practices according to their contemporary needs and aspirations.

Ocracoke Working Watermen's Association and Ocracoke Seafood Company, the United States of America: This case study looks at how a fishing community in North Carolina responded to the threat of losing their fish house, and thereby also their fishing heritage. Through collective action, they were able to strengthen their fishing industry, preserve their fishing heritage, and create organizational forms that responded to their need.

Informal fisher village councils (ur panchayat), Nagapattinam District and Karaikal, India: [14] This case study looks at the role of informal fisher councils (or ur panchayats) in sustaining small-scale fisheries along the Coromandel Coast of Tamil Nadu, India. The field study on which the case study is based took place in a one-month time period in 2013, and focused on a selection of fishing hamlets in Nagai-Karaikal districts. It concludes that the fisher councils of Nagai-Karaikal are multifaceted organizations with a strong presence particularly, but not exclusively, at the hamlet level. Their self-defined role – that is generally recognized by other parties, including, at least informally, the government – is that of umbrella authority over coastal space as well as the resident fishing population. Fisher councils make essential environmental, economic and social contributions to small-scale fishing, and play a strong mediating role between government and fishers. The chapter signals, however, that councils vary in their constitution and functioning on a scale from traditional to modern. In addition, they rule over increasingly heterogeneous populations that are also seeking futures outside of fishing. The case study ends with a set of recommendations to strengthen the functioning of fisher councils and to include them more effectively in fisheries policy.

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ACRONYMS

AGM	Annual General Meeting
BARFISHCOS	Barbados Fishing Cooperative Society Ltd
BARNUFO	Barbados National Union of Fisherfolk Organisations
BCFFO	Barbados Coordinating Council of Fisherfolk Organizations
BOFA	Boat Owners and Fishers Association
CARICOM	Caribbean Community
CCFP	Caribbean Community Common Fisheries Policy
CERMES	Centre for Resource Management and Environmental Studies
CNFO	Caribbean Network of Fisherfolk Organisations
FAC	Fisheries Advisory Committee
FFO	Fisherfolk organization
FODP	Fisheries Organisation Development Project
GCFI	Gulf and Caribbean Fisheries Institute
GDP	Gross Domestic Product
GRP	Glass reinforced plastic or fibreglass
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICT	Information and communication technology
IUU	Illegal, unreported and unregulated fishing
MPA	Marine protected area
NFO	National fisherfolk organization
PFO	Primary fisherfolk organization
UWI	University of the West Indies

1. INTRODUCTION

This case of organization and collective action in small-scale fisheries investigates the evolution of the Barbados National Union of Fisherfolk Organisations (BARNUFO). BARNUFO is a secondary (national) level body formed in 1999. It comprises several primary (local) level site-based fisherfolk groups, and is itself a member of the Caribbean Network of Fisherfolk Organisations. The latter is an informal network of the national fisherfolk organizations of countries in the Caribbean Community. BARNUFO has prospered and struggled. Its evolution offers insight into the factors that favour both success and failure in fisherfolk organizations. It is now engaged, mainly through the Caribbean Network of Fisherfolk Organisations, in preparing to implement the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines). Perspectives on how this will occur offer additional insights into the capacity development needs and dynamics of small fisherfolk organizations.

The case study research was conducted from November to December 2013 in full collaboration with BARNUFO from start to finish. The investigative team and case study co-authors comprised a Senior Lecturer at the Centre for Resource Management and Environmental Studies of The University of the West Indies Cave Hill Campus, an independent consultant and the President of BARNUFO. Resource persons, who also served as mentors for BARNUFO, assisted the research and validation workshops.

The scant published literature on fisherfolk organizations in Barbados was reviewed. BARNUFO and the Fisheries Division of the government provided access to the data and many unpublished documents upon which much of the case study is based. The evolution of BARNUFO could not be assembled from documentary evidence or institutional memory in any one place. It was very fragmented, and most data resided in the government's fisheries authority due to inconsistent record keeping by BARNUFO. Key informant interviews provided additional insight.

Workshops for conducting research (12 December 2013) and fisherfolk validation of findings (28 December 2013) were held for sharing, gap filling and verifying the findings of the investigation. The activity timeline, the factors favouring success and failure, and perspectives on the SSF Guidelines were major contributions from these workshops. The timeline was constructed through a group process done in plenary and filled out on-screen so that, similar to snowball sampling, any contribution made tended to encourage many others as memories were jogged. Workshop participants voted with sticky dots on flip charts individually for the factors of success and failure, and then discussed the results together for explanations and added more to the list. The table of SSF Guidelines benefits and capacity development was filled out interactively on-screen to elicit discussion. About 30 fisherfolk and fisheries officers assisted the investigation.

A report of the research and validation workshops (Blackman *et al.,* 2013) was produced, and its contents are woven into this case study report. The workshop report and this case study report have the potential to add value as inputs into initiatives that organizations are implementing with BARNUFO. In particular, the participatory processes used can be built upon to improve institutional memory and develop capacity for fisheries governance within BARNUFO and its primary organization members. Fisherfolk who participated want practical follow-up such as improvements in organization administration, projects that can yield income, and initiatives that tangibly enhance their livelihoods and well-being.

The next section describes the fishing industry of Barbados. This is followed by a summary of fisherfolk organizing in Barbados. Then the evolution of BARNUFO is presented in detail, paying particular attention to collective action. Lessons learned about factors that favour success and failure are set out. The report ends with an analysis of implications that the SSF Guidelines may have for capacity development.

This report builds upon the Caribbean case presented at the FAO workshop in March 2013 by adding situation-specific insight focused on one organization.

2. THE BARBADOS FISHING INDUSTRY

Barbados is the most eastern of the Caribbean islands, being entirely surrounded by the Atlantic Ocean, located at roughly 13° 10' N latitude by 59° W longitude. The low relief, coralline island has a total land area of about 432 square kilometres and a coastline of 95 kilometres. The island's marine shelf is only 320 square kilometres in area, and deep water is found fairly close to shore.

The oceanic surface waters are relatively low in productivity. Surface currents off Barbados are generally directed towards the northwest, sometimes bringing water lenses of lower salinity from the Amazon and Orinoco Rivers of South America. There are four main types of fishing boats in Barbados based on physical features and fishing methods as summarised in Table 1.

TABLE 1
Features of the fishing fleet

Features	Moses	Dayboat	Iceboat	Longliner
Structure	Open, wood GRP	Decked, wood GRP	Decked, wood GRP	Decked, wood GRP, steel
Boat length	3-6 metres	6-12 metres	12-15 metres	>12 metres
Propulsion	Oars, outboard, 10-40hp	Inboard, diesel, 10-180hp	Inboard, diesel, up to180hp	Inboard, diesel, over 180hp
Main fisheries	Reef and coastal	Flyingfish and large pelagics	Flyingfish and large pelagics	Tunas, billfish, swordfish
Fishing methods	Hand and trolling lines fish traps, cast nets	Hand and trolling lines, gill nets, hoop nets	Hand and trolling lines, gill nets, hoop nets	Longline, trolling lines
Trip length	0.5 day	1.0 day	5-10 days	12-28 days
Crew size	1-2 people	1-2 people	2-3 people	4-5 people
Fleet size	Approx. 485	Approx. 250	Approx. 190	Approx. 30

Source: Fisheries Division

Since the small island shelf cannot support a large demersal fishery, a multifleet, multispecies fishery for offshore pelagics is predominant. These species are seasonal, and in most cases the main season runs from November to July when over 90 percent of the annual catch is landed. Within the season there are usually peaks of abundance that shift from year to year. Seasonality and the absence of a clear increasing or declining multi-year trend in total catches are important to note. The most important species is the small pelagic fourwing flyingfish (*Hirundichthys affinis*) that usually comprises about 55 percent of total annual landings. Dolphin (*Coryphaena hippurus*) is the second most commercially important pelagic species in Barbados, usually comprising about 30 percent of the total annual landings. Besides sharks, which are not target species, the remaining pelagics of commercial importance are kingfish – mainly wahoo (*Acanthocybium solanderi*), tunas – mainly yellowfin (*Thunnus albacares*), billfish – mainly blue marlin (*Makira nigricans*) and Atlantic sailfish (*Istiophorus albicans*), and swordfish (*Xiphias gladius*). Most of these highly migratory fishes fall under the jurisdiction of the International Commission for the Conservation of Atlantic Tunas of which Barbados is a Contracting Party.

Demersal slope and bank species such as snappers (*Lutjanidae*) and the wider variety of shallow shelf reef species are more important during the hurricane season (June-October). Then, large pelagics and flyingfish are less abundant, and a large portion of the offshore fleet is hauled out for annual maintenance. There are currently inshore fisheries for spiny lobster (*Panulirus argus* with some *P. guttatus*) and a small fishery for conch (*Strombus gigas*). The sea urchin (*Tripneustes ventricosus*) and sea turtle fisheries have been closed, temporarily and indefinitely respectively.

Fisheries in Barbados are under the jurisdiction of the Fisheries Division of the Ministry of Agriculture. Total employment in the fisheries sector may reach 6,000 people. The sector is not a major contributor to the economy, based on the official statistics, which suggest fishing provides 0.5-1.0 percent of Gross Domestic Product annually. Fish is very important for food security but exports are low in both volume and value compared to other countries that have fisheries for lobster, conch and shrimp. The volume and value of fish imports exceeds exports, and much is brought in to support the critical tourism sector. The 1993 Fisheries Act is the main legislation, and although fisheries management plans are required, all fisheries in Barbados are open access with little enforcement of or compliance with regulations.

3. HISTORY OF FISHERFOLK ORGANIZATIONS IN BARBADOS

3.1 Colonial times

In the early 1960s officers of the cooperatives and agriculture divisions of the colonial public service initiated Cooperative Fishing Savings Societies (McConney *et al.,* 2000). Fisheries officers at the time stated that cooperatives would be very unlikely to form as long as fishers and boat owners could get government loans, and that fishers especially were individualists by nature (see Jentoft and Davis (1993) for similar notions). Fisheries officers, hence, did little to encourage cooperatives. They maintained fishing industry incentives such as credit schemes and technical assistance that were accessible by individuals. Fisherfolk, mainly boat owners with capital to invest in motorisation of the fleet, were enticed to join the early cooperatives more by the prospects of receiving goods and services from government than by the prospect of collective action. Despite this, they soon realised the powerful potential of collective action and used it widely (McConney *et al.,* 2000).

Thus, the early cooperatives (about ten at their peak in the mid-1960s) soon became multi-purpose, providing fishing supplies, offering fish transport and engaging in fish marketing. They tried not to depend upon government, something the leaders were said to be proud of as the colony moved towards independence (McConney *et al.,* 2000). Cooperatives Division officers reportedly hand-picked leaders from among the more articulate and respected boat owners in order to improve both rule compliance and cooperative success (McConney *et al.,* 2000). The International Labour Organization (ILO1964) warned, however, of too many cooperatives being formed without the necessary administrative support, of jurisdictional overlap and of poor inter-agency coordination. The colonial machinery for supporting cooperatives was found deficient, but independence was close at hand.

3.2 Independence and onward

Barbados gained independence from Britain in 1966. This was also the heyday of the civil rights movement in the USA. National politics favoured social democracy including cooperatives and grassroots social movements in general, but by the 1970s many co-ops had failed due to poor management and the absence of substantive enabling policy (Jackman 2001, McConney 2001). Yet the early interest in fishing cooperatives persisted despite failure and, in contrast to the early groups, the 1985 formation of a new fishing cooperative, the Barbados Fishing Cooperative Society Ltd (BARFISHCOS), was a bottom-up process led mainly by a group of large-boat owners. These investors immediately set about lobbying government to solve the problems in the industry rather than take any action themselves. Ironically, from an independent start they moved towards high dependency. Burtonboy and Jones (1988) and Burtonboy (1988) suggest that for this purpose a pressure group or advocacy organization would have been more appropriate than a cooperative.

Also in the 1980s several fisherfolk associations started as collective action for different reasons. Reasons included being borne out of conflict between fishers and boat owners, being due to the coast guard enforcing marine protected area (MPA) laws, to gain access to a landing site within a port, poor landing site facilities, and due to an exclusive economic zone (EEZ) dispute with a neighbouring country (McConney *et al.*, 2000). All of these associations received some support from the fisheries authority such as information on demand and a location for holding meetings, but all groups were short-lived once the initial motivational crisis had passed.

The association, rather than the cooperative, became the preferred form of organization due to its flexible structure and function unhampered by formal legislation. During the three post-colonial decades the Cooperatives Division was beginning to pay more attention to credit unions rather than to producer cooperatives. The legislation governing cooperatives was amended to cater more to the credit union movement with heavy emphasis on financial accountability (e.g. GOB 1990 and 1993a). Only the boat owner-led BARFISHCOS persisted as a fishing cooperative and no new ones were formed.

There was no specific governing legislation for associations and other informal fisherfolk groups unless the group decided to become a not-for-profit company or a charity, and this did not occur. The available legislation (Government of Barbados 1990, 1993a, 1993b, 1998, 2000) did not anticipate the need to register fisherfolk groups. Some organizations, however, registered under business names for conducting transactions. By 1999, when BARNUFO was established, there were just over a dozen identifiable fisherfolk organizations, each associated mainly with one landing site, and functioning at levels ranging from highly active to almost dormant. Table 2 summarises the early history of fisherfolk organizing and the features of the organizations up until BARNUFO.

TABLE 2
Profiles of fisherfolk organizations in Barbados from colonial times to BARNUFO

Name	Date of Commencement	Whether Registered	Area of Jurisdiction	Total No. of Members	Member Contribution	Services Provided to Member-ship	Any other Information
Bridgetown Fishing Cooperative Society Ltd.	29 July 1961	Yes Reg. No. 63 (31. 01. 1962)	Bridgetown	20	NA	Welfare	This is the first registered FCS. Inactive from 1970s.
Christ Church Fishing Cooperative Society Ltd.	22 December 1960	Yes Reg. No. 56 (17. 02. 1964)	Christ Church	NA	NA	Welfare and fuel supply	This is the first Fishing Savings Society to be formed. Inactive from 1970s with the death of elderly group.
Eastern Fishing Cooperative Savings Society Ltd.	02 June 1961	Yes Reg. No. 61 Re-registered on 15. 06. 1964	Eastern Areas	NA	NA	Welfare	
Tent Bay Cooperative Fishing Savings Society Ltd.	30 June 1961	Yes Reg. No. 62	Tent Bay area	NA	NA	Welfare	Registration cancelled on 11. 05. 1981

TABLE 2 *(continued...)*

Name	Date of Commencement	Whether Registered	Area of Jurisdiction	Total No. of Members	Member Contribution	Services Provided to Member-ship	Any other Information
Northern Fishing Cooperative Society Ltd.	04 February 1962	Yes Reg. No. 64 (09. 05. 1963)	From Speightstown to Half Moon Fort	Total 70: 69 Full time fishers and Boat Owners 1 woman scaler/ Boat owner	$ 1 - 5 (Minimum $ 1)	All members were insured using FCS funds, Supply of Paints for Boats, Thrift and savings methods introduced. Supplied ice transported from B'town, Bought fish from members and stored and transported to B'town and sold to Marketing Corporation, Employed 40 casual boners and cleaners	Formed as a Savings Society in 1962. Full society status from 09. 05. 1963. Inactive from 1970s
St. James Fishing Cooperative Savings Society Ltd.	08 February 1962	Yes Reg. No. 68	NA	NA	NA	Sports activities	Registration cancelled on 11. 05. 1981
Barbados Fishing Vessels Cooperative Insurance Society Ltd.	17 March 1962	Yes Reg. No.71	NA	NA	NA	Welfare and sports	Registration cancelled on 11. O5. 1981
Barbados United Fishing Cooperative Society Ltd.	06 May 1964	Yes Reg. No. 90	NA	NA	NA	Welfare	Registration cancelled on 11. 05. 1981
Skeete's Fishing Cooperative Society Ltd.	Unknown 1960s	Yes Unknown	Bayfield and surrounding areas	20	$ 1.50 a share	Supply of fuel and paint, transportation of fish	Inactive from 1970s
Conset Bay Fishing Cooperative Society Ltd.	1970s	Yes Reg. No. 118 (09. 03. 1971)	Conset Bay area	46	NA	Supply of fuel, transportation of fish, operation of a scale.	Inactive from 1970s
Barbados Fishing Cooperative Society Ltd. (BARFISHCOS)	1986	Yes Reg. No. 152 (18. 02. 1986)	Barbados	Total 44: Boat owners 30 (1 woman boat owner), Fisher/Boat owners 8, Part time Fishers 6	At least 10 shares; 5 members paid, 40 not paid. Total $ 500.	Supply of Diesel	Limited activity with supply of fuel to members. Some members buy fuel outside the coop
West Coast Fishermen's Association	1992	No	Pile Bay to Speightstown but no restriction	35	$ 5 / month	No structured programme	Limited activity
Oistins Fisherfolk Association	1994	No	Oistins	132 Full time Fishers-16, Part time-31,Boat owners-19, Fisher/Boat owner-1, Vendors-27, Boners-27, "Friends"-10	Entrance fee/ year $ 20, Day boat $10/ week, Ice boats 12.50/ week.	Room equipped with Radio communication from ship to shore, Supply of fuel, Extension programmes in fish handling and community services	Limited activity

TABLE 2 *(continued...)*

Name	Date of Commencement	Whether Registered	Area of Jurisdiction	Total No. of Members	Member Contribution	Services Provided to Member-ship	Any other Information
Barbados United Fisherfolk Association	1994	NA	Barbados	12; Full time fishers 2, Boat owners 7, Vendor 1, Fishery Officers 2	Variable	Welfare	Inactive

Source: Atapattu (1997)

3.3 New millennium

BARNUFO was formed just before the new millennium. In the intervening 14 years the number of active primary fisherfolk organizations has declined, largely due to deficiencies in leadership and management capacity, to about four that are barely functioning. BARFISHCOS, the lone co-operative, was terminated due to financial matters, and attempts to replace it with another cooperative from 2008 onward did not get past discussion stage. The Boat Owners and Fishers Association (BOFA) was formed in 2011 as a national body to represent the harvest sector with the objective of economic prosperity, but has since floundered like most other start-ups.

Faced with dwindling organizational membership the constitution of BARNUFO was amended in 2006 following recommendations since 2002 to allow for broader participation. However the provisions of the amended constitution have not been implemented. Successive BARNUFO executives have struggled and there have been insufficient candidates available to competitively fill the board of directors. The government Fisheries Division's support for fisherfolk organizations declined in the past decade. Still, the manifesto of the ruling political party, re-elected for a second term in 2013, talks about fisherfolk organizations and participation, suggesting a policy of empowerment. Although, since 2000, BARNUFO has been appointed to the Minister's Fisheries Advisory Committee (FAC) as a consequence of the Fisheries Division encouraging co-management at the time, there is little evidence of its influence upon fisheries policy. BARNUFO is also a member of the Caribbean Network of Fisherfolk Organisations (CNFO), sitting on its coordinating unit. The remainder of the report examines the establishment and evolution of BARNUFO in detail.

4. ESTABLISHING BARNUFO

BARNUFO was formed just before the new millennium as an output of a Fisheries Division initiative to empower fisherfolk through an organizational strengthening project. This was linked to provisions for increased fisherfolk organization participation in national level fisheries co-management under a 2000 amendment to the 1993 Fisheries Act that gave a representative body a seat on the FAC mentioned above. BARNUFO's formative years are described in this section.

4.1 Co-management context

The Fisheries Act of 1993 (Cap. 391) provides legal authority for the administration and management (conservation and development) of the fishing industry in Barbados primarily by the Minister responsible for fisheries (typically the agriculture minister) and the Chief Fisheries Officer who heads the government's Fisheries Division. For domestic fisheries matters much authority is vested in the Chief Fisheries Officer, while the Minister is the principal authority for foreign fishing. The Act makes statutory provision for a Fisheries Management Plan, and the Fisheries Advisory Committee appointed to advise the Minister on almost all matters related to fisheries policy.

Under the 1993 law, the Fisheries Advisory Committee required four persons from the fishing industry as members, but none of them needed to be affiliated with fisherfolk organizations. The first FAC was appointed in 1995, and it soon began work

on the first Fisheries Management Plan, which was approved in 1997 (McConney and Mahon 1998). Although not strong, there are provisions in the law for fisherfolk participation in fisheries management planning through consultation prior to the Fisheries Management Plan being approved by the Minister. Section 4(3) the Act says that: "In preparing and reviewing a fisheries scheme, the Chief Fisheries Officer may consult with local fishermen, any fishing cooperative or association or any other persons affected by the fishery scheme". This provision has been used occasionally rather than consistently by the Chief Fisheries Officer, but primarily in these early days.

The 1997-2000 Fisheries Management Plan sought to make fisherfolk participation essential and to promote co-management (McConney *et al.,* 2000). The contents of the first Fisheries Management Plan, and the way in which it was developed through the Fisheries Advisory Committee, reflected the new co-management orientation of the Fisheries Division at the time. The thrust towards national level fisheries co-management was also demonstrated by the government's implementation of a project to develop fisherfolk organizations that eventually led to the establishment of BARNUFO two years later (Jackman 2001).

4.2 Fisherfolk Organisation Development Project

The Fisherfolk Organisation Development Project (FODP), funded by the Commonwealth Fund for Technical Cooperation, was implemented from 1997 to 1999. The adviser, selected from a small pool of applicant consultants, was a fisheries official from Sri Lanka. The objectives of the FODP (Atapattu 1997) were:

- Long term - Improvement of the welfare of fisherfolk on a sustainable basis through effective established organizations
- Immediate - Implementation of strategies for the establishment and development of fisherfolk organizations (FFOs) capable of active participation in fishery management and development

According to Atapattu (1997) the 1997-2000 Fisheries Management Plan provided compelling justification for the FODP since one of its strategies was: "active and vibrant fishing associations and cooperatives will be promoted". He said that, since none of the early cooperatives had survived, fisherfolk were now reluctant to form them in the absence of successful experience. So, most of his effort was on forming associations. Realising that the fisherfolk associations would not have legal status he used constitutions adapted from Sri Lankan organizations to provide some legitimacy as an interim step towards formalisation. Regulations were drafted to register FFOs with the Fisheries Division, but those regulations are still not yet in place. Currently, fisherfolk associations are registered only administratively with the Fisheries Division, which in effect has negligible practical value and no legal value. During the FODP the Fisheries Division, through Atapattu's counterparts, assisted organizations in conducting their meetings, running elections and preparing minutes or other documentation.

The approach was to hold scoping, awareness building and information exchange meetings at landing sites followed by more specific meetings to explain the template draft constitution and finally an inaugural general meeting if there was still interest in proceeding with an association. Some landing site meetings were cancelled or postponed due to low turnout that the adviser blamed on poor leadership at the site level after key actors were contacted. Several meetings were held in different places at the same locality to increase turnout. Persons with apparent or potential leadership capacity were appointed by the adviser and Fisheries Division, with the endorsement of other fisherfolk, to steering committees to help in organizing meetings. Challenges

remained even after associations were formed. Atapattu (1997, 1998a, 1998b) identified the main constraints as:

- Lack of proper leadership
- The inability of organizations to collect membership fees and other dues from members
- Limited revenue-generating activities undertaken
- Inability to provide essential services to members
- Inability to conduct meetings due to lack of quorum
- The notion that everything for the FFO should be provided by the government
- Inadequacy of information flow from the FFO office bearers to the general membership
- Lack of coordination between the Fisheries Division and the FFOs

The FODP increased the quantity of FFOs rather than their quality, understandable perhaps from the consulting viewpoint of seeking tangible deliverables in a short period (McConney 2001). It attempted to build critical mass in order to form a national umbrella body using the Barbados Coordinating Council of Fisherfolk Organizations (BCFFO) as an interim phase informal steering group to be terminated upon the formation of BARNUFO. BARNUFO was formed in March 1999 when about a dozen active organizations existed (Table 3).

TABLE 3
Fisherfolk associations operating under the Fisherfolk Organisation Development Project in 1998

Fisherfolk association (FFA)	No. of members	Adoption of constitution	Registered by Fisheries Division
Oistins FFA	42	12 Oct. 1997	4 Dec. 1997
Weston FFA	18	21 Jan. 1997	29 Jan. 1997
Sand Pit FFA	25	5 Dec. 1997	6 Feb. 1997
Northern FFA	24	25 Nov. 1997	20 Mar, 1998
Paynes Bay FFA	11	17 Mar. 1998	4 May 1998
Speightstown FFA	17	11 Mar. 1998	13 May 1998
Pelican FFA	13	12 Jun. 1998	24 Jul. 1998
Tent Bay FFA	19	11 Jun. 1998	30 Oct. 1998

Source: Fisheries Division records

BARNUFO, like the primary associations was informally 'registered' with the Fisheries Division and all had constitutions but no legal basis, except the lone cooperative that was a legal entity. Atapattu (1998b) recommended a post-FODP phase to develop FFO plans for micro-enterprises or small businesses as it was "of utmost importance to diversify their operations for economic viability and member confidence". This was not taken up, however, when the FODP ended since none of the FFOs had the stability or capacity to take on even basic organization administration and management. Although not tested, it was also unlikely that the Fisheries Division had the capacity or inclination to lead a major thrust towards developing organization economic activity.

4.3 Constitution and legal status

The constitution of BARNUFO was adopted at the Inaugural General Meeting held on 10 March 1999 and amended at the General Meeting held on 12 July 2006. From inception to present it has remained only administratively registered with the Fisheries Division and has no legal status. We see later that the absence of legal status has not prevented BARNUFO from engaging in a variety of activities at national and regional levels. Also later, under governance, we examine reasons behind the amendments to the constitution (Table 4).

TABLE 4
Articles of the BARNUFO constitution

Section title	Section title
1. Objectives, Responsibilities and Membership	8. Quorum
1.1. Name	9. Records of Meetings
1.2. Address of the Union	10. Powers and Duties of the General Body
1.3. Objectives	11. The Board of Directors
1.4. Authority	12. The Business of the Board of Directors
1.5. Area of Operation	13. The Duties of the Board of Directors
1.6. Membership	14. The Minutes of the Board Meetings
1.7. Membership Fee	15. President and the Vice President
1.8. Entry to the Membership	16. Secretary
1.9. Membership Register	17. Manager / Treasurer
1.10. Cancellation of Membership	18. Business Activities
1.11. Expulsion from Membership	19. The Seal of the Union
2. Funds	20. Standing Orders of the Board
3. Maximum Credit Limit	21. Amendments to the Constitution
4. Utilisation of Funds	22. Liquidation
5. Security Fund	23. Interpretation
6. Financial Year	
7. General Body of the Union	

BARNUFO is the only umbrella organization for primary fisherfolk organizations (PFOs) in Barbados and by its constitution aims to adequately represent their interests. The core objective is to improve "their socio-economic conditions based on sustainable development of fisheries". Sustaining active PFOs is a necessary challenge since BARNUFO's original constitution is constraining in that only through PFO membership can it carry out its mandate and remain viable. Since it has no other membership category BARNUFO would, quite literally, cease to exist without the PFOs, and it has already come very close to this several times as we shall see later in the evolution of BARNUFO.

To achieve the core objective, the constitution provides the authority for BARNUFO to:

- Acquire or purchase or rent capital items and equipment used in the fishing industry, such as, boats, engines, fishing gear and spare parts
- Sell, hire or supply on credit capital items such as boats, engines fishing gear and spare parts
- Acquire the required fixed assets
- Supply the necessary inputs and to provide facilities for the members to engage in the fishing industry
- Train the members in activities pertaining to the fishing industry and related matters
- Initiate and develop economically efficient methods of fishing and marketing of fish and fishery products
- Negotiate with government or other local or international agencies on matters of interest to members
- Organise activities to the general welfare of the members
- Engage in fisheries resources management and conservation
- Engage in all other activities incidental to the aforesaid objectives

The remaining constitutional provisions are standard and simple to facilitate easy administration. Although not done yet, the constitution states that the Board shall formulate standing orders (by-laws) on the following subjects:

- Membership enrolment
- Utilisation of the funds of the Union
- Collection of funds and control

- Business activities
- Development activities for women in the community
- Code of conduct for Board members
- Membership drive, education and extension

The Chief Fisheries Officer is empowered by the informal constitution to terminate BARNUFO should it cease to function. The constitution does not go into detail on this or the relationships between BARNUFO and its members, but in the next section we see that BARNUFO's activities often aim to benefit the entire fishing industry with no real additional benefits accruing to its paid up members or the members of its constituent PFOs. Indeed the notion of 'membership' is problematic in the primary organizations and the secondary organization. Members for the most part do not pay their dues and are not expelled. So a person or organization claiming 'membership' is often simply conveying a self-determined affiliation rather than a formal or financial relationship. There are no reliable counts of members. In essence how BARNUFO and its organizations operate provides considerable incentives for free-ridership.

5. EVOLUTION OF BARNUFO

This section highlights the main types of activity that have characterised BARNUFO from its formation to the present. It draws upon Table 5 that provides a detailed timeline of activities and selected external events.

TABLE 5
Timeline with highlights of BARNUFO activities and selected external events, 1995-2013

Period	Locus	Activities
1995 to 1999	External	Fisheries Division emphasises co-management via FAC and FODP
		First Fisheries Management Plan 1997-2000 crafted largely by FAC
		Southern Caribbean Jul-Oct 1999 fish kill impacts Barbados severely
		Sea moss farm started at Conset Bay by BARNUFO's first President
		Fisheries Division moves into a new and improved building
		CFRAMP activities implemented regionally to develop fisherfolk organizations
	BARNUFO	FODP strategy was for BARNUFO to focus mainly on activities for revenue
		Early planning of BARNUFO activities superseded by 1999 fish kill crisis
		Presents a proposal to government to compensate 464 fisherfolk impacted by the 1999 fish kill and membership swells by conditions attached
		Leadership acknowledges the need for a 5-year strategic plan
2000 to 2004	External	Barbados initiates boundary arbitration with Trinidad and Tobago in 2004
		CARICOM Heads of Government initiate fisheries policy and regime in 2003
		ID cards formally given out to fishermen as a result of the 1999 fish kill event
		BARFISHCOS starts commercial activity (i.e. selling diesel and tackle)
		Weston Fisherfolk Association initiates and implements community projects
		Oistins co-management project carried out by association and a consultant
		Barbados Marine Trust Reef Ball Project launched
		CRFM undertakes regional fisherfolk organization needs assessment
	BARNUFO	Arranged fish kill compensation with Ministry of Agriculture and assisted in administering compensation in 2000; gets BARNUFO recognised by industry
		People given the incentive to join a fisherfolk organization in order to be eligible to receive compensation, but afterwards abandon the organizations
		Participated in national discussion on the decline of the sea urchin fishery, and recommends that the fishery remains closed after 2001 overharvest
		Through the Fisheries Division a person attended a course at the CFTDI in Trinidad
		President of BARNUFO was appointed as a member of the FAC representing the voice of fisherfolk organizations in policy advice to the Minister
		Second Fisheries Management Plan 2001-2003 crafted largely by CFO and BARNUFO via an IDRC-funded project with many landing site consultations
		Part of the brief one-off externally-driven regional project: "Strengthening the Institutional Capital of Fisherfolk communities in the Caribbean"
		Invited to Tortola to share experiences with other fisherfolk organizations
		Recommends to government revisions to the Fisheries Management Plan
		Assists low capacity primary organizations with administration tasks
		Holds meetings island-wide to revive or maintain interest in organizations
		Attends regional meetings and training e.g. in Belize for capacity building

TABLE 5 *(continued...)*

Period	Locus	Activities
2005 to 2009	**External**	No Fisheries Management Plan publicly available since 2004-2006
		Barbados/Trinidad LOS arbitration ruling and award issued on 11 April 2006
		Regional fisheries management plan for flyingfish drafted through FAO-CRFM process
		The Boat Owners and Fishers Association (BOFA) was formed in 2009 as a national fisherfolk organization with individual, not organizational, members
	BARNUFO	President included in Barbados government LOS arbitration team
		Board formulates 90-day action plans with CERMES assistance
		Participated in Agrofest agricultural exhibition to encourage fisherfolk in product development; used the event to sell newly branded fish products
		Targeted schools during Agrofest to teach them about the different types of fish that are caught and sold locally
		Interfaced with primary and secondary schools in various outreach activities throughout Fisherman's Week annually, provided assistance for School-Based Assessments (SBAs) and participated in schools' Career Showcases
		Two female Presidents attended training in "Women's leadership in fisherfolk organizations" at the Coady institute in Canada, 2005
		Held award ceremonies in an effort to recognise the contribution of fisherfolk
		Negotiated with Fisheries Division and Markets Division for repairs and improvements at landing sites and markets e.g. at Martins Bay and Weston
		In 2006, provided pre-cricket World Cup training in fish handling for food service to ~200 persons in the industry
		Participation in several CRFM regional workshops for fisherfolk organizations
		Instrumental in relief efforts from hurricanes that affected Grenada and St. Lucia
		With assistance from NOAA, BARNUFO was represented at a workshop on hurricane preparedness for boats
		In 2009, BARNUFO visited landing sites around the island to encourage the re-organization of fisherfolk organizations.
		Findings from BARNUFO site visits were submitted to the Fisheries Division
		In 2009, fishermen attended a CNFO regional fisheries exchange workshop in Grenada to work on the use of responsible fishing gear within the industry
2010 to 2013	**External**	Conclusion of negotiations on the CARICOM Regional Fisheries Policy leaving the critical operational aspects, deemed the Regime, to further negotiations through protocols
		CRFM Ministerial sub-committee for flyingfish formed and raises hopes of regional plans for management and fisheries access being implemented
		CANARI, CRFM, UWI, Panos Caribbean, TNC, FAO and other agencies lead projects aimed at strengthening fisherfolk organizations regionally and nationally including more interaction with marine protected areas and marine spatial planning
		FAO global project on fisherfolk organizations in support of the SSF Guidelines in progress
2010 to 2013	**BARNUFO**	Sets up a webpage in 2012 to get information to fisherfolk, including updates on activities
		Developed a Facebook page as another medium to get information to fisherfolk
		President of BARNUFO partners with CERMES for a study on gender in fisheries. The results were presented at UWI and at the Gulf and Caribbean Fisheries Institute conference
		In 2010, BARNUFO in collaboration with Morgan's Fish House assisted with the relief effort to St. Lucia and St. Vincent after hurricane Tomas
		In 2011, members of BARNUFO visited Tobago to participate in discussions to resolve allegations that Barbadian fishers were destroying Tobagonian FADs
		In 2010, the BARNUFO Secretary was sent to Nova Scotia for training in "Women's leadership in fisherfolk organizations"
		Developed and unveiled a sign for BARNUFO at the entrance to the Fisheries Division
		Part of a delegation to Newfoundland, Canada, to look at a model for certification and professionalization in the fishing industry
		Attended a number of local and regional workshops and partnered with local and regional organizations to build capacity. Training included financial management, small business management, navigation and safety at sea, and an introduction to Microsoft software
		Invited to be a member of CNFO coordinating unit
		Attended a CNFO workshop on Ecosystem-based management and Ecosystem Approach to Fisheries in 2010
		Partner in the UWI national workshop on the Code of Conduct for Responsible Fisheries
		Participated with the Ministry of Transport in activities such as career showcases and with other agencies in conducting 'hands on' training on fish boning
		BARNUFO invited BOFA to participate in meetings, including the SSF guidelines me Attended a workshop with the Caribbean Policy Development Centre (CPDC) that focused on fisherfolk activities and challenges encountered. Afterwards, BARNUFO was invited to become a member of the CPDC
		President of BARNUFO successfully completed a course at UWI in NGO management to improve her leadership skills.eting held in Jamaica, in an effort to strengthen the relationship and be inclusive

TABLE 5 *(continued...)*

Period	Locus	Activities
	BARNUFO	Attended a CANARI/EU training workshop on writing project proposals. The President of BARNUFO developed a project that was sent to FAO and it was accepted. Follow-up is due In 2010, the Secretary of BARNUFO worked with the St. James Independence Committee Prepared a display for children on how to bone fish and about the history of the flying fish President of BARNUFO visited Ireland along with coordinator of the CNFO to participate in a Climate change, nutrition and hunger conference with travel sponsored by CANARI Actively participated in discussions with the Energy Division on the introduction of ultra low sulphur diesel to the island. As a result, the Energy Division invited BARNUFO to be a part of the media launch

Source: Fisheries Division files and fisherfolk workshop

The timeline was constructed from document analysis and contributions at the research workshop. It is incomplete since comprehensive records of activities are not maintained either by BARNUFO or the Fisheries Division. Taken at face value the number and variety of activities in the timeline contradicts the fishing industry's view that BARNUFO is a struggling organization. The timeline impressed research workshop participants who suggested that BARNUFO needed to improve its communication so that the industry would know more about what is being accomplished. A deeper probe into the timeline suggested that first looks could be deceptive.

5.1 Implementing BARNUFO's function and purpose through activities

Comparing the extensive table to the list of ten authorised areas in the BARNUFO constitution, three stand out as having received the most attention in the following order:

1. Train the members in activities pertaining to the fishing industry and related matters
2. Negotiate with government or other local or international agencies on matters of interest to members
3. Engage in all other activities incidental to the aforesaid objectives

In terms of reach and impact, the second and third areas listed pale in comparison to the first one. Here "negotiate" is liberally interpreted as "hold discussions" and the last item is taken to mean almost anything other than training and discussion, such as attending the large number of workshops and meetings. In the later sections on governance and networking we examine some activities in more detail. However, in general we see that BARNUFO has made itself available since its inception to collaborate with the fisheries authority on every matter that arises, perhaps to the point of being co-opted upon occasion, although not coerced. Since BARNUFO does not have strong members or financial resources it is seldom in a position to initiate activity entirely on its own, so working in partnership is commonplace with activities often being proposed by an external actor. As BARNUFO is the locally accepted NFO it is often invited to workshops, meetings and other events, or to join projects, by agencies that wish to record having engaged the nominally representative fisheries organization to satisfy their participation criteria. BARNUFO is seldom, if ever, required to validate its nominal credentials as the representative spokesperson for the fishing industry. In particular, the state has not challenged this presumption and actively promotes BARNUFO as a viable national body regardless of its internal state of affairs. While a few fisherfolk have challenged BARNUFO's representative capacity, they have done so quietly.

With a few exceptions, conspicuously absent from BARNUFO's repertoire are the revenue-generating and innovative business ventures envisaged as follow-up to the FODP. Instead the focus is on indirect means, typically through training, of enhancing fisherfolk livelihoods. The organization consults with fisherfolk to find out what type

of training they require or desire. It has established an annual fisherfolk training activity as part of its commitment to capacity building. However, this training is usually freely accessible to all in the industry, not only its PFO members. BARNUFO leaders have argued that this open approach shares the benefits of organization membership to lure outsiders, while others view it as encouraging non-membership.

Some of the demand-driven training offered by BARNUFO in conjunction with the Fisheries Division and other agencies such as Coast Guard, Red Cross and the Small Business Association has included:

- Navigation
- Safety of life at sea
- First aid
- Preventative engine maintenance
- Small business management
- Introduction to the computer
- Fish handling and quality

BARNUFO has also been able to "engage in fisheries resources management and conservation" from time to time through the fisheries management planning process and its membership on the FAC. However, even though some of its leaders have been exposed to training on EAF, climate change impacts and other current issues in fisheries the capacity to address these remains low. It is likely that the low capacity is largely a reflection of these issues not being in the mainstream of Caribbean fisheries. Topics are raised and information exchanged mainly at conferences rather than in routine regional, national or local settings. This includes limited mention in fisherfolk internet groups. Engagement with these concepts and issues may not advance beyond familiarity.

Social cohesion has not been a priority of BARNUFO given the low levels of overt conflict in the fishing industry. However, there is usually some tension between the harvest and post-harvest sectors particularly as boat owners and fishers often accuse fish vendors and processors of setting unprofitably low ex-vessel prices, at times through collusion. The profits of the post-harvest sector are said to be inequitable in the context of the hard work and risks of the harvest sector. The current President, a fish vendor by profession, has had to make a special effort to convince the harvest sector that her livelihood does not unduly bias her representation of the industry and choice of the areas upon which BARNUFO focuses its capacity development.

5.2 Governance that adds structure to BARNUFO

As noted earlier, its original constitution constrained the membership of BARNUFO to only the registered and paid up PFOs, each represented by two delegates to form the general body of BARNUFO. At inauguration in 1999 a board of five officers needed to be elected from among the delegates of the dozen PFOs. Electing five persons from a pool of around 25 fisherfolk leaders seemed reasonable. Given the enabling and catalytic role that BARNUFO was expected to play for the PFOs, small size also seemed advantageous as a business, capacity development and advocacy oriented entity. The image fell apart as the façade of many PFOs, built by the FODP on shaky foundation, began to crumble when the FODP finished and the Fisheries Division was either unable or unwilling to sustain the support required to assist the many fragile organizations to become well established (McConney 2001). This section examines BARNUFO's overall governance-related resilience with the timeline detailed in Table 6. Later sections delve into topics of special interest.

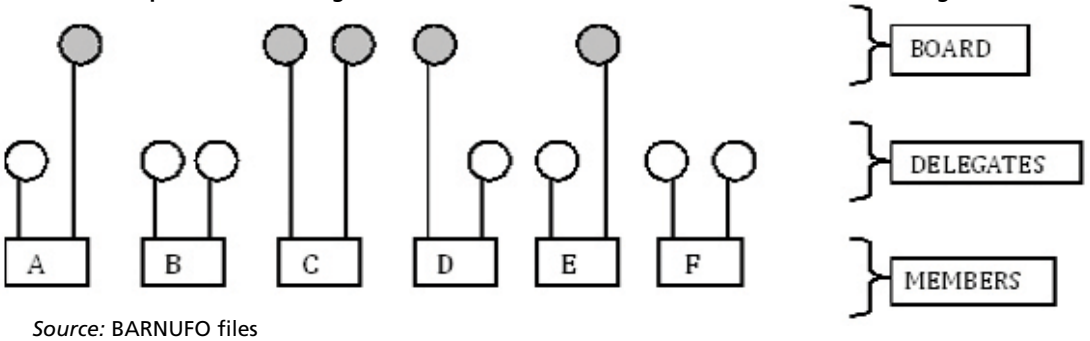
TABLE 6
Timeline with highlights of BARNUFO governance, 1995-2013

Period	BARNUFO governance
1995 to 1999	• Fisherfolk Organisation Development Project (FODP) funded by Commonwealth Fund for Technical Cooperation (CFTC) with Adviser from Sri Lanka initiated in May 1997 • Some fisherfolk organizations existed prior to FODP such as Oistins, Weston, Pelican, Sand Pit, BARFISHCOS and BUFFA. Others such as Speightstown were formed during the FODP. • Primary organizations discuss secondary organization and start drafting a constitution • Barbados Coordinating Council of Fisherfolk Organisations (BCCFO) formed as interim, steering committee, stage towards establishing BARNUFO • Following the inaugural general meeting on 10 March 1999 to complete the transition from BCCFO, BARNUFO was administratively registered with the Fisheries Division on 25 March 1999 • There were 13 primary fisherfolk organizations registered on paper plus one secondary body • A woman from a fishing family, but with main activity in small-scale aquaculture, was elected to be the first President of BARNUFO
2000 to 2004	• Fisheries Division allocated an area in its building to create office space for BARNUFO • BARNUFO allocated membership on the FAC through amendment to the Fisheries Act in 2000 • From 2001, and still on-going, BARNUFO develops linkages with organizations such as CZMU, CFRAMP then CRFM, IDRC, OECS, BMT, UWI among others to access grants, technical assistance, capacity building; but this is still mainly by the organizations approaching BARNUFO • Start of BBD$50,000 annual government subvention to BARNUFO proposed by the Fisheries Division and placed within its estimates of expenditure • Subvention to facilitate BARNUFO having a part-time paid manager is not used for that purpose • BARNUFO Strategic Plan 2002-2006 was crafted in a participatory workshop not fully implemented • Action plan drafted and task force met in 2002 to reconsider BARNUFO's mandate and functions due to low capacity and weak performance of primary organizations; SWOT analysis conducted and several amendments to the constitution were proposed to change membership structure and the Board • Proposed constitutional amendments were not decided on at the 2002 AGM and were later shelved
2005 to 2009	• Adoption on 12 July 2006 of amendments to the constitution that were formulated in 2002 but there was no follow-up to implement the changes and later boards did not realise changes had been made • A man involved in the small boat harvest sector was elected as President • BARNUFO included among the NFOs in the CARICOM region to form the Caribbean Network of Fisherfolk Organisations (CNFO) and later selected to be on its coordinating unit
2010 to 2013	• Further suggestions made for changes to the constitution without implementing 2006 amendments • A woman involved in post-harvest as a fish vendor/small processor was elected as President • In the absence of a strategic plan, attempts were made to implement and monitor a few 90-day action plans with responsibilities allocated to Board members to lead action but this was soon abandoned • President of BARNUFO successfully completes a university certificate course in NGO Management
Future	• Past and present leaders are keen on BARNUFO playing a key role in the development of the CNFO at the tertiary/regional level but recognise that the primary organizations must also be strengthened

5.2.1 Membership

The original constitution states that membership in BARNUFO shall be open to any registered fisherfolk organizations in Barbados. Registered here means both legally under Barbados law, and administratively by the CFO, as was the case with the bulk of PFOs being associations. The membership process was a simple one of filling out an application form and submitting it to the secretary with payment of a fee equivalent to US$50. It was expected that the PFO wishing to be part of the NFO would also submit a copy of the resolution passed at its general meeting that had approved membership in BARNUFO. However, no one usually questioned the absence of this evidence of endorsement, but evidence was occasionally sought that two delegates had been specifically nominated in writing for the purpose of representing the member PFO on the general body (see Figure 1).

FIGURE 1
Example of BARNUFO governance structure with six member PFOs and 12 delegates



Source: BARNUFO files

As the number of functioning PFO members declined so did the size of the general body and BARNUFO found it difficult to hold meaningful meetings or elect officers to the executive. By 2001 BARNUFO was in trouble, having only about ten delegates if all turned up for meetings. A participatory strategic planning process was conducted to address BARNUFO's future. One of the outputs was a small task force that critically examined BARNUFO's governance in terms of membership and leadership, and proposed constitutional amendments. These are considered first before describing the other aspects of the strategic planning. The SWOT analysis done prior to formulating the amendments (Table 7) summarises the situation facing BARNUFO in 2002.

TABLE 7
SWOT analysis prior to constitutional amendments proposed in 2002

STRENGTHS	WEAKNESSES
• Dedicated individuals have kept it going • Some projects implemented successfully • Office established and well equipped • Organisation name relatively well known • Regular monthly meetings are convened • Have formulated strategic and action plans • Government financial support via grant • Government technical support via officers • Representation on FAC is now a legal right • Government recognises BARNUFO • Exposed to regional and international scene	• Potential membership of few organizations • No paid staff to undertake tasks effectively • Directors have to be volunteer managers • Not enough organization management skills • Most available funds come from government • Members and projects supply little capital • Industry does not identify with BARNUFO • Board of Directors does not function as such • Monthly general meeting, no Board meeting • Delegates do not make demand for services • BARNUFO does not offer members much • Constitution not well used as guiding policy • Attention of industry is still crisis-oriented • Fuzzy relationship with primaries (members) • Inability to demonstrate benefits of grant
OPPORTUNITIES	**THREATS**
• To be broker of fishing industry partnerships • Alliances with government and other NGOs • Financial support for NGOs is available • Industry looks for lead groups when in crisis • Government promotion of co-management • General public favours organised industry • Business sector interested in BARNUFO • Much potential for improving the industry • Economies of scale for capital projects • Potential to tap reservoir of industry skills	• Apparent declining fortunes of primaries • If primaries fail (<3), so does BARNUFO • Government may cease forms of support • Support from industry generally weak • Frustration partly caused by poor structure • Departure of key directors due to frustration • Inability to survive on volunteer work alone • Declining interest due to poor performance • Identification of BARNUFO with few people • Pressure group function may overwhelm • Unconstitutional practices become accepted • Not seeking help deters offers of assistance

Source: BARNUFO 2002

The membership amendments to the constitution were formulated in 2002, but re-visited in 2006 after not being addressed by AGMs in the intervening years. The amendments were approved by the AGM of July 2006, but the elected board did not follow up to implement them. Subsequent boards were uncertain whether or not they were approved since a revised constitution had not been issued. They did not check the official minutes to confirm the status of the amendments. The boards had poor institutional memory in the absence of succession planning and record-keeping. These issues also plague the current board.

The categories of membership and the number of delegates were changed to allow the body to develop greater internal capacity and network capacity, to include individuals and sponsors, and to have a larger pool of PFO delegates. However, these changes were also designed to retain power in the hands of the PFOs and people actively engaged in the fishing industry. Taken from documentation, Table 8 sets out the constitutional amendments and their rationale to improve adaptive capacity and self-organization to make BARNUFO more resilient.

TABLE 8
Membership adaptation for building resilience

Membership and delegates	Rationale related to resilience
full membership is open to any registered Fisherfolk Organisation in Barbados, and full members are entitled to vote at general meetings through delegates who are eligible to hold any post on the Board of Directors	Strongly felt in the industry that a secondary level body is necessary; should aid PFO capacity development; the organization retains primacy over the individual; more resilient to decline in numbers of PFO members
Each **full member**, shall specifically nominate in writing up to five (5) delegates with one vote each for the purpose of representing the member in the General Body	Five delegates provides a larger pool of leaders for the top elected posts; permits votes to be better allocated; increases incentive to actively participate; leaves floor members free for tasks; sufficient for sub-committees
associate membership is open to any individual earning an income from the fishing industry, who is not a member of any Fisherfolk Organisation, and associate members are entitled to vote at general meetings but participation on the Board of Directors is restricted	Caters for areas with no PFOs and people who do not want to join a site-based group; restriction on holding top posts retains primacy of PFOs; capable associates given incentive to join PFOs to compete for top posts; large pool of potential members and hence capacity
affiliate membership is open to any individual who does not earn an income from the fishing industry, and affiliate members are not entitled to vote at general meetings or on the Board of Directors in which their participation is restricted	Caters to large number of 'friends of BARNUFO' who currently have no clear avenue for participation; opens the organization to the widest pool of potential members; allows for special skills e.g. law, finance, technology; is cautious in preventing outsiders from exercising power
sponsoring membership is open to any individual, business or other organization that provides a donation to the Union equal or in excess of the fee for this category of membership, and sponsoring members are not entitled to vote at general meetings or to participate on the Board of Directors	Adds to tools for sustainable financing and corporate networking; good for promotion and marketing; offers firms some public relations incentives; improves pool of resources for taking on revenue generating activities

5.2.2 Leadership

An officer of the Fisheries Division supervises BARNUFO elections since it is an association administratively registered with the Division. The elections are democratic, based on standard procedures and the constitution. However, even from the inaugural meeting in 1999 it was apparent that BARNUFO would struggle to find sufficient persons to hold elected office and who could lead the body to achieve its set objectives. The FODP did not adequately prepare PFO leaders to hold either site level or national office. There is no pre-election or nomination process of orientation for candidates or the newly elected boards. Willing and committed board members have found themselves overwhelmed by the new responsibilities in addition to maintaining their fishing industry livelihoods.

With record-keeping and institutional memories poorly developed it has been largely the personal qualities and skills of individuals that have placed them in positions of leadership, at times under mild protest as observed in some BARNUFO elections. With only a small number of PFO delegates to choose from, reduced further by low turnout, people at an AGM could find themselves pressured to assume office to avoid the consequence of a failed election. In accepting their challenge several said that they were unprepared for the responsibility, and unclear about their role, but were willing to give it a try. There was much variation in commitment and success. Board meetings that were originally intended to be monthly have become few and far between. It has become difficult to hold an AGM or any other meeting in the absence of a crisis. The boards have not been very effective despite some good intentions.

The same task force that was assigned membership also partly addressed leadership since the issues identified above could not be completely resolved by new categories and more delegates. The constitutional amendments (Table 9) sought to strengthen the board with another option for the management position. The task force noted that BARNUFO was reluctant to hire a manager and that one or more of the officers (often President and/or Secretary) took on that role but did not formalise the responsibility as Managing Director. Evidence suggests that successive Presidents have not vigorously pursued delegation of duty and division of labour. Committees, working groups and task forces are only rarely employed and Presidents have assumed the responsibilities of the top four offices in the body. The role of the Assistant Secretary was expanded to include public relations and all types of outreach communication more generally. The amendments added a Projects Officer to focus on revenue-generation and innovation, plus a Membership Officer to address member incentives and maintain readiness for industry-wide representation and collective action.

TABLE 9
Change in the composition of the Board of Directors

1999 constitution in transition from BCCFO	2006 amendments formulated in 2002
President	President
Vice-President	Vice-President
Secretary	Secretary
Assistant Secretary	Assistant Secretary/Public Relations Officer
Manager (staff) or Treasurer (if no Manager)	Manager (staff), Managing Director (selected Board member) or Treasurer (elected if no Manager or Managing Director available)
	Projects Officer
	Membership Officer

As with membership, these leadership amendments have also not been implemented and BARNUFO has struggled to find suitable persons to fill the five original posts. The task force also did not complete the job as it did not create policies, information packages and practices for demand-led nominations and capacity-building orientation for candidates and new officers. Two of the three Presidents of BARNUFO developed their own leadership skills through local and overseas training courses, but leadership training for fisherfolk leaders is sadly lacking despite appropriate materials (e.g. the booklet Almerigi (2000) developed as guidance for the region) and resource persons being available. Meanwhile the Fisheries Division top management has recently benefitted from leadership training offered by the CRFM in partnership with regional and external entities. However, this has not yet resulted in any greater attention to fisherfolk organization than in the past and there has been no transfer of skills to the organizations.

5.2.3 Strategic and action planning

In 1999 there was a massive sub-regional fish kill in which reef fish from four countries died from bacterial infection and consumers avoided purchasing all fish. The fish kill both catapulted BARNUFO to prominence and threw it off the development track anticipated by the FODP. In 2002, friends of BARNUFO assisted with professionally facilitated participatory strategic planning aimed at providing an agreed way forward for the next five years (BARNUFO 2002). The vision elements (Figure 2) and challenges (Figure 3) show that BARNUFO's leaders and partners were quite aware of what should be accomplished and also the hurdles.

FIGURE 2
Vision elements in the 2002-2006 strategic plan

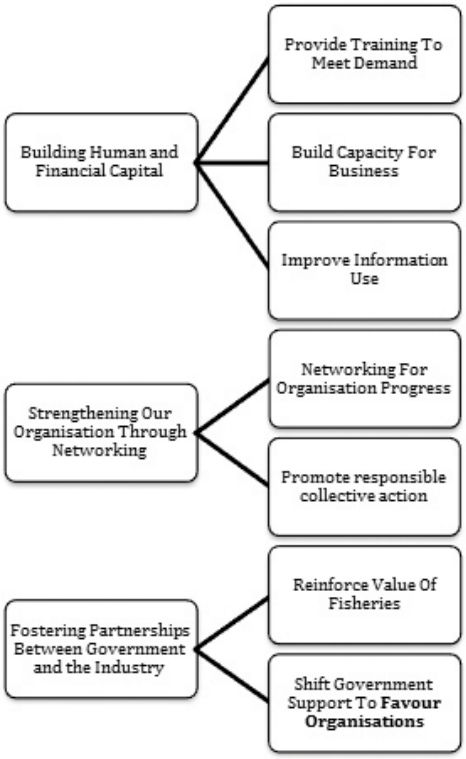
Source: BARNUFO 2002.

FIGURE 3
Challenges to be faced in implementing strategies

Source: BARNUFO 2002.

The vision elements and challenges are quite wide-ranging, addressing socio-economic matters and governance without explicit attention to natural resource sustainability. Three main strategic directions with several specific strategies (Figure 4) were formulated to achieve the vision elements and overcome the challenges.

FIGURE 4
BARNUFO's strategic directions and strategies for implementation



(*Source:* BARNUFO 2002)

A year-one action plan was added to initiate implementation. Although not systematically implemented, monitored and evaluated some aspects of the strategies were undertaken, often opportunistically, as shown in the event and governance timelines (Tables 5 and 6). The main achievement clearly tied to the strategic plan was the set of constitutional amendments. For a short while in 2009-2010 the BARNUFO executive engaged in action planning as a means to develop capacity and to have documented successes to highlight. A few 90-day action plans were formulated but documenting the implementation delays proved discouraging and interest in the exercise waned. Maintaining an ad hoc, opportunistic approach allows BARNUFO to proceed with numerous activities despite low capacity. These activities may be useful to some fisherfolk, but they are not always strategic to consistently advancing the industry in any agreed direction.

5.2.4 Self-organization and collective action

BARNUFO currently lacks the capacity to be self-organised due to low levels of participation by fisherfolk and hence limited access to their skills and networks of useful contacts. It requires regular external assistance such as inputs from Fisheries Division and other partners in addition to their normal collaboration. Collective

action in the fishing industry is generally reactive and in response to crises which tend to mobilise fishers and boat owners most often, but not for long. There are no tangible incentives provided either by the organizations themselves or by the state (e.g. via enabling policy) as reward for fisherfolk organising, so efforts rely mainly upon altruism and intangible benefits.

5.3 Perspectives on gender and youth

Although gender and youth are not usually discussed aspects of fisheries in Barbados the topics stimulated discussion, especially in the research workshop.

5.3.1 Gender

With two out of three Presidents of BARNUFO being women, the organization has been gender aware from inception. Gender was not perceived to be a major issue in, or for, BARNUFO. Yet it is difficult to speak with authority on gender in fisheries as few CARICOM countries have readily available gender disaggregated data and information on fisheries useful for comparing and assessing the differing roles and socio-economic contributions of women and men (CANARI 1999, Grant 2004). Gender research in Barbados focuses mainly on domestic and other violence, women's health issues, and participation in politics. It seldom covers use and management of resources such as fisheries (McConney *et al.*, 2011).

When the current President of BARNUFO participated in a small CERMES-UWI gender study (McConney *et al.*, 2011) the Fisheries Division statistics records in 2011 revealed that women made up 18 percent and men 82 percent of the overall fisheries-related registered labour force. Fish vending was the livelihood with the highest female participation. The official statistics, however, are not accurate for either men or women, and the latter in the post-harvest sector are expected to be particularly underestimated. Another interesting finding was that compared to an average across the fishing fleet, women owned a high proportion of the largest and more expensive vessels.

Atapattu (1997) recommended fisherfolk leadership training for men and women. He observed that women attended the organizing meetings but participated less actively than men. He did not offer reasons for the gender differences. At that time female recruitment to the Fisheries Division was increasing. Today women are well represented at all levels in the fisheries authority. The most recent chair of the FAC and its fisheries scientist were female. However, more young men are taking up post-harvest fish cleaning and other tasks previously done by women in order to earn quick and relatively easy income with no educational or other formal requirements. Women who want to go to sea to harvest fish complain that fishermen do not take them seriously and therefore refuse to have them as regular crew, thinking them unlikely to stick with the work. There is currently only one well-known female boat captain and few female fishers on the island. Some women at the workshop reported that men discouraged them from fishing.

Men, however, from long ago complain of mainly female fish vendors setting ex-vessel fish prices (sometimes through collusion) and allegedly taking unfair advantage to exploit male labour at sea while risking little themselves either physically or financially. The perceived tyranny of female vendor price-setting has been one of the frequent, although short-lived, motivational factors for male boat owner and fisher collective action for decades. On the other hand, female vendors serve as sources of credit, and social relations may complicate the picture. The pros and cons of mixing female vendors with male boat owners and fishers in fisherfolk organizations continue to be hotly debated. Although most PFOs are numerically and politically male dominated, one PFO (headed by the current President of BARNUFO) consists entirely of female post-harvest workers.

Mainstreaming gender, as a component of fisheries policy and BARNUFO's advocacy, was proposed in the research workshop and subsequently validated. More research and analysis is needed to determine what the real gender issues are and to prioritise action.

5.3.2 Youth

We discussed under gender the increased incidence of mainly young women and men competing for previously female-dominated jobs in post-harvest. It was said that, generally, young men enter fishing mainly for quick and easy money. Some types of fishing involving hard manual labour, apprenticeship and traditional knowledge such as snapper fishing are attracting fewer young men whereas fishing on modern multi-day vessels is attractive to them both financially and for social status. The examples of young men owning and operating boats in a professional and enlightened manner, saving their earnings to re-invest and build visible wealth, were said to be less widely known than the stereotypical negative images of youth. Youth hence had few peer role models.

Apart from those steeped in fisheries through community and kinship, some youth learn of fishing from the formal primary and secondary school curricula. BARNUFO and PFO activities include going to schools, exhibitions and career showcases to inform young people about the fishing industry. Fish dish and art competitions have been part of the annual Fisherfolk Week. The island's community college has offered courses in artisanal wooden boat building and boat design. However, informants suggested that the negative image of fisheries livelihoods served as a deterrent to many youth, and that more information on the modern fishing industry was needed. This included emphasising the technology used at sea, the science of fishing and post-harvest, and the intellectually challenging skills required to be successful, in addition to income earning.

5.4 Networking and external relations

BARNUFO (2002), in its 2002-2006 strategic plan, identified networking as an area requiring attention, particularly as a means of capacity development and specific resource mobilisation. Although the organization is reasonably well known and connected nationally and regionally in CARICOM, it has not actively sought ties with international fisheries NGOs or other regional bodies. Language (if nothing else) is a barrier to networking in the Spanish and French speaking Wider Caribbean (CRFM 2004). Some interaction at this level has taken place at meetings of the Gulf and Caribbean Fisheries Institute (GCFI) in association with the CNFO.

The CRFM project on strengthening national fisherfolk organizations and creating a regional network from them resulted in BARNUFO being invited to sit on the CNFO Coordinating Unit. The CNFO was specifically designed as a network (McConney and Phillips 2011, McIntosh *et al.,* 2010). This affiliation has permitted access to influential actors and their resources, resulted in representation of fisherfolk at various types of meetings, and more. Post-disaster relief efforts following hurricane impacts (e.g. Ivan on Grenada in 2004) may have earned BARNUFO respect in neighbouring CARICOM countries, but those same countries complain of conflict caused by Barbadian fishing vessels IUU fishing in neighbouring waters, and BARNUFO has done little to address this except in the case of Tobago. BARNUFO networking has largely been opportunistic.

Nationally, as a member of the FAC, BARNUFO in theory has access to the fisheries minister. However, this access may be stronger outside this role since the FAC has had limited policy influence in practice (McConney *et al.,* 2003). More significant has been BARNUFO's active participation in crafting successive national Fisheries

Management Plans having met with fishing groups to discuss concerns, present suggestions and seek their cooperation in making recommendations (McConney *et al.,* 2002). The enduring, though highly variable, relationships with the Fisheries Division and the Markets Division of government have been described.

Relationships with academia and NGOs involved in development, research, advocacy and more have afforded BARNUFO several opportunities. Long collaboration with UWI- CERMES has been mentioned as well as recent participation in GCFI. The Caribbean Natural Resources Institute (CANARI) has been a major indirect partner of BARNUFO through the CRFM fisherfolk organising project as well as a current project for building the CNFO capacity to participate in fisheries governance. Tabet (2009) observes that several external agents have attempted to strengthen BARNUFO, but so far to little avail.

Information and communication technology has impacted the organization minimally in practice as noted before. However, BARNUFO is quite aware of its unexploited potential. It is possible to communicate with the organization by email. As of 2012 it has launched its web site and Facebook page. However these have not been well managed and maintained or promoted, so have limited reach. BARNUFO offered courses to fisherfolk in computer training to show them the potential of information and communication technology, but many aspects of this potential have not yet been adequately addressed.

5.5 Finance and facilities

Contrary to the expectations of the FODP in the late 90s, financial sustainability has not been a priority for BARNUFO. Sources of finance have included:

- Membership fees from the few primary organizations
- Government annual subvention and project grants
- External small grants based upon project proposals
- Fees earned as collaborators in externally-led projects
- Travel sponsored by inter-governmental agencies, NGOs
- Donations, e.g. for Fisherfolk Week, post-disaster relief

Apart from the minimal membership fees and government subvention few of the incoming funds are unrestricted and they do not support core administration or capacity building. The funds have been used mainly to buy office supplies, furniture and equipment; pay catering for free and open access workshops to which resource persons donate their time in-kind; and to hire some services. One such service is an occasional external auditor since BARNUFO is responsible for preparing the financial statement shared at its AGM. In 2006 the auditor noted that financial statements are not presented in accordance to International Financial Reporting Standards. This was most likely due to low capacity for financial management rather than wrongdoing, but poor transparency and accountability are issues along with potential conflict of interest. The latter arises from elected officers performing duties on behalf of the organization for payment, usually by allocating funds to themselves unilaterally with no restrictions or accountability. There are no rules against this.

Free access to infrastructure includes office space, meeting space and a training room within the Fisheries Division building. Concerning the industry, BARNUFO has dealt with poor or poorly operated government fish freezing and refrigerated storage facilities as a recurrent issue along the value chain and a severe constraint on improving livelihoods. Harvest sector infrastructure ranging from boatyards to wharves has also been dealt with by BARNUFO as described earlier.

Access to formal and informal microfinance for fisheries is limited in Barbados. Government and private sector credit agencies do not wish to take risks with fisheries.

Part of the credit problem is said to be insufficient information being shared with finance officers for business planning. The industry also has a reputation of non-repayment of government loans even when revenue is high. BARNUFO made alliances with the Small Business Association to offer training and promote the professionalization of jobs in the fishing industry. Informants reported that levels of interest in business training and professional certification in the industry were unexpectedly low.

BARNUFO has had activity in seafood marketing and trade although more could be expected based on the objectives in its constitution. Export markets are relevant mainly to fish processors (independent business firms) and fresh tuna shippers (the same and some large boat owners) who can meet overseas standards. In intra-regional trade Barbados is a seafood importer especially to service the tourism industry. Some imports compete directly with local landings and others are needed to supplement landings. This is especially so in the 4-5 month low season for pelagics and year round for lobsters, snappers and other high-end seafood. BARNUFO has contemplated entering fish processing as a business, but did not get past feasibility study and product sampling. Instead it has focused more on offering the training and information needed to improve seafood quality. In order to be successful in harvest or post-harvest business enterprise, BARNUFO would first have to gain greater access to capacity for technical innovation and management as priority. Conditions in the fishing industry are not conducive to gathering sufficient financial support for any such large venture unless under a high burden of debt as BARNUFO has no equity to offer.

BARNUFO does not offer any social protection schemes such as retirement or disaster relief funds, but it has encouraged fisherfolk to make use of what exists in the public and private sectors. Contributions of self-employed persons to the National Insurance Scheme (NIS) have been repeatedly considered by the FAC of which BARNUFO is a member. The message, also repeated at the validation workshop, has been simple: more fisherfolk need to contribute to NIS to get the benefits. BARNUFO wishes to establish funds for emergencies such as disasters.

5.6 Decent employment and working conditions

Decent employment and working conditions are not major issues in either harvest or post-harvest in the Barbados fishing industry. However, CRFM has recently taken interest in the ILO 2007 Work in Fishing Convention (C188) and made fisherfolk organizations aware of its provisions in a regional workshop. BARNUFO has been seeking policy, law and practices to improve sanitary conditions in fish markets in order to meet export requirements and also to improve local consumer confidence so as to compete with imported seafood.

Post-harvest support tasks are developing more specialisation that absorbs a larger work force, but employment opportunities fluctuate with the volumes of fish landings to be processed and sold. In the sea urchin fishery high year round incomes are available only to lawbreakers who violate the season closure and gear use regulations. The sea urchin fishery is declining due to ineffective management but neither BARNUFO nor the Fisheries Division has tackled this adequately. The inshore reef fishery is under threat from habitat degradation, overfishing and invasive species but again, in the absence of a FMP, there has been no sustained effort to address management issues that have implications for employment in the industry. Employment is currently estimated by the Fisheries Division to be about 6 000 persons both directly and indirectly, full and part time, for the entire fisheries sector including support activities.

Labour migration and occupational mobility are other issues not currently addressed that have implications for food security and other facets of fisheries policy. In theory the CARICOM Single Market and Economy that is slowly being put in place should encourage the freer movement of labour and capital in productive industries.

However, this may be seen more as a threat than opportunity given that Barbados is attractive to a regional mobile labour force that is increasingly displacing Barbadians from low-paying or artisan jobs. Impacts of Caribbean non-nationals competing for work are seen much more in construction and services than fisheries to date. Only a few Barbados fisheries firms (post-harvest only) established operations in other CARICOM countries. More attention will need to be paid to this in the near future.

BARNUFO is aware that the increasing number of minimally qualified young men seeking to enter the open access fisheries is a potential issue coupled with the use of fisheries assets (e.g. boats) for crimes such as smuggling. BARNUFO has proposed projects on fisheries livelihoods and skills transfer such as gillnet construction and maintenance to prepare a younger generation. This is tied to maintaining cultural heritage, increasing the research material available on the fishing industry and ensuring youth are trained within the industry. It is yet to be implemented.

5.7 Principles, power and social justice

The early fisheries management plans incorporated the guiding principles of the CCRF and other international fisheries instruments such as the Fish Stocks and Compliance agreements. The Caribbean Community Common Fisheries Policy (CCCFP) that has not yet been implemented contains similar principles. BARNUFO, as a member of the CNFO, subscribes to its mission which recognises the ecosystem approach to fisheries (de Young *et al.,* 2008), food security (Béné *et al.,* 2007) and sustainable livelihoods (Allison and Ellis, 2001). Other principles in fisheries based on human rights and tenure rights, for example, are not yet included in the Barbados fisheries context and may not be seen as immediately relevant. Gender was previously discussed.

Concerning empowerment, the manifesto of the ruling Democratic Labour Party (DLP 2013:36) states that in fisheries they will:

- Provide for the participation of the national fisherfolk organization in planning for fisheries development
- Consult with the national fisherfolk representatives concerning the updating of the 1993 Fisheries Act and Regulations

Both of these election promises offer power to BARNUFO, and indeed the first is nothing new since this has been the function of BARNUFO on the FAC for some time. Draft legislation to provide various tangible incentives preferentially to paid-up members of all types of fisherfolk organizations, compared to fisherfolk who were not organised, was never passed into law. As noted earlier, self-reliance is not a strong point of BARNUFO, but it has still proven resilient in the face of adversity due to willingness by those in power and its partners to overlook or work around its increasingly obvious deficiencies while amplifying its fewer remaining virtues. This has not been as helpful as a genuine, systematic programme of support and capacity would be.

Perspectives on distributive and participative justice are revealed in the prevalent complaint of the fishing industry that government (regardless of the political party in power) pays too little attention to the fishing industry in comparison to other sectors, especially tourism. An issue here is poor supporting evidence of the fisheries contribution to the economy versus tourism and others. In defence of the industry claim, however, Mahon *et al.,* (2007) found that the reported annual contribution of fisheries to gross domestic product (GDP) based on ex-vessel prices was about 20 percent of that realised at the consumer end of the value chain if value-added fish products and the likely true quantity of fish landings were used for the GDP calculation. Since fishers notoriously under-report landings in order to avoid paying a weight-based toll, the official statistics are inevitably incorrect and exacerbate the recorded low contribution of fisheries to the economy that fisherfolk complain about.

This reporting error has not been accurately quantified, but a raising factor of three was used to convert recorded to estimated landings in the 1980s. The unreported landings are believed to be less now, but there is still high uncertainty.

Another view is that, when compared to other sectors, fisheries have few regulations or fees so all public services to the industry are heavily subsidised by taxpayers. This could be good or bad as it artificially lowers operating costs and falsely improves the apparent competitiveness. But by paying few taxes into the national coffers some fisherfolk argue that little should be expected for the industry from the public purse in return.

In Barbados there is strong belief that being able to harvest fish is a fundamental right, and not a privilege to be allocated by the state. However, maintaining open access may be undermining fisheries sustainability especially in inshore fisheries. In the sea urchin fishery it has allowed a few, mainly lawbreakers, to prosper at the expense of the livelihoods of many. BARNUFO will need to tackle such issues of social justice in order to carry out its mandate. Compared to other Caribbean countries there is minimal enforcement of or compliance with fisheries legislation, and there is comparatively little of the latter. A controversial view is that fisherfolk in Barbados maintain themselves as wards of the state, perpetually on public welfare, while making demands on the state but taking little action to improve their own lot by demanding more responsibility.

6. FACTORS FAVOURING SUCCESS AND FAILURE

This section is based largely upon interventions made at a 12 December 2013 research workshop held to obtain the views of persons familiar with the origins and history of the body. BARNUFO has no formal or systematic monitoring and evaluation schemes for learning and adapting. Poor institutional memory due to fragmented record-keeping and absence of succession planning is, however, supplemented by the notes and recall of its key actors plus occasional participatory processes such as the 2002 SWOT analysis (Table 7) and strategic plan (BARNUFO 2002).

Levels of satisfaction, and evidence of success and failure, are difficult to measure if vision, goals and objectives are obscure or unclear as has been the case since the strategy was not implemented. Under such circumstances, success and failure can become a matter of personal opinion and outlook rather than be measured by known and agreed upon objective indicators. For example, the recent formation of the national Boat Owners and Fishers Association (BOFA), described previously, suggests low confidence in BARNUFO. It spreads fishing industry capacity even thinner rather than concentrating it in one organization for fixing its problems and proceeding collectively upon a better path. The activity timeline shows that BARNUFO has accomplished much. It has been very busy, especially in the light of scarce and dwindling capacity, but that is not necessarily the same as being successful. In this case success would best be measured against the BARNUFO constitutional objective of improving fisherfolk socio-economic conditions based on sustainable development of fisheries.

As described in the methods, workshop participants voted for factors of success and failure taken from previous fisherfolk consultations and from the literature. Then they discussed their choices and had the opportunity to add more to each list. The results are presented below.

6.1 Factors favouring success

The factors favouring success in fisherfolk organizations, in order of the vote count, were:

1. Effective and committed organization leadership
2. Transparency and accountability in all organization finances

3. Decisions are followed up on and feedback given to members
4. High levels of trust and respect among leaders and members
5. Focused and strategic decision-making with good planning
6. Effective communication within and among organizations
7. Member benefits and incentives are real and tangible
8. Government departments genuinely want to help fisheries
9. Effective representation of members in collective action
10. Members share real urgent needs; not just "wanting unity"

Several of the choices prompted further discussion among participants whose views are reported in the following paragraphs. The discussion often incorporated related factors favouring failure.

Effective and committed organization leadership was voted the main factor for success. A good leader should have passion and be dedicated so that when challenges arise they would continue within the position as opposed to quitting. Furthermore an effective leader, acting as an example through their commitment and success, encourages other fisherfolk to join the organization. A good leader could take you where you should go, versus where you want to go. Participants also discussed the lack of commitment by some executive members on boards of organizations. Their suggested reasons for this situation included persons wanting the leadership role but being unable to lead effectively; and participation on boards/in organizations being based on friendship that did not always result in committed and suitably qualified members.

Transparency and accountability in all organization finances was next. The BARFISHCOS experience illustrated the need for transparency and accountability. This once strong cooperative was weakened after members did not receive expected financial reports. Money management has to be transparent or it leads to contention. They recommended that organizations share financial statements with members on a quarterly basis for checks and balances, in addition to the annual general meeting's audited financial reports. Transparency clauses should be in any constitution.

High levels of trust and respect among leaders and members was separated into its components. Respect was seen as more important initially as trust takes time to be established. Trust has to be earned. Respecting a person and their position does not mean you trust that person. From another perspective, it was said that trust is vital for interactions and transactions to be effective when running an organization. Trust and respect should go together.

Government departments genuinely want to help fisheries provoked discussion on the distinction between support or enabling, and dependency on the other hand. Despite fisheries being a multi-million dollar industry, the fishing sector was not getting the deserved respect and government was focusing more on agriculture and tourism. Fisherfolk play a key role as part of the tourism product offered and the fishing industry is bigger than what is perceived when all the interactions are taken into account. The Fisheries Division should not be seen solely as an administrative body, but also as an agency that helps to shape policies and influence the fishing industry. While the Fisheries Division has embraced BARNUFO in its capacity building efforts and it is important for the Division to work with FFOs for successful outcomes, fisheries officers warned against fisherfolk being too dependent on the Fisheries Division. Fisherfolk should be aware of the role the Fisheries Division plays in the industry, so that the expectations placed on the agency are realistic. This sentiment was subsequently extended to include all government agencies that have responsibilities for fisheries.

Members share real urgent needs; not just "wanting unity" was one that some fisheries officers thought would be ranked higher. An organization was doomed to failure, or would not last very long, if there was no unity as there would be poor communication, an inability to look after the interests of others and dissatisfaction among members. Fisherfolk need a shared driving factor. Reference was previously made to the 1999 fish kill affecting four countries, which precipitated an urgent need that did not last very long. While a sustainable flow of urgent needs might keep fisherfolk together, sometimes the urgent needs of fisherfolk cannot be addressed by their organization, despite the best intentions. This could lead to frustration to those in need.

6.2 Factors favouring failure

The factors favouring failure in fisherfolk organizations, in order of the vote count, were:

1. Members choose leaders poorly with no clear selection criteria
2. Diversity of membership pulls the organization apart due to conflict
3. Cliques and factions hinder collective decisions and action
4. Use of positions in organization primarily as means of power
5. Poor succession planning to prepare leaders, use talent
6. Poor administrative procedures cause confusion and frustration
7. Organisations do not seek to network to build capacity
8. Organisation gets run like the private business of the leader
9. Insufficient funding and poor financial management
10. Low capacity; cannot effectively delegate tasks to members

Some of the failure factors had been discussed simultaneously with those favouring success, but a few additional points were made. A general point made was that failure could be turned into a learning experience if the stakeholders, and the systems for monitoring and evaluation, had an orientation towards adaptation from the outset. If so, failure was just another learning experience and not a catastrophe to paralyse further progress.

Cliques and factions hinder collective decisions and action attracted attention. Cliques and factions are sometimes formed within organizations due to shared characteristics, e.g. boat owners or fishers. However, diversity within any organization can cause disruption when interests and agendas are too diverse and overshadow shared interests for action. In other cases when cliques are based on friendships, there is always one person who is influential. To manage the clique, the person of influence should be incorporated into the organization's activities to assimilate the faction. There are also cliques that develop in the community, destroy it or spread propaganda. The latter two types already have their own mind-set, despite any efforts to include them, and may be seen more as risk factors and adversaries if they persist.

Poor succession planning to prepare leaders, use talent was also discussed. Sometimes, within an organization, a very heavy workload is put onto one person. If that person is doing all of the work, this can result in burn out. Poor succession planning is also an issue because sometimes people do not want to relinquish their elected positions and many times there are no nominations. Therefore, as part of the election process, if there are no candidates for the positions, the current persons are allowed to continue in their roles. Organisation executive members need to be changed regularly to avoid the leadership from becoming static. There should be selection criteria to avoid those situations when friends are nominated versus individuals who are committed, sometimes resulting in the former being unable to meet expectations or obligations.

The 2006 BARNUFO constitutional amendment allowed for a wider membership, i.e. the inclusion of associate and affiliate members, who would help to move the industry forward. However while the constitutional clauses and strategy were approved, they were not executed.

6.3 Additional perspectives

Additional contributions to the open discussion were mainly centred on two issues: the election and effectiveness of an organization's executive, and education. With respect to electing an effective executive, members may have no knowledge of the nominees up for election. Once elected, the executive may be ill-equipped to effectively carry out their roles because there is a lack of capacity building activities for them. The executive and fisherfolk, as a whole, must have the will and take the initiative to learn. Alignment with a particular political party was also raised as another issue that could influence the direction of an organization.

In terms of education, participants were advised that BARNUFO organizes training for all persons working in the fishing industry. Typically, training is designed to be delivered between September and November, during the off-season, and is tailored to the wants and needs that fisherfolk identify. For these reasons, early participation was a factor of success. Another issue discussed was the lack of information on fisheries in the education system. As a result when persons start working in the industry, they do not have sufficient information on their jobs and any best practices or applicable standards as would be expected in professionalisation.

While BARNUFO continues to carry out its mandate of representation for its members, it has become increasingly difficult to mobilize member organizations into participating in its activities and any pertaining to the sector generally. This lack of participation is also the major problem facing PFOs. Members are failing to pay membership fees and are failing to volunteer for activities. There is diminishing support from the Fisheries Division. This combination has led to the demise or dormancy of some fisherfolk organizations and it threatens the viability of BARNUFO. In order for BARNUFO to remain viable, it needs greater participation by fisherfolk in decision-making processes for the development and sustainability of their organizations and ultimately the industry.

Participants, though unfamiliar with the SSF Guidelines, were keen to discover more about it and how it could be of practical assistance. Before examining the potential role of the SSF Guidelines in building upon success while addressing failure we look briefly at the findings through the lens of an analytical framework that, like the FODP, presumes that most fisherfolk organizations are first and foremost about sustainable fisheries livelihoods.

7. RECOMMENDATIONS FOR DEVELOPING CAPACITY

The final exercise in this case study was to investigate what BARNUFO stakeholders thought were the benefits of the organization playing a leading role in implementing the SSF Guidelines nationally and also regionally in association with the CNFO. For example, the CNFO has already stated that it wishes a protocol to the Caribbean Community Common Fisheries Policy drafted to formally incorporate the guidelines into regional fisheries policy. To date, although some persons in BARNUFO are familiar with the SSF Guidelines the majority of people in the industry have not heard of them or several other international fisheries instruments.

In the research workshop the participants were first given a brief overview of the content of the SSF Guidelines. They noted that a group of Caribbean fisherfolk leaders had commented on the zero draft at a FAO regional workshop in December

2012 and that a couple of these leaders had been to the first round of negotiations in May 2013. The workshop organizers explained the deep involvement of civil society and fisherfolk organization globally in drafting the guidelines and that some fisherfolk groups in the Wider Caribbean and beyond were actively using them to inform their members of their rights and to negotiate with government authorities. Table 10 sets out the results of the workshop.

TABLE 10
Perspectives on how BARNUFO can benefit from, and the capacity required for, implementing the SSF guidelines

Sections of draft SSF Guidelines	Benefits that BARNUFO may expect to get from leading	Capacity development required for BARNUFO to take the lead
PART 1: INTRODUCTION		
1. Objectives	Connect BARNUFO's objectives to the SSF guidelines	Ensure objectives are understood by the fishery industry
2. Nature and scope	Adapt SSF guidelines to national context	Workshops and sensitisation video to promote guidelines
3. Guiding principles	Include these principles in Fisheries Management Plan (FMP)	Conduct meetings with fisherfolk to discuss specific fisheries and to develop relevant projects once FMP is finalised
4. Relationship with other international instruments	Combines responses to 1, 2, and 3	Combines responses to 1, 2, and 3
PART 2: RESPONSIBLE FISHERIES AND SUSTAINABLE DEVELOPMENT		
5. Governance of tenure and resource management	Help fisheries to become less marginalised	BARNUFO needs knowledge on tenure rights at different sites to better represent fisherfolk Assistance in developing public awareness strategies to raise awareness of the industry for effective resource management
6. Social development, employment and decent work	Advocate for more funds to be spent on fisheries related issues	Deal with data availability/accessibility Research needed for outputs presented to show how the fishing industry has developed over the years and to raise awareness of its importance Present stories of successful young fishers in social or written media to act as beacon or model for others
7. Value chains, post-harvest and trade	Adapt and adopt policies and procedures outlined in the guidelines	Advocate for continued fish handling training, more and better storage facilities, marketing of products and matching supply and demand
8. Gender equality	Promotion of gender mainstreaming	Understand what gender mainstreaming means and what it can accomplish
9. Disaster risks and climate change	Integration of disaster risk management and climate change adaptation	Conduct workshops and utilise other resources to help build awareness of disaster risk management and climate
PART 3: ENSURING AN ENABLING ENVIRONMENT AND SUPPORTING IMPLEMENTATION		
10. Policy coherence, institutional coordination and collaboration	Serve to strengthen BARNUFO's communication	Improve existing website Use IT tools to get the information out to more fisherfolk
11. Information, research and communication	Same response as 10	Same response as 10
12. Capacity development	Build BARNUFO's capacity for effective NGO management	Workshop on managing boards
13. Implementation support, monitoring and evaluation	Assists learning	Systems need to be put in place

In the meeting to validate the workshop results and case study the sequence of information and action desired by the fisherfolk was summarised as follows.

- Get to know the SSF Guidelines and align BARNUFO with them
- Fisheries management planning and information exchange
- Get meaningful projects and activities on tenure, value chains, gender, decent work, climate change and disaster risks, etc.
- Workshops, exchanges, regional and international partnerships
- Ensure that policies, monitoring and evaluation are enabling

Participants needed more time and information to prepare a meaningful work plan for capacity development. They were interested in doing so in an upcoming project on policy influence and fisheries governance as follow-up to the case study.

8. SUMMARY AND CONCLUSION

This case study on organizations and collective action in small-scale fisheries investigated the evolution, from 1999 to the present, of BARNUFO, a secondary (national) level fisherfolk body, whose members are primary (local) level site-based fisherfolk groups. BARNUFO is in turn a member of the Caribbean Network of Fisherfolk Organisations, a coordinating alliance of the national fisherfolk organizations of countries in the Caribbean Community. During its existence BARNUFO has prospered and it has struggled. Its evolution offered insight into the factors that favour both success and failure in fisherfolk organizations.

The case study summarised the history of fisherfolk organizing in Barbados, and the evolution of BARNUFO was presented in detail by paying particular attention to collective action. Although BARNUFO has an impressive record of activity, it abandoned its strategic plan early on and has found itself in difficulty with dwindling membership and low capacity. Lessons were learned from secondary sources and workshops with fisherfolk about factors that favour organizational success and failure. They illustrate the complexity of collective action and a network of inter-related internal drivers and external influences on fisherfolk organizing.

BARNUFO is now engaged, mainly through the Caribbean Network of Fisherfolk Organisations, in a process of preparing for the implementation of the SSF Guidelines nationally. Fisherfolk are considering the implications of the SSF Guidelines for organizational resilience through capacity development. They have recommended an iterative process in which capacity needs to be built in order to address the SSF Guidelines that are then expected to further develop organizational and industry capacity as implementation succeeds. This is a highly adaptive process for progress.

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3. Case study of the National Fishermen Producers Cooperative Society Limited of Belize

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ACRONYMS AND ABBREVIATIONS

BAHA	Belize Agricultural Health Authorities
BFCA	Belize Fishing Cooperative Association
BMP	Better Manufacturing Practice
BOD	Board of Directors
BP	better practices
BZD	Belize dollar
CAC	Central America and the Caribbean
CFC	Caribeña Fishermen Cooperative
CSA	Cooperative Societies Act
EBIT	earnings before interest & tax
EPS	earnings per share
EU	European Union
FAB	Fisheries Advisory Board
FAO	Food and Agriculture Organization of the United Nations
FGD	focus group discussion
HACCP	Hazard Analysis and Critical Control Points
ICT	information & communication technology
IOM	internal operation mechanism
MVPS	market value per share
NFPCSL	National Fishermen Producers Cooperative Society Limited
NGO	non-government organization
NOFC	Northern Fishermen Cooperative
PACT	Protected Area Conservation Trust
PFC	Placencia Fishermen Cooperative
RGFC	Rio Grande Fishermen Cooperative
ROIC	return on invested capital
ROA	return on assets
ROE	return on equity
SIB	Statistical Institute of Belize
SOP	standard operating procedure
SSF	small-scale fisheries
USA	United States of America

1. INTRODUCTION

In Belize, the fishing sector contributes 2.7 percent to the gross domestic product and also provides employment opportunities for inhabitants of coastal communities (SIB 2012). For decades, fishing has been the major source of income generation in coastal communities such as Sarteneja, Cooper Bank, Chunox, Belize City, Hopkins, Seine Bight, Placencia and the keys. The marine sector in the Belizean economy has experienced significant yield increase which has a multiplier effect on the economy of the country, leading to higher investments, increased employment creation and improvement in the quality of life of the citizens.

Fishing activities in Belize have traditionally evolved around the lobster and conch fisheries. Shrimp and filefish have over the last few years gained recognition as have those fisheries that are harvested on a small scale and include stone crabs, marine aquarium fishes, seaweed, mullet, stone bass and shark. Belize's marine products are mainly exported to the United States of America, France and Japan. Other countries included Canada, Mexico, Jamaica and Barbados.

Efforts have been made to diversify the fishing activities from the two main fishing resources which are the Queen Conch (Strombus gigas) and the Spiny Lobster (Panulirus argus) in order to prevent overexploitation of these resources. These efforts continue to be a struggle and can only be executed through a regulated closing season for both species so that they reproduce and complete the required biological as well as physiological cycle. Presently, the Placencia Fishermen Cooperative (PFC) is the only cooperative that has diversified into the production of sea moss (Chondrus crispus) during the closing season of conch and lobster which benefited both the fishermen as well as the marine resources.

This case study is about the National Fishermen Producers Cooperative Society Limited (NFPCSL) and looks at critical areas such as governance structure, financial performance, network structure, employment condition, participants' empowerment, knowledge transfer as well as success and failure factors. The conduct of the case study was coordinated with the Registrar of Cooperatives of Belize and General Manager of NFPCSL.

Information was collected through interactions with key stakeholders of NFPCSL during the months of September to November 2013 which included the Management team or Board of Directors, administrative and operational staff, fishermen as well as a client cooperative (Placencia Fishermen Cooperative). Ten focus group discussions (FGD) were conducted, with a combined participation of 62 (46 males and 16 females), out of a total of 363 members of NFPCSL. A survey was administered during the FGD and the data collected was processed and interpreted using Statistical Package for the Social Sciences (SPSS) software.

2. FISHING COOPERATIVES IN BELIZE

For many years the fishermen of Belize toiled, faced bad weather and danger at sea. They had difficulties in getting their produce to market and even after doing so there was the problem of getting a good price for their product. Fishermen dreamed of owning their own homes, to have money in the bank and to install modern equipment in their sail-boat, which seemed almost impossible to do. It was in the late 1950s when a Jesuit priest by the name of Marion M. Ganey and the Cooperative Department, brainstormed the idea of a cooperative movement. The idea of the cooperative movement was then sold to the fishermen of Caye Caulker, San Pedro and Placencia.

In 1959, a Union was formed at Caye Caulker, a temporary committee was appointed and study groups were conducted by the Cooperative Department. The targeted idea was that the members should save as much as possible until sufficient

capital was accumulated in order for the proposed cooperative to have the capacity to purchase the member's produce and sell it in bulk. The proposed cooperative at the time saw difficulties since two companies were purchasing lobster tails at 0.40 cents and whole lobster at 0.16 cents. The fishermen from Caye Caulker, who were the pioneers of the fishing cooperatives thought that they would do better if they were exporting their own quota.

After internal communication, the fishermen then approached the Government of Belize (GOB) at that time and requested for a quota to initiate export. Unfortunately government's reply at that time was negative. It was suggested instead that the fishermen demonstrate their capability of working together and negotiate for a better price with the companies with whom they were going to deal with. The Committee complied with Government's advice and when the 1960/61 lobster season was opened they pooled their catch and brought it to Belize City to be sold to one of the companies.

On 5 September 1960, the Caye Caulker Fishermen were registered under the name of "Northern Fishermen Cooperative Society Limited." In 1961, the Northern Fishermen Cooperative was given a quota to export 200 000 pounds of lobster, but due to hurricane "Hattie", it could not reach the authorized quota.

On 20 June 1962 the fishermen of Placencia were registered as Placencia Producers Cooperative Society Ltd as a cooperative. The return from the sales of lobster and scale fish of both societies during the year was valued at $97 805.00.

The fishermen of San Pedro were also showing increasing interest in cooperative development and on 1 March 1963 the fishermen of San Pedro were registered under the name of "Caribeña Producers Cooperative Society Limited".

The National Fishermen Producers Cooperative Society Limited (NFPCSL) was registered on 29 April 1966 by a group of fishermen, who wanted to obtain more cash income from export earnings and to maintain a sure market. This cooperative also wanted to promote long-term benefit for their members, hence the reason why more incentive package was stimulated into the cooperative movement.

At present, there are five fishing cooperatives in Belize that are in various stages of decline due to a number of reasons. The total number of fishermen affiliated to these five cooperatives amounts to approximately 1 002 active fishermen and 789 that are inactive who reside in coastal communities. The cooperatives are located in the following districts: Belize District (3), Stann Creek District (1) and in the Toledo District (1). Table 1 presents the active fishing cooperatives and their membership.

TABLE 1.
Active fishing cooperatives and membership in Belize, 2013

Cooperative		**National***		**Northern****		**Placencia*****	
Position	Sex	Active	Inactive	Active	Inactive	Active	Inactive
Board Members	Male	7	-	7	-	7	-
	Female	-	-	-	-	-	-
Manager	Male	-	-	1	-	1	-
	Female	1	-	-	-	-	-
Members	Male	315	251	638	472	49	66
	Female	-	-	-	-	-	-
Staff	Male	9	-	8	-	-	-
	Female	9	-	4	-	1	-
Packing+	Male	6	-	11	-	1	-
	Female	13	-	44	-	-	-
TOTAL		**360**	**251**	**713**	**472**	**59**	**66**

Source: Personal visit of the author, 2013.
+Packing Processing Plant:
*In addition to the above statistics NATIONAL employs 18 additional employees who are considered seasonal workers; majority is females.
**In addition to the above statistics NORTHERN employs 15 additional employees which are considered seasonal workers; 2 males and 13 females.
***In addition to the above statistics PLACENCIA employs 2 additional employees which are considered seasonal workers; females.

3. LEGAL FRAMEWORK FOR COOPERATIVES IN BELIZE

The Laws governing the cooperatives is based on Chapter 313 of the Cooperative Societies Act 2000 (Annex 8.3), which is a substantive Act of Chapter 3 of the Laws of Belize. The Cooperative Societies Act consists of the legally agreed procedures of the cooperative from its formation, registration, management, election procedures, disciplinary sanctions for member as well as staff, marketing, production delivery, taxes, benefits and incentives, financial operation, liability and share management and auditing. From the Cooperative Societies Act (CSA), each cooperative that is interested to register, then creates its internal polices for its operational management in consultation with the Register of Cooperatives who is a senior officer in the Ministry of Natural Resource and Agriculture, which hosts the Cooperative Department.

The internal policies of the cooperative regulate how to do business as a legal entity under the CSA and a member of a cooperative should receive all the benefits pertaining to his/her contribution. Examples of these benefits include working equipment, ice, gasoline at cooperative rate, funeral grant, sick benefit and scholarship for their children.

The Cooperative Department is responsible for the yearly monitoring and auditing of the different cooperative societies, as well as the delivery of capacity building and training to the members or management team of the fishing cooperatives. The Cooperative Societies Act (CSA) entitles a cooperative such as the National Fishermen Producers Cooperative Society Limited (NFPCSL) to carry out legal duties of registration, management, election procedures, disciplinary sanctions for member as well as staff, marketing, production delivery, taxes, benefits and incentives, financial operation, liability and share management and auditing. The Cooperative Societies Act was amended on 31 October 2003 based on the Constitutional Laws of Belize of 2000.

4. THE NATIONAL FISHERMEN PRODUCERS COOPERATIVE SOCIETY LIMITED OF BELIZE

4.1 Membership and perceptions

Of the 62 members who participated in the focus group discussions (FGD), 40 percent are members, 30 percent are retailers, 20 percent belong to the management team or are board members, and 10 percent are staff. Majority (60 percent) have been with the organization for a minimum of 15 years. Majority (70 percent) believed that the main purpose of the cooperative movement is to improve income, marketing and quality of life of the members. Of the remaining 30 percent, 20 percent believed that the main purpose is to improve income and quality of life and 10 percent indicated improving income through marketing. As regards perception regarding the activities of the organization, majority (70 percent) believed that processing, education and awareness, and import and export are the main activities of the organization. The remaining 30 percent indicated that the main activities are processing and export. The activities of the cooperative are carried out through subcommittees, and in some cases through a combination of subcommittees and assistance of the General Manager.

As regards incentives for becoming a member of the cooperative, the FGD participants mentioned loan access (50 percent); market access (40 percent); and access to fishing inputs (10 percent). On the other hand, they perceived the lack of sick benefits and retirement plan as disincentives for others to join the cooperative. The lack of information on the benefits of becoming a member of the cooperative was also cited as a disincentive.

NFPCSL active and productive members have access to the cooperative's microfinance programme comprised of the following:

- Gasoline on credit;
- Ice for fishing;
- Equipment; and
- Minimal cash (USD 50 to 200).

A registered fisherman of the cooperative goes to the credit disbursement agent and requests for the micro-loan as well as the ice, which are deducted from the production when the fisherman returns from fishing.

NFPCSL is dominated by male members and all board members are male (Table 2). At the staff level women do clerical work and data registration whereas at the plant operation level, women's work consists of selecting and packing of the marine resources (conch and lobster) when they arrive.

TABLE 2
Gender participation in NFPCSL.

Position/Gender	Male	Female	% Male	% Female
BOARD MEMBER	7		2.0	
Executive Secretary		1		0.3
STAFF	9	9	2.5	2.5
PLANT OPERATORS	9	13	2.5	3.6
FISHERMEN	315	0	86.7	0

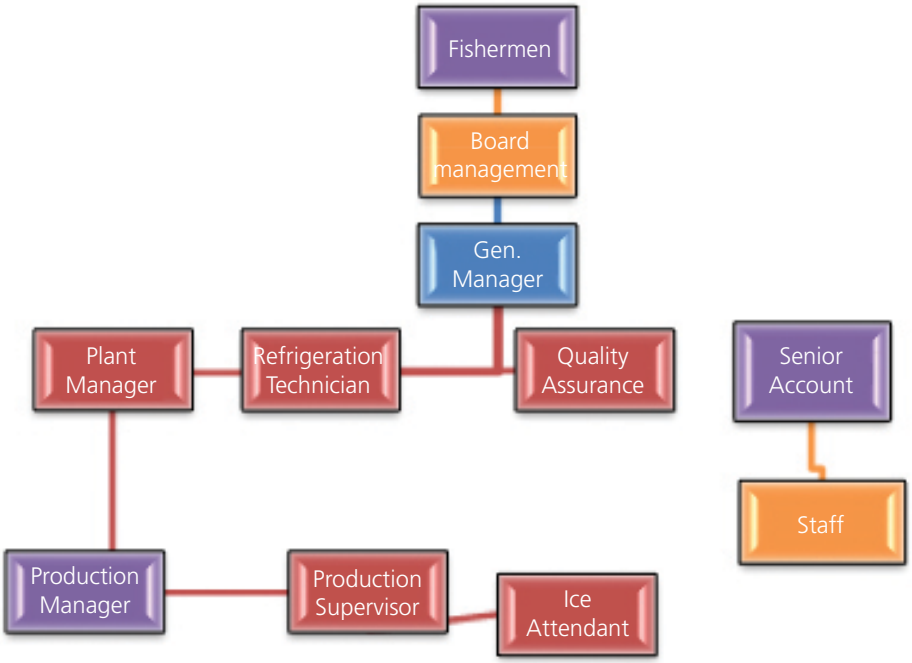
Majority of the FGD participants stated that the working conditions in the cooperative are acceptable in terms of salary, rules, benefit and hygiene. The general manager, administrative staff and processing staff all get social security which is paid to the Social Security Board of Belize, which is owned by the government. By law, all employees are entitled to pay it, which is deducted by the employer who then forwards the payroll to the Social Security Board. The cooperative members are entitled to retirement or pension fund and funeral grant. The pension fund is accumulated from 1 percent of each production delivery. Members receive funeral and sick benefit even if they have arrears.

4.2 Governance structure

Figure 1 shows the organizational structure of NFPCSL. The organization's day-to-day operation is managed by an Executive Secretary/General Manager who executes the activities under the supervision of elected board members yearly. The cooperative is governed by a Board of Directors or Management Team of seven members who could be active or past fishermen who are elected in a democratic process on a yearly basis.

As already mentioned, the Law of Belize under Chapter 313 of Cooperative Society Act (CSA), and the internal policy of NFPCSL regulate the members to operate the activities (fishing, processing and export) under supervision of governmental authorities such as the Fisheries Department and the Cooperative Department. The internal policy of the organization mandates that elections be held every two years for members to the Board of Directors (BOD), to manage the daily operation of the cooperatives. On another note, 80 percent of those who participated in the focus group discussions believed that the cooperative is autonomous, i.e. it operates without any political interference.

FIGURE 1
Organizational structure of the National Fishermen Producers Cooperative Society Limited of Belize



Under the Cooperative Society Act (Chapter 313) of the constitutional laws of Belize, which is also reinforced in the cooperative's internal policy, fishing cooperatives are entitled to the provision of technical support services from governmental agencies. In this regard both the Cooperative and the Fisheries departments provide the service from time to time when the resources are available. Technical support services such as developmental training and yearly auditing have been provided by the Cooperative Department of the Ministry of Natural Resources and Agriculture.

The Fisheries Department has also been providing technical support services in respect of updates on fisheries regulation, quarantine and fisheries enforcement officers. Other agencies such as the Belize Agricultural Health Authorities (BAHA) have provided support for HACCP training; the Protected Areas Conservation Trust (PACT) has provided support for protected areas update and regulation.

NFPCSL is represented at the Belize Fishermen Cooperative Association (BFCA) and Fisheries Advisory Board (FAB) whereby they participate in annual general meetings and capacity building activities. The cooperative has also received support from both the Belize Fisheries Cooperative Association (BFCA) and the Fisheries Advisory Board (FAB) with regards to training opportunities and policy awareness. With regards to community participation, NFPCSL is involved in providing employment and in emergency cases provides food supply to its members and employees during times of disaster (hurricanes and flooding).

Many FGD participants believed that NFPCSL has a strong partnership with organizations such as the Belize Audubon Society, Global Environment Facility, and the Toledo Institute for Development and Environment.

The perception of the FGD participants regarding the internal operating mechanism of the cooperative is shown in Table 3, indicating the areas that need improvement. Majority of the FGD participants expressed that they were not aware of the cooperative's statutes, procedures and manuals.

TABLE 3
Perception by focus group discussion participants on the internal operating mechanism of the cooperative, in percentages (n=62)

PARAMETER or CRITERIA	EXCELLENT	GOOD	FAIR	POOR	REASONS
Meeting schedule	1	49.5	49.5	1	Approximately, 50% of the meetings are carried out.
Election Decision Making	1	32.5	66.5	1	It is done openly at convention every year
Authority	1	1	82.5	16.5	**Some show personal interest**
Transparency Reporting	1	82.5	1	16.5	Sometimes information is not shared
Self-Evaluation	17	17	17	49	**The evaluation is done yearly**
Learning	17	50	1	32.5	**They are open to introduce new ideas**
Adaptation	1	50	33	16.5	Not open to adopt to new markets or products
Flexibility	16.5	82.5	1	1	Fishermen can select where to market product
Innovation	1	33	17	49.5	**The management don't seek innovation market, etc.**
Goal Setting	1	50	17	32.5	**There is no vision diversify market**
Monitoring & Control	33	17	33	17	**Control needs to be diversified**
Sanctions	1	1	33.5	65.5	**Too much application to national only**
OVER ALL AVERAGE	**7**	**39**	**29**	**25**	**Needs to improve for areas that are painted yellow and red.**

4.3 Financial performance

Table 4 presents the financial performance of NFPCSL from 2007 to 2013. The Current Ratio expresses a company's capacity to operate with the Current Assets and Current liability. The average figure of the past seven years calculated a ratio of 0.68, which is significantly below compared to the average industry level for enterprises which is equivalent to 4.20 and therefore require improvement (Ross et al., 2010: 49). The Quick Ratio is a calculation of Current Assets minus Inventory and then divided by the Current Liability. This ratio also calculated a figure (0.42) below the average industry level (2.2) and also requires improvement.

As regards Assets Management Ratios, the Inventory Turnover which is a relationship between the costs of the goods sold divided by the inventory, calculated differences (8.01) which is below the average industry level (10.9) during the past seven years. This is evidence that there is significant improvement done in this area that has created positive results (Helfert, 2001: 111).

The Days Sales Outstanding, which is a relationship between Accounts receivables divided by total sales per day ratio, showed that the institution has been taking an average of 58 days to recollect cash from sales. This ratio is above the Average Industry level (39 days); therefore some initiative must be put in place to improve operational efficiency of the receivables (Ross *et al.*, 2010: 49).

As regards to the Fixed Assets Turnover, which refers to the relationship between the Fixed Assets and Total Sales, the figures showed an average of 5.90 during the seven years, which is above the average industry level (2.80). This calculation states that the Cooperative's Fixed Assets are making a significant contribution generation returns since if less capital is induced, there should be more return generated from the Fixed Assets (Ross *et al.*, 2010: 49).

TABLE 4
Financial performance of the National Fishermen Producers Cooperative Society Limited, 2007-2013

Liquidity ratios	Industry Average	2007	2008	2009	2010	2011	2012	2013	Average	Observation
Current Ratio	4.20	0.65	0.70	0.75	0.59	0.57	0.69	0.80	0.68	Below industry level (Need Improvement)
Quick Ratio	2.20	0.39	0.60	0.35	0.24	0.43	0.51	0.46	0.42	Below industry level (Need Improvement)
Asset Management ratios										
Inventory Turnover	10.90	9.30	19.80	3.95	4.85	9.59	9.79	-1.24	8.01	Below industry level (Ok)
Days Sales Outstanding	36.00	39	77	57	33	84	79	37	**58.03**	Above industry level (Need Improvement)
Fixed Assets Turnover	2.80	7.92	8.67	4.70	5.10	7.26	7.64	0.01	5.90	Above industry level (Need Improvement)
Total Assets Turnover	1.80	1.38	1.27	0.83	0.96	1.13	1.25	1.48	1.19	Below industry level (Ok)
Debt Management ratios										
Total Debt Ratio	40.0%	73.1%	72.4%	64.9%	67.9%	71.0%	74.2%	72.1%	**71%**	Above industry level (Need Improvement)
Times Interest Earned	6.00	2.08	1.81	0.04	-1.11	0.34	0.10	-0.10	0.45	Below industry level (Need Improvement)
Profitability ratios										
Operating Margin	10.0%	29.0%	25.3%	1.0%	-27.0%	6.8%	2.2%	-177.3%	-20.0%	Below industry level (Need Improvement)
Profit Margin	5.0%	4.2%	3.6%	-1.5%	-9.1%	-0.2%	-1.2%	-2.2%	-0.9%	Below industry level (Need Improvement)
Return on Assets	9.0%	5.8%	4.6%	-1.2%	-8.7%	-0.2%	-1.5%	-9.9%	-1.6%	Below industry level (Need Improvement)
Basic Earning Power	18.0%	4.25%	3.05%	-5.26%	-13.36%	-3.53%	-5.68%	0.00%	-2.9%	Below industry level (Need Improvement)
Return on Equity	15.0%	21.5%	16.7%	-3.6%	-27.1%	-0.6%	-5.9%	-11.6%	**-1.5%**	Below industry level (Need Improvement)
Market Value ratios										
Price-to Earnings Ratio	11.30	14.2	16.2	-63.4	-10.2	-257.3	-47.0	-25.5	**-53.27**	Below industry level (Need Improvement)
Market-to-Book Ratio	1.70	3.1	2.7	2.3	2.6	2.6	2.8	3.0	**2.72**	Above industry level (Ok)
Book Value Per Share		3.5	4.0	4.2	3.4	3.6	3.3	3.3	**3.61**	Decrease (Need for Improvement)
Earnings Per Share		0.76	0.67	-0.15	-0.92	-0.02	-0.20	-0.38	-0.03	Below industry level (Need Improvement)

Source: Generated from the Audited Balance Sheet and Income Statement considering Depreciation of the National Fishermen Producers Cooperative Society Limited.

Total Assets Turnover is a relationship between the Total Assets and the Total Sales; the average figure of 1.19 for seven years is below the average industry level (1.80). This ratio is designed to measure the cooperative's management capacity to efficiently use its Total Assets in order to promote sustainability. Helfert (2001) stressed that the Total Asset Ratio is an indicator that measures the productivity of a company's assets.

As regards the Debt Ratio, which exemplifies the relationship between the Total Assets minus Total Equity then divided by total Assets, NFPCSL's average of 71 percent during the seven years was far above the average industry level (40 percent). This clearly indicates that NFPCSL is currently running the operation with

a significant debt financing from the banks as viewed in the Balance Sheet, which is not healthy (Ross *et al.,* 2010: 49). The financial analysis and historical patterns show that the cooperative has been experiencing financial losses for the past five years due to inefficient debt structuring of the working capital at an average of 71 percent, i.e. the cooperative operates on 71 percent liability compared to 29 percent of assets. This has occurred because cooperative societies have not changed their lending, borrowing and repayment policies for their loan portfolios and have become dependent on borrowed funds to survive.

On another note, in regards to the Time Interest Earned, an average figure of 0.45 was calculated for the seven years, which expressed a relationship between the Financial Expense and the Earnings before Interest and Tax (EBIT). The calculated figure is far below the average industry level (6.00); therefore significant improvement moves must be made in this regard (Helfert, 2001: 112-115).

Within the Profitability Ratios, the following are considered: Operating Margin, Profit Margin, Return on Assets, Basic Earning Power and Return on Equity. The Operating Margin refers to the relationship that is established when Sales is divided by the Earnings before Interest and Tax (EBIT). The average calculation for the seven years (-4.6 percent) was far below the average industry level (10 percent) therefore measures must be taken within operations to increase operational efficiency in order to increase this ratio to 10 percent and above (Ross *et al.,* 2010: 49).

The Profit Margin Ratio represents the relationship established when Sales is divided by net income. The average calculation for the seven years was -0.9 percent, and is significantly below compared to the Average Industry level (5.0 percent), therefore measures must be taken into consideration to increase operational efficiency in order to increase this ratio to 5 percent and above (Helfert, 2001: 112-115).

The Return on Asset (ROA) represents the relationship established when Net income is divided by Total Assets. The average calculation for the seven years was -0.9 percent, which is significantly less compared to the average industry level (9 percent). This means that there is a huge room for asset management within the organization. Therefore measures must be taken into consideration to increase operational efficiency in order to increase this ratio to 9 percent and above (Ross, 2010: 49).

In regards to the Basic Earning Power, which represents the relationship established when the Earnings before Interest (EBIT) is subtracted from the Financial Expense then divided by the Total Assets. The average calculation for the seven years was -2.9 percent, which is significantly less compared to the average industry level (18 percent). There is a huge room for Financial Management, Risk Management as well as optimization of working capital at executive level in order to increase this ratio to 18 percent and above (Ross, *et al.,* 2010: 49).

The Return on Equity (ROE) represents the relationship established when the Net Income is divided by the Total Equity. The average calculation for the seven years was -1.5 percent which is significantly less compared to the average industry level (15 percent). There is a huge room for Equity and Risk Management, so that cooperative and its shareholders can obtain a better return of its equity portfolio (Helfert, 2001: 112-115).

Within the Market Value Ratios, the following are considered: Price to Earnings Ratio, Market to Book Ratio and Book Value per Share. The Price Earnings Ratio refers to the relationship when the Market Value per Share (MVPS) is divided by the Earnings per Share (EPS). The average calculation for the past seven years was

-53.27 which is significantly less compared to the Average Industry level (11.3).This calculation allows investors to take a very quick snapshot of the company's financial statements (Ross *et al.*, 2010: 49).

As regards the Market to book Ratio, this refers to the relationship that results from the End of the year stock price divided by the Book Value per Share (BVPS). The average ratio of 2.72 is above the average industry level (1.70), which indicates that market price has been in favour in regards to the book value of the cooperative. Finally the Book Value per Share (BVPS), express the relation where the Total Equity is divided by the Shares. An average figure of 3.61 for the past seven years expressed the value obtained by each shareholder.

4.4 Infrastructure, products and marketing

Table 5 illustrates the estimated value of the cooperative's infrastructure and equipment. The infrastructure consists of the building (4 000 square feet) that hosts the main offices, conference room processing plant, packing, storage, freezing system and a marketing outlet. The freezing system and ice system are also installed in the building for a total value of USD 750 953. The pier is adjacent to the arrival area where products are unloaded off the skiff and carried into the receiving area where fisheries authorities inspect for policy compliance with product size. Figure 2 presents NFPCSL's infrastructure and equipment.

TABLE 5
Value of NFPCSL's infrastructure and equipment.

Building (618 415 USD)	Freezer (60 743 USD)
	Ice System (60 743 USD)

FIGURE 2
NFPCSL's infrastructure and equipment

The main export market for NFPCSL members' products (Figure 3) is the United States of America where almost all of the lobster tails, lobster meat and conch are exported (Table 6). The prices of marine products (USD 4.50 to 7.00/Lbs for conch)

and (USD 13.00 to 19.00/Lbs for Lobster) are set by NFPCSL based on the negotiated exporting price which has always been market driven. Octopus and Caribbean crab are for the local market.

TABLE 6
Products and market destination for NFPCSL's products

PRODUCTS	MARKET DESTINATION	%
Lobster tails	USA	95
Lobster meat	USA	95
Conch	USA	95
Fish Fillet	USA & LOCALLY	15 & 85
Caribbean Crab	Locally	100
Octopus	Locally	100

FIGURE 3
Seafood products of NFPCSL

The complete process in the value chain inclusion is illustrated in Figure 4, where the entire participants, products, inputs, outputs, and key markets are considered. A basic characteristic of the value chain inclusion is that it illustrates in what process the key actor kicks in, what are the inputs as well as the outputs of a process that is part of the chain.

FIGURE 4
Value chain inclusion of seafood products of NFPCSL

4.5 Factors for success/failure/dormancy

Majority of the FGD participants expressed that the cooperative is vibrant and functioning and that it fulfills its objectives by providing benefits that members are entitled to. However, in general, members lack understanding about the financial operation of the organization. The audited financial statement of the cooperative does not include depreciation in the income statement; this is a huge problem because members think that the organization is on a sustainable track. The audited financial

statement is an instrument that measures the success of an organization and should reflect accurate information, but the organization is facing a problem with this.

At present, the NFPCSL is facing major challenges such as lack of members' loyalty because the members sell their produce to the competing cooperative and in the local market; pending loans of USD 2 518 735; yearly increase in the number of fishermen; outdated internal policies and bylaws; and poor financial and business literacy on behalf of the management. From an educational perspective, the NFPCSL needs to embark on intensive training and capacity development programs so that members become better acquainted with their rights and responsibilities within the cooperative. This will then contribute to responsible management and operational efficiency and lead to the sustainability of the organization.

Table 7 presents the FGD participants' perceptions regarding success and constraints factors of NFPCSL. Of the eight constraint factors, six are within the control of the cooperative and need to be addressed urgently. These are: lack of loyalty, delinquent members, stakeholders that do not provide service, poor management, staff treatment, and loan repayment by members.

TABLE 7
Perceptions regarding success and constraints of NFPCSL.

KEYS TO SUCCESS	REASONS
Productive members	Productive members are needed all the time
Committed members	Be part of the organization for a long time
Committed staff	Staff that perform constantly and when needed
Secure market	Production can always be sold
Quality product	Product must meet export and legal requirement
CONSTRAINT FACTORS	REASONS
Loyalty	Member that will not deliver to the competitor
Delinquent members	Some member sell to the competitor when price is better
Recession	This economic factor has caused prices to reduce
Natural disaster	Disaster can cause economic downturn
Stakeholder	Some stakeholders do not provide service or are not flexible
Poor management	Financial literacy and minimum educational requirement are not met
Staff treatment	Poor human resource management minimize yield
Loan payment	Many members owe the organization

The FGD participants consider the following factors as strengths of the cooperative: membership, active producers, secure market access, assets, and experiences of the cooperative in providing service with commitment. The strengths are positive internal factors that members of the cooperative considered that they have control over. However, qualified personnel are needed on the management team so that decision-making can be based on figures that are accurate. Additionally staff should be considered as important intangible assets and therefore some reward system should be designed in order to improve their motivation and growth towards upward mobility according to their educational capacity or the minimum requirement of the job description. The self-sustaining factors of the cooperative mentioned by FGD participants include committed members, continuous production, good weather conditions, good management and staff, and quality control, the latter being a key for export requirement.

As regards factors that would contribute to failure, FGD participants mentioned the following:

- Poor pricing management – utilization of one market
- Poor market negotiation – lack of knowledge of other competitive markets

- Poor management – limited education
- Deficiency in capacity – lack of interest to upgrade knowledge or rotate management

As regards poor pricing management, the cooperative negotiates with only one to two buyers in Miami, Florida who generally dictate the price for each commodity. Both NFPCSL and Northern Fishermen Cooperative utilize markets in Miami as port of entry so that the products can reach their destination as comparative strategy in proximity of location.

To overcome the factors that would contribute to failure, FGD participants suggested the following actions:

- Monitor productivity of members
- Treat members equally and avoid showing preference
- Compensate staff based on merit
- Always put quality first

The two major cooperatives in the country, NFPCSL and Northern Fishermen Cooperative face the same challenges as regards delinquent members and utilization of one market that is tied to price manipulation. As for Placencia Fishermen Cooperative which is four hours away from Belize City, individual fishermen do not risk going to market by themselves but rather take the product to NFPCSL.

The cooperative has never suffered dormancy since its inception 47 years ago and relies on 315 active members. There had been periods when production was slow but it was always continuous. NFPCSL contributes to the welfare of the community by providing employment and also provides educational loans or grants to members to enable their children to get an education. Members and their families participate in the annual general meeting and this event is a venue for social cohesion.

The members and their community are satisfied with the cooperative because of the benefits provided, market security for their product, as well as employment opportunities generated in the packing and processing of seafood products. During times of natural disaster, food is provided to the members of the cooperative.

4.6 Recommendations

The FGD participants put forward the following recommendations to strengthen NFPCSL:

- Governance structure: Empower the General Manager to execute managerial functions without absolute interference of Board Management in daily operations since Board member should be policy maker and not part of the daily operation in order to prevent conflict of interest.
- Business strategy: Design a business plan that will create the enterprise's vision, mission, core values, as well as the operational plan, marketing plan, financial plan, management plan and development plan. The business plan will create scenarios such as concession right, market access and financial access at developmental rates.
- Networking and external relations: Within the market plan, create a marketing strategy for the promotion and growth of the institution through website in order to improve customer relation with past, actual and future client. The site should also feature the type of products and space for consultation.
- Infrastructure, finance and marketing: Maximize the utilization of infrastructure through the remodeling and rental of space on compound. Request a write off of loans from governmental sources for that past members who are deceased, senior age or that possess physical incapacity. This will minimize debt which

will enable a new working capital structure. In regards to marketing, with support from the website, manage the client's portfolio as well as the different daily sales that will be generated.

- Empowerment: Stimulate empowerment among members, management, staff and stakeholders in order to create confidence and commitment among everyone as a strategy to improve quality life.
- Distributive justice, knowledge sharing and transfer: Provide beneficial service to all members that are qualified for it. Continue with the dissemination and sharing of information among members, management, staff and stakeholders. This will improve confidence and commitment among the participants.

In addition, Table 8 presents strategies to improve the performance of NFPCSL.

TABLE 8
Strategies to improve the performance of NFPCSL

PARAMETERS/CRITERIA	STRATEGIC RECOMMENDATION
Financial performance	1) Consider the depreciation of assets in the income statement always 2) Recruit an accountant to occupy financial management position 3) Create incentive to collect sales in less than 40 days. 4) Seek judicial advice to recover loans from delinquent members 5) Minimize frequency and amount in loan borrowing (Every 2 months) 6) Restructure debt through loan from developmental banks (2 to 3%) 7) Create an incentive for discount (5%) on prompt payment to recover loans
Marketing and sales	1) Seek alternative niche markets (Europe, China, South America) 2) Provide alternative products 3) Create a website to promote type of products and reach other clients 4) Consider rebranding as an alternative to reach new clients 5) Do market analysis to determine market leakage and positioning
Operations and logistics	1) Elaborate a Business Plan to get concession on inputs & other material 2) Create a strategic plan for the organization 3) Revise staff qualification & relocate according to educational capacity 4) Create instruments to appraise employee's performance yearly 5) Create Job description and Procedure Manual for each post. 6) Implement technological control measures for operational efficiency
Micro-financing	1) Continue to provide control inputs for fishing purposes to members 2) Deduct micro-loans disbursed for fishing inputs during product delivery 3) Design discount for prompt payment for members 4) Write and submit proposal for financing members needs at 2% 5) Design a savings plan for members that can be deducted from the production
Poverty reduction	1) Continue to provide opportunity & employment for youths & women 2) Fishermen children need to continue their educational program 3) Encourage members to uplift their social status by improving their life style 4) Stimulate continuous membership participation with the cooperative 5) Continue encouraging and measuring productivity of members
Food and nutrition Security	1) Continue to provide healthy seafood for the community and family 2) Provide food on a continuous basis to family, cooperative & community 3) Participate in food security & drive awareness 4) Provide food that is excess to other social needed groups 5) Abide the legislative policy or laws
Sustainable Small-scale Fisheries	1) Abide by legislative laws at all time when executing fishing activities 2) Report any irregularities to the competent authorities 3) Participate in capacity building courses or training programs 4) Respect the Biological cycle of the marine resources) 5) Participate in conservation programs and drive 6) Design of other alternative activity for fishermen (e.g. sea moss planting) 7) Respect the opening and closing season

TABLE 8 *(continued...)*

PARAMETERS/CRITERIA	STRATEGIC RECOMMENDATION
Self-reliance	1) Stimulate interdependence of fishermen 2) Create a savings culture for fishermen 3) Provide capacity building for fishermen during closed season 4) Provide basic information on fishermen status, benefit, savings & loans 5) Design policy for payment of social security 6) Promote other marine activity such as tourism & sea moss production
Collective Action	1) Continue to provide opportunity for youth's involvement 2) Provide capacity building to indicate the benefits of being member 3) Provide equal opportunity to all members 4) Negotiate as cooperative to obtain benefit from bargaining activities 5) Increase productivity through collectivism as members to secure market 6) Increase member's productive contribution to seek alternative market 7) Stimulate loyalty to the cooperative and among its members
Improve livelihood	1) Continue to provide opportunity and employment for youths and women. 2) Evaluate the members need and performance periodically 3) Provide opportunity for fishermen family to increase their education 4) Provide clinical service to members at Annual General Meetings 5) Provide counselling to fishermen family when needed
Enhance income	1) Obtain the best market prices by considering alternative clients 2) Search for alternative market access and scheme 3) Stimulate productivity and bonus package for fishermen 4) Design intangible rewards for fishermen and their family
Establishment of identity	1) Identification of fishermen with one cooperative 2) Payment of a non-refundable fee for yearly market access 3) Design of discount package for fishing inputs 4) Disbursement of a yearly member's card at minimal cost

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4. Fishers' cooperatives in Brazil: Two case studies

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ABBREVIATIONS

CNPT	National Center for Sustainable Development of Traditional Communities
FINNIDA	Finish Institute for International Development
FF	Forestry Foundation of São Paulo
IBAMA	Brazilian Institute of Environment and Natural Resources
ICMBio	Chico Mendes Institute for Biodiversity Conservation
IF	Forestry Institute of São Paulo
IP	Institute for Fisheries Research of São Paulo
ITESP	Land Institute for Land of São Paulo
MMA	Ministry of Environment
MPA	Ministry of Fisheries and Aquaculture
NUPAUB	Center for Research on Populations and Brazilian Wetlands - USP
PD/A	Program for Demonstrative Projects, funds from MMA
PDF	Program for Projects of Decentralized Execution, funds from MMA
REMA	Extractive Reserve of Mandira Association
SMA	São Paulo State Secretariat for Environment
SEAD	State Foundation for Data Analysis
SIF	Federal Inspection Service

1. INTRODUCTION

This study presents the background, development, and challenges faced by two fishers' cooperatives in Brazil: Cooperostra (The Cooperative of Oyster producers of Cananéia) in São Paulo State and Coopesi (Cooperative of Artisanal Fishers of Santa Isabel) in the southern part of Rio Grande do Sul State. For each cooperative, the well-being of the members and communities as well as the maintenance of the ecological diversity of the respective regions are presented. Both cooperatives are situated in lagoon/estuarine ecosystems but with different biogeographic characteristics: Cooperostra is located on a mangrove area that is part of the coastal Atlantic Forest ecosystem and Coopesi is located in a coastal area with several coastal lagoons with sand dunes, including Dos Patos and Mirim. These coastal lagoons, particularly dos Patos, are known to be nursery areas for several migrant species, such as mullet that are harvested along the Brazilian south/southeast coast, particularly by artisanal fishers. Mirim Lagoon, where Coopesi (established in 2002) is located, suffered significant ecological changes with the construction of a dam in 1979 that interrupted the circulation of mixed water from Dos Patos Lagoon to Mirim Lagoon, transforming the latter into a freshwater ecosystem where only freshwater fishes occur.

TABLE 1
Main characteristics of analyzed institutions

Name of institutions	Cooperostra	Coopesi
Type of institutional arrangements	Cooperative and Extractive Reserve	Cooperative
Location/ecosystems	Coastal Atlantic Forest-Mangrove-Cananéia- São Paulo Province	Coastal lagoon system-Mirim and Mangueira lagoons and sandbar-Rio Grande do Sul
Production	Mangrove Oyster production	Inland fish production
Year of establishment	1997 -Cooperostra 2002 - Mandira Extractive Reserve	2002
Present number of members	18 individual members (5 women)	28 fishers (5 women)
National regulations	National Cooperative law 5.764 of 1971 National System of Protected areas (2000) for the extractive reserve	National Cooperative law 5.764 of 1971

The estuarine part of Cananéia, where Cooperostra operates, has suffered minor ecological changes compared to Mirim Lagoon and natural mangrove oysters are still abundant. The region is covered by protected areas, both no-take and of sustainable use. The Mandira Extractive Reserve is the most important oyster management area where Cooperostra operates. In the Reserve, only sustainable use is allowed and the surrounding areas are national parks and zones of other conservation categories. The history of Cooperostra is deeply linked to the history of the Mandira Extractive Reserve to which most of the members now belong.

Cultural differences between the two communities have influenced the development and direction of the cooperatives, Cooperostra and Coopesi. For example, most of the members of Cooperostra are *quilombolas,* descendents of African slaves who until the 19th century lived on small-scale agriculture and fishing, but since the 1980s are dependent on the harvesting of mangrove oysters, while fishing only for subsistence.

In the lagoons of Rio Grande do Sul, the members of Coopesi have been influenced by the Portuguese/Spanish colonizers who had a strong tradition of fishing. In many areas, small-scale fishing and agriculture are combined. The State of Rio Grande do Sul also has a tradition of commercial fishing and much of the fish canning industry in Brazil was initiated there. In general, this region has more experience on cooperative undertaking, both in agriculture and in fishing. The report begins with a broad overview of fisheries development and fishers' organizations in Brazil with a focus on cooperativism (Tables 1 and 2).

TABLE 2
Timeline of events for Cooperostra and Mandira Extractive Reserve

1993	Initial process of the Mandira Extractive Reserve
1995-1996	Initial process for the establishment of Cooperostra
1997	Legal establishment of Cooperostra with 21 regular members
1998-1999	Construction of Cooperostra infrastructure (oyster depuration plant, headquarter, license from the National Inspection Service)
2001	Crisis in the administration, dismissal of external administrator
2002	Prize from the Equator Initiative-UNDP for the extractive reserve/Cooperostra in Johannesburg.
2002	Official creation of the Federal Mandira Extractive Reserve.
2001-2005	Period of crisis with loss of confidence in Cooperostra, loss of members
2005	Preparation phase for self-management. Training of youngster for management
2005	Institution of self-management by members
2005-2013	Cooperostra under self-management
2010	Official edition of the Management Extractive Reserve Plan.
2013	Stabilization of the cooperative with 18 regular members, most of them from Mandira Extractive Reserve.

PART 1 – GENERAL OVERVIEW OF ORGANIZATIONS AND COLLECTIVE ACTION IN FISHERIES

1.1 General information on fishing and aquaculture in Brazil

According to the Ministry of Fisheries and Aquaculture, there were approximately 970 000 fishers in Brazil in 2011 (957 000 artisanal and 13 000 industrial fishers). They were organized in 760 guilds (Colônias de Pesca), 137 unions and 47 cooperatives. Most of the artisanal fishers live in the North and Northeast and are responsible for 45 percent of the total fish production.

The total fish catch in 2010 was 1 240 000 tonnes per year, 785 366 marine capture and the remaining 479 398 tonnes from aquaculture and inland fisheries, from which 85 058 tonnes are marine aquaculture (mainly shrimp). Inland fishing has become an important sector in Brazilian fisheries with 248 911 tonnes in 2010. More than half is harvested in the Amazonian region, followed by the Northeast region. The southern region, where one of the case studies is located (Coopesi - Rio Grande do Sul), represents only two percent of the national production.

Marine aquaculture production is low in São Paulo (154 tonnes) where the other case study is located (Cooperostra- Cananéia). Santa Catarina, located in southern Brazil, has a higher (15 636 tonnes) production and is the third most important state in Brazil for marine aquaculture, particularly for oyster culture (1 908 tonnes) and for mussel culture (13 723 tonnes) (MPA, 2010).

Although oysters are collected in mangroves around Brazil for local consumption, the only states where production is organized and entirely commercialized are Santa Catarina and São Paulo.

The first experiences with oyster culture in Santa Catarina began in 1970 through wide distribution of *Crassostrea rhizophora* in mangroves, but the results were poor. In the mid-1980s, seeds from *Crassostrea gigas* were imported from Japan and their seeds started to be produced in the laboratories of The Federal University of Santa Catarina and distributed to fishers on an experimental basis to be cultivated in long lines. In a few years, local fishers and other workers were cultivating oysters in the Bay of Florianópolis on a family basis, close to their houses, with technical assistance of *Empresa de Pesquisa Agropecuária* (EPAGRI), a state institution for extension services.

Today, Santa Catarina is responsible for around 90 percent of the oysters produced in Brazil through several cooperatives. The cultivation of mussels and oysters involves 695 families organized through 28 associations and two cooperatives. The second most important area for oyster cultivation is Cananéia where Cooperostra (the case study) is located.

1.2 Government institutions and plans

The main institutions responsible for fisheries are the Ministry of Fisheries and Aquaculture, which deals mainly with productive and organizational aspects, and the Ministry of Environment, which is responsible for protection of species and coastal/riparian habitats. The integration of these two organizations has been challenging, as responsibility for fisheries management (coastal sustainable use of protected areas, closed seasons, mesh size, etc.) should be shared among these two federal institutions. However, there are often misunderstandings which result in conflicts of jurisdiction.

The main fisheries law (Lei de Pesca n.º 11.959) was voted and approved by Congress in 2009, replacing the previous law from 1967. It defines the various aspects of the activity from harvesting to trade, and social organizations both for industrial and artisanal fishing, monitoring, surveillance and research.

In 2013, the Federal Government launched an ambitious, two-year, fisheries development plan aimed at increasing fish production (marine, inland and aquaculture). The 2 billion US dollar (4.1 billion reais) plan was financed through a low loan rate from the National Program to Strengthen Family-based Agriculture (Pronaf-Programa Nacional de Agricultura Familiar) in order to improve infrastructure, promote commercialization, increase the use of fish for schoolchildren feeding schemes, establish cooperatives (to function as fishing enterprises), and construct boats and aquaculture infrastructure, etc.

The Government is currently creating incentive packages for the development of aquaculture, particularly inland aquaculture, a rapidly growing sector which uses the numerous rivers and lakes. Coastal aquaculture also receives incentives, but they are channeled, particularly to large commercial enterprises which use intensive production systems. The Ministry of Fisheries and Aquaculture has a policy for aquaculture parks, facilitating the access of aquaculture to coastal areas that belong to the Union ("Terrenos de Marinha"). State Governments are also creating incentives for oyster/mussel culture, reducing taxes, and investing in extension work to improve the product's quality.

1.3 Fisheries cooperatives in Brazil

Fisheries cooperatives are regulated by the Law 5 764 of 1971 that defines the National Policies for Cooperativism and by the Civil Code of 2002. Brazilian cooperatives follow the principles of the International Cooperative Alliance that are: voluntary participation, democratic control by the members (participating in devising policies and regulations through voting in assemblies), control by the members of the capital invested, autonomy and independence, promotion of education and information (transparency in the administration), cooperation between cooperatives and social development of communities.

Chapter 5 of the Brazilian Cooperative law deals with the social institutions and administration of the cooperative. The General Assembly, where the main decisions are taken, should be opened by the President, assisted by the Secretary and occurs at least once a year. The administration council should be formed by 5 elected members for a 4-year mandate and the president, vice-president and the secretary form the Executive Directory. The by-laws are specific concerning the role and duties of each

of these elected members. The Fiscal Council is formed by three elected members who should meet at least once a month and is responsible for the financial aspects and the transparency of the commercial operations. The Ethical Council is responsible for defining the moral principles that should guide members' behavior and facilitate the communication between members and the administration. The Cooperative is obliged to constitute a reserve fund and a fund for technical assistance and training of members.

The Government, through Sudepe (Superintendence for Fisheries from 1967 to 1987) has promoted the establishment of cooperatives, particularly in the North-Northeast region through a loan from the Interamerican Development Bank. Around 30 cooperatives were planned, including construction of infrastructure such as landing piers, ice factories, freezers, etc. However, the cooperatives were established without real involvement of fishers and many of them collapsed after a short while, being taken by fish traders. Some have survived for a longer time, particularly in the Southern-Southeast regions due to better organization of the fishers. An example is the Nipo-Brasileira Cooperative in Santos (SP), which was created in the 1950s. Many of the associated fishers were Japanese migrants with experience in associative work. It was closed in the 1990s because it could not compete with fisheries industries established after 1967 with the support of large subsidies from the Government. Most of these subsidies were directed to industries in the South-Southeast region that after overexploiting commercial species such as shrimp for export in the region either moved to the North or simply closed their doors with lack of fiscal incentives. Most of the remaining cooperatives are usually small and established with the support of non-government organizations such the Carutapera Cooperative in the state of Maranhão, assisted by the Catholic Fishers Pastoral (Pastoral dos Pescadores) and the Mandira oyster production cooperative in Cananéia (SP), supported by research institutions and NGOs.

Other government initiatives such as the Integrated Centers for Artisanal Fishing (CIPA) inspired in an FAO proposal of the 1980s (including landing and processing facilities) are experiencing the same challenges. For example, of the 20 initiatives established, some are already not working properly due the lack of fisher participation.

2. SOCIAL INSTITUTIONS

2.1 Government institutions in fisheries/aquaculture

The main institutions of artisanal fishing in Brazil are the "guilds" (Colônias de Pesca) created by the Navy in the 1920s in order to organize both coastal-marine and inland fishers. Until the 1988 Constitution, all fishers should have been members of a Colônia de Pesca and pay an annual fee. The various *colônias* of a Province were organized in Federations and an overarching Confederation was the main national institution, whose president reported to the Ministry of Agriculture and Fisheries. Many of these institutions were headed by non-fishers who ruled them in an authoritarian way. According to the new Constitution, fishers were free to join the *colônias,* which could be transformed into fishers' unions and freely elect their leaders. From 1988 onwards, several unions were created in many provinces and played, as the guilds, an important economic and social role (providing retirement schemes, social security, etc.) and could also establish their own cooperatives (Table 3). Currently, there are also specific unions for fish industries and industrial fishers that can be organized in federations of unions, such as the Sindipesca in Santa Catarina Province and the Federation of Unions of Maranhão, etc. A new regulation of 2009 gave the unions the same power as the colônias and today around 300 colônias have been transformed into unions.

2.2 Non-government institutions

Council of Fishers Pastoral (Pastoral da Pesca): The Catholic Church, since the end of the 1960s, inspired by the theology of liberation, played a crucial role in ensuring rights to the fishers, including retirement and social security. Fray Alfredo Schnuttigen who lived in the Northeast, was important in this process of fishers' mobilization. The Fishers Pastoral (Pastoral dos Pescadores) was able to mobilize thousands of fishers during the discussions of the 1988 Constitution, advocating for free association to independent institutions, recognition of women as professional fishers, and a clean environment free from pollution due to sugarcane production. The Fishers Pastoral plays a crucial role in mobilizing artisanal fishers, particularly in the North and Northeast region. It has been very critical of government programs and claims that although artisanal fisheries are a priority of the Ministry of Fisheries and Aquaculture, most of the programs favour mainly large-scale fisheries and aquaculture.

Monape: National Movement of Fishers: Monape was created in 1989 from a division within the Fishers Pastoral as a civil society movement. The goal was to mobilize artisanal fishers to participate in free elections for guild presidents, particularly in the North-Northeast regions and demand civil rights, health and education. Most of their leaders, some of them fisherwomen, came from the Fishers Pastoral and succeeded in being elected for some guilds. However, the Monape was not able to reach the whole country, and when funds from international non-government organizations were reduced, some of the leaders were coopted by the Government, causing the movement to loose initial strength.

MPP: Movement of Fishers and Fisher Women (*Movimento de Pescadores e Pescadoras*): It was created under the auspices of the Fishers Pastoral as an independent group that in 2009 attended the Conference of Fisheries in Brasilia, organized by the Government. This group was very critical of the aims and structure of the Conference and decided to organize a parallel meeting. They are inspired by the peasants' movement of Via Campesina, independent from the Government. One of the main claims of this movement was the establishment of exclusive fishing territories for artisanal fishers (territórios de pesca) where industrial boats as well as commercial shrimp firms could not enter. Women fishers played an important role in the movement, which promoted participation in the formation of policies for the artisanal sector.

3. FISHERIES MANAGEMENT AND SUSTAINABLE USE

The Chico Mendes Institute (ICMBio) is the national agency responsible for fisheries regulations and management in Brazil. The regulations established by ICMBio may have national, regional or local jurisdiction and are usually created based on studies done by their own biological research institutes located throughout different regions. Sometimes, fishers' organizations are consulted in the process, but seldom is their traditional knowledge and management taken into consideration, which results in frequent conflicts between fishers and management institutions.

In recent years, there have been positive developments as fisheries management and co-management can be undertaken from within defined social-institutional frameworks such as fisheries agreements (acordos de pesca), fisheries forums (fórum de pesca) and sustainable use protected areas such as extractive reserves and reserves for sustainable development.

a) Fisheries agreements (acordos de pesca) were initiated in the 1980-1990s in the Amazon to protect local fishers from commercial fishing boats coming from the state capitals to harvest in productive lakes and along the rivers. These lakes were traditionally managed by riverine fishers of local communities. In other cases, agreements supported by environmental agencies (IBAMA) were

also used to solve conflicts between local fishers and large landowners from the southern regions that started putting fences around the lakes, hindering traditional fishing. In recent years, these agreements were also promoted in other coastal areas.

b) Fisheries/coastal forums are local/regional initiatives from fishers' organizations, government institutions, non-government organizations, and research agencies established in order to manage fish resources, solve conflicts among fishing groups using different gears and methods, solve pollution and environmental degradation problems, promote environment education, and mobilize fishers' organizations. Examples of these initiatives are the Lagoa dos Patos' Forum and Costal Forum of Ceará state.

c) Sustainable use protected area are coastal/marine extractive reserves and reserves for sustainable development.

Categories of protected areas were established in 2000 by the National System of Protected Areas (Sistema Nacional de Unidades de Conservação – SNUC). These protected areas aim at sustainable use and conservation of natural, renewable resources by traditional peoples. Extractive reserves and sustainable use reserves can only be established upon written demand of local fishers and other extractive people to the environmental authorities. The surface of the requested coastal area and reasons and objectives of the demanded extractive reserve must be defined. Biological and anthropological studies follow those requests. Once officially established through a Presidential Decree, the approved area is given in concession for common use (commons) to the fishers and other extractivists. The reserve members and associations elect a management committee comprised of representatives from the different user groups in the reserve. The environment agency appoints a reserve director, but the authority lies with the elected committee. The next step is the elaboration of a management plan, indicating different use categories, including full protection, responsibilities, surveillance and fees and penalties for those who violate the established rules. There are presently around 20 coastal/marine extractive reserves in nine Brazilian states, encompassing around 1 700 000 hectares and benefitting around 40 000 fishers. One of the case studies of this paper is the Mandira Extractive Reserve in the municipality of Cananéia, São Paulo (Cordell, 2000).

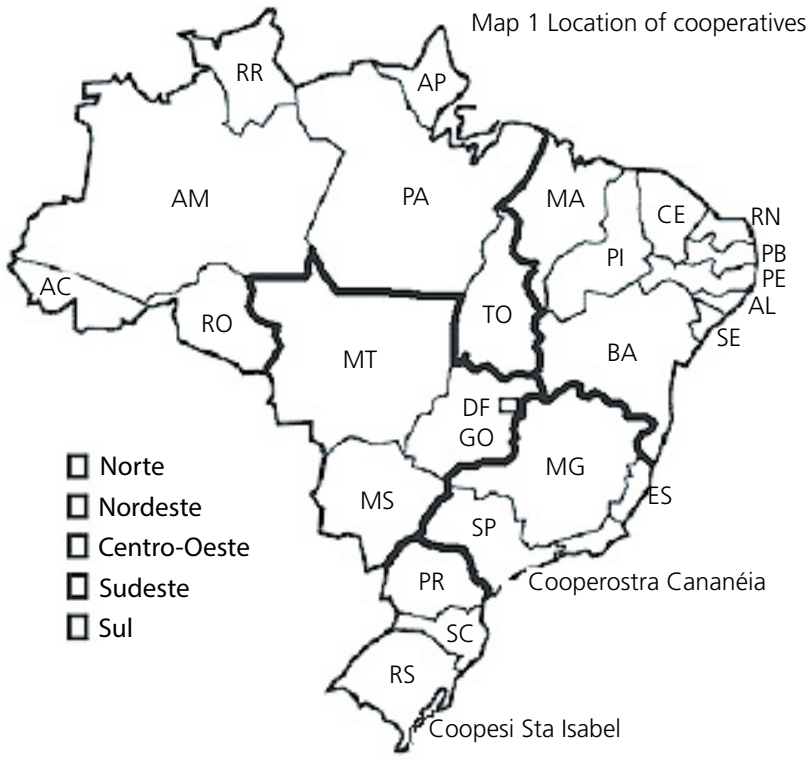
TABLE 3
Main Characteristics of fishers' organizations in Brazil

Features	Colônias-guilds	Unions	Cooperatives
Objectives	Social representation of fishers	Social representation of fishers	Productive/selling institutions
Date of establishment	1921 and 1988 Federal Constitution	Federal Constitution of 1988	National law 5764/1971
Type of association	Compulsory for professional/ artisanal fishers	Free association for both artisanal and industrial fishers	Free association
Responsibilities	Providing fishers card as basis for benefits such as wages during fishing ban season, social services such as health services	Unions can replace the affiliation to guilds, and provide the same services as guilds	Fishers sell production, buy fishing gears, food.
Type of management	President and council elected for a period of two years	President and council elected by members	President and council elected for a period determined by the general assembly

PART II – CASE STUDIES

The selected case studies include Cooperostra (The Cooperative of Oyster producers of Cananéia) in São Paulo State and Coopesi (Cooperative of Artisanal Fishers of Santa Isabel) in Rio Grande State) (Map 1).

MAP 1
Location of case studies



4. THE COOPEROSTRA AND THE MANDIRA EXTRACTIVE RESERVE IN CANANÉIA, SÃO PAULO STATE

4.1 The natural resources, human communities and livelihoods

Cooperostra, the Cooperative of Oyster Producers, and the Mandira Extractive Reserve are located in the Cananéia municipality in the large estuary system that comprises various municipalities: Cananéia, Ilha Comprida and Iguape in São Paulo state; Guaraqueçaba and Paranaguá in Paraná state (see map 2). The population of Cananéia is around 13 000 inhabitants, one of poorest of São Paulo State, which is the richest state in Brazil. The region is subtropical, with an average temperature of 21.4 degrees C. January through March are the hottest, most rainy and humid months, and August the driest month. The intertidal area is covered by mangrove. Natural oyster banks are located in mangrove roots (Schaeffer-Novelli and Cintron-Molero, 1990). This area is also part of the Atlantic Forest, an ecosystem of high biodiversity that covers most of the coastal areas in Brazil (around 3 000 km long), where some 110 million people live, including cities such as São Paulo, Rio de Janeiro, Salvador and Recife. Urbanization, industrialization and intensive agriculture have decimated this forest to less than 8 percent of the initial domain. A significant part of the present forest is located in the Ribeira River Valley where Cananéia is situated and where demography and development are far below the average of São Paulo State (Medeiros, 2006). At present, around 80 percent of the area is covered by different categories of protected areas, particularly no-take areas that began to be established in the 1950s and have increased in number, especially from the 1980s.

This region (Ribeira River Valley) is also known for its high social diversity, including indigenous peoples (particularly Tupi-Guarani), *caiçaras* (denomination of Indigenous, African slaves and Portuguese colonizers dependent on small-scale agriculture and fishing), *quilombolas* (African slaves descendants), and *caboclos* (ethnical groups living in forested areas and along the rivers, usually as small-scale forest harvesters and agriculture).

This region is also one of the first to be colonized by the Portuguese since 1530 and has experienced different economic cycles including gold mining (from the late sixteenth to the seventeenth century), boat construction (from the sixteenth to eighteenth century), monoculture of rice production (from the eighteenth to nineteenth century), and banana cultivation (twentieth century). Since the beginning of the seventeenth century, fishing has been an important subsistence activity along with cassava roots cultivation, but since the first decades of the twentieth century, fishing became a commercial activity for the local *caiçara* communities. Now commercial fishing (oyster harvesting) and tourism are the main activities particularly in the Cananéia municipality where Cooperostra is located. Most of the important economic cycles were based on African slave labor until 1889 when slavery was officially abolished (Diegues, 1983). Some communities such as Mandira, where most of the members of the Cooperostra come from, identify themselves as *quilombolas* (African slave descendants) and *caiçaras*.

From the late nineteenth century, this region received different groups of European (German and Austrian), North-Americans and Japanese migrants. Except for the Japanese colonization (starting at the beginning of the twentieth century), the first colonizers lasted for a short period and migrated to other regions due to the climate and lack of infrastructure for commercialization of their agricultural products.

MAP 2
Location of Cooperostra, Mandira Extractive Reserve and Ribeira River Valley

4.2 Government interventions in the region

In the 1960s, the State Government started to intervene in the region in a more institutionalized way to "bring development to the poorest area of São Paulo State", creating the Ribeira River Authority (Serviço do Vale do Ribeira), replaced in the 1970s by Sudelpa (Superintendence of the coastal region). These development agencies were

created in order to improve road connections, health and education, and infrastructure for fisheries and agriculture, such as building a fishing harbor in Cananéia in the late seventies. Although the intention of this infrastructure (ice production, freezing chambers, etc.) was to "modernize" local artisanal fisheries, it mainly benefited medium trawler and motorized canoe owners coming from the southern states, particularly from Santa Catarina.

In the 1980's, The Forestry Institute (Instituto Florestal), the newly created Secretariat for Environment (SMA) and the Federal Government started establishing new protected areas without consulting local traditional communities. According to the environmental laws, these communities could not practice traditional activities such as small-scale agriculture, forest harvesting and fishing inside the no-take areas (áreas de proteção integral), forcing migration to the local urban areas such as Cananéia and Iguape, and creating serious social conflicts that remain today. Only after the establishment of the new National System for Protected Areas (SNUC), approved by the National Congress in 2000, did the situation start to change with the creation of sustainable use reserves, such as the Extractive Reserve of Mandira in Cananéia, formally established in 2002.

Since the 1990s, especially after the Rio meeting in 1992, the issue of traditional communities and their role in nature conservation through sustainable use has become a crucial one. To respond to the demands of these traditional communities around the country, the Federal Government created the National Council for Indigenous Peoples and Traditional Communities in 1996 that gathered approximately 14 different communities (and around 200 different indigenous groups) and created a national policy for these peoples and communities. The principle demands of these groups were the recognition of the territories where they live and work (that cannot be transformed into no-take protected area without their agreement and participation), their civil rights, respect for their livelihoods, etc. The *caiçaras*, *quilombolas*, indigenous peoples, *caboclos* are represented in the National Council.

4.3 The Mandira Community and the Cooperostra

In order to understand the reasons for the creation of The Cooperative of Oyster Producers of Cananéia – Cooperostra, it is essential to understand the changes that occurred in the Mandira community to which the large majority of the members and managers of the cooperative belong.

In the mid-nineteenth century, one of the local large landowners had a son with a slave named Francisco Vicente Mandira who inherited some 1 200 ha in a place that received the denomination of Bairro Mandira (Photo 1). This area is still occupied by the descendants of Francisco Vicente Mandira. As descendants of slaves, the village members are also *quilombolas* to whom the Brazilian Constitution of 1988 guarantees the right to the land they traditionally occupy.

In the 1960's-1970's, the Mandira families moved from traditional agriculture to oyster gathering that enabled them to have cash to buy items in Cananéia city that were not produced within the community. Because of the strict environmental legislation to protect the Atlantic Forest, the Mandirans had to abandon subsistence agriculture and forest harvesting and rely exclusively on oyster gathering. Oysters were collected from mangrove roots that were cut down to facilitate the harvesting, causing damages to the mangrove ecosystem. At the same time, the Mandirans were dependent on the middlemen who paid very little for the collected oysters. This dependency was considered one of the main reasons of the poverty that faced the Mandirans (Sales and Moreira, 1996).

PHOTO 1
Mandira Village

Source: http://www.pick-upau.org.br

4.4 The role of Government and Non-Government Institutions in the establishment of Cooperostra and Mandira Extractive Reserve

In the mid-1970s, the State began oyster cultivation research and experiments, providing courses for future oyster aquaculture producers, but without success as it was considered easier to collect oysters from the mangrove. In 1989, the State Secretariat for Environment produced a Coastal Development Program indicating that aquaculture could be an important source of income to the villagers of the coastal region and a way to avoid overexploitation of the natural resources.

By that time, some communities of the area were mobilized by the local Catholic Church through a priest that followed the Theology of Liberation and Pastoral of Fishers that emphasized the need for collective work to improve their livelihoods. Some present leaders in those communities, including those of Mandira, were educated by those institutions.

In 1992, Nupaub, the Research Center for Wetlands Conservation, from the University of São Paulo, obtained funds from Finland to invest in sustainable activities in villages of the region. In 1993, after a survey undertaken by one anthropologist and one biologist from Nupaub in several communities of Cananéia, Bairro Mandira, with 18 families and 130 members, was selected on the basis of: a) strong community and family ties (most of the members belong to one or two families) and a strong traditional authority of a village leader that belong to the Mandira extended family; b) good ecological conditions of the surrounding mangrove that provided the Mandirans with oyster and also fish; c) experience with oyster harvesting for more than 20 years that provided the largest part of the villagers' income; and d) the awareness that they should improve the value of their oyster production through the elimination of the middlemen, and consequently, their income and living conditions (Sales and Maldonado, 2000).

Once the village was selected, the two above-mentioned researchers/extensionists started organizing meetings with villagers to organize an association of producers. Dozens of meetings occurred with the participation of the majority of the villagers. The anthropologist decided to move from São Paulo to Cananéia to be closer to the community, facilitating his contact with villagers and obtaining their confidence. One of the issues of the discussion was the possibility of creating an extractive reserve, an idea that was continuously discussed for almost two years until an association was legally established. After the two required surveys were completed (a thorough anthropological and biological survey) (Sales and Moreira, 1996), a written demand of the villagers for the creation of an extractive reserve was made to the Center for Sustainable Development of Traditional Communities – CNPT, from IBAMA

(National Institute for the Environment). Although this official demand was made in the middle of the 1990s, the Extractive Reserve of Mandira, based on oyster harvesting, was legally approved by the Brazilian President in 2002. The reserve has around 1 200 ha of mangrove for the exclusive use of the Mandira association and a utilization plan was developed and approved that indicated how this area should be exploited. Rules for fishing and oyster gathering were established as well as penalties for rule violation.

Other institutions were also involved in this process, such as The Secretariat for Environment/Forestry Foundation that succeeded the Government responsibility for the Reserve from Nupaub, the Fisheries Institute (Instituto de Pesca) that developed a viability plan/study for the oyster cultivation/management and a local NGO called Gaia. Additional funds were provided by Shell Brazil, Margaret Mee Botanical Foundation and Word Vision.

The Nupaub provided funds for the first engine boat of the Resex Mandira for the transportation of oyster to Cananéia and for villagers to have access to the health center. It also provided funds for the rearing beds introduced in the estuarine part of the reserve. This new technology allowed young oysters to be harvested from the mangrove and to continue growing in the rearing beds, covered by a wire screen that prevented oyster predation from birds, fish, etc. This technique was tested in a pilot project in 1994 and spread to oyster harvesters in other communities of the estuary (Medeiros, 2006).

Oysters managed in these rearing beds yielded greater economic return since they grew larger, and had a more uniform appearance than those detached from gnarled mangrove roots. The rearing beds also had a clear ecologic benefit because they prevented the cutting of mangrove roots to harvest oysters, as was historically done in the region. Reared oysters thus had a lower mortality rate during depuration and shipment than oysters harvested directly from the mangrove (Medeiros, 2006).

4.5 Learning by doing

During the initial stage of Cooperostra, supporting institutions such as the Forestry Foundation and the State Fisheries Institute organized several training courses for the associated members including the benefits of belonging to the cooperative, forms of association, methods of efficient management, such as the economic and ecological benefits of rearing large oysters, importance of mangrove conservation, the negative impact of previously existing practices such as cutting mangrove roots to facilitate harvesting, and the negative ecological and economic impact of selling small, deshelled oysters. The benefits of belonging to the cooperative, forms of association, participation in meetings, the importance of the ban period of collecting and selling wild oyster from the mangrove (December-February) and the need to make a stock of larger oyster in the rearing bed as these large oysters, once declared to IBAMA, could be commercialized freely. Cooperostra members could sell reared oysters during the peak tourist season (from December to February) when the sale of oysters from the mangrove was forbidden by law.

Views and experiences were successfully interchanged between the technicians of the Fisheries Institute and villagers in order to solve problems that appeared during the process of oyster management in the rearing beds (Photo 2). One example was the methods the two groups proposed to avoid the high oyster mortality during summer time: the cooperative members shaded the rearing beds with abundant palm leaves from the area and the technicians proposed to elevate the top mesh of the rearing beds, which gets very hot when exposed to the sun. By the end, the two methods were merged and used (Medeiros, 2006).

PHOTO 2
Oyster Rearing beds in Mandira Extractive Reserve

Source: http://diariodojrb.blogspot.com.brmundo

5. THE COOPERATIVE COOPEROSTRA

The cooperative Cooperostra can be seen as an outcome of the previous social mobilization that occurred in Bairro Mandira. The model was expanded to other villages based on the reason that the Brazilian legislation required an oyster depuration plant in order to make oyster appropriate for commercialization and safe consumption. The depuration plant also required a larger number of producers and was built in a space provided by the municipality of Cananéia, a few kilometers from the city center, along the main road leading to São Paulo and other cities, and the estuary.

5.1 Cooperostra regulations and by laws

Cooperostra was founded on 1 November 1997 during an assembly and the legal document was signed by 26 founding members. According to the document that follows the directives of the Brazilian Cooperative law (law 5764 of 1971), the objectives of the cooperative were to sell oysters delivered by its members and to sell food and goods to members. In chapter III, those who live from extraction and rearing of oysters, mussels, crabs and shrimps could become members when nominated by two associated members. Every member should contribute with quotas to form the cooperative capital. The social capital of the cooperative should not be less than 200 US.

5.2 The physical infrastructure: the depuration plant and headquarters of Cooperostra

The depuration plant (photo 3) along with the main Cooperostra office was the physical core of the cooperative as it allowed an appropriate and safe commercialization of the oysters transported to the Cooperative. It is also a basic requirement to obtain the federal health certification (SIF) from the Federal Inspection Service, under the Ministry of Agriculture, that requires analysis of water and oyster samples from the depuration stations in accredited laboratories a minimum of eight times per year.

The depuration process consists of exposing clean, live and healthy oysters to purified water. Cooperostra purifies oysters through mechanical filters, followed by an ultraviolet light filtration system to sterilize them. By ensuring the oysters are safe

PHOTO 3
Cooperostra Headquarters

Source: http://www.pick-upau.org.br

for consumption through the SIF certification, Cooperostra may ask for higher prices on the market (Garcia, 2005).

The funding of the station and headquarters was ensured by the Brazilian Fund of Biodiversity (Funbio) and by funds of the Demonstrative Projects from the Ministry of Environment. Resources were used to cover operating expenses for the depuration station and commercialization of the oyster.

The building itself was completed through voluntary work of the members of Cooperostra, particularly from the associated villagers of the Mandira Extractive Reserve who were, from the beginning, the most enthusiastic people in support of the Cooperative. The depuration station started functioning in 1999.

5.3 The initial Cooperostra associated members

The process of creating a cooperative that was initiated in 1994 and finished in 1997, included other members apart from the 12 Mandirans. There were 7 members from Acaraú, 2 from Itapitangui, and 32 from six other communities of Cananéia municipality that participated in the process. Contrary to what happened in Mandira, harvesters from other communities did not have adequate training, and most of them did not understand how cooperatives worked or did not believe that Cooperostra could be a thriving business. Additionally, they did not want to break the links with the middlemen they depended upon to sell their oyster, often because they were financially indebted to middlemen. From the 53 initial members in 1997, only 21 were continuously delivering their oyster to be commercialized by the cooperative, although the prices paid by Cooperostra for the oysters have been higher than those of the middlemen.

5.3.1 Social characteristics of the associated members

A survey undertaken by The State Foundation for Data Analysis (SEAD) in 1998 provided a rough profile of 31 members (of the 53 initial members) and showed that 26 percent were under 30 years old, 55 percent were in between 30 and 50 years old; the majority were married (74 percent) with an average of five family members. The majority had their own brick made house. The majority had completed primary education and some of those living closer to secondary school (Itapitangui, Acaraú and Cubatão) had completed secondary education (3 additional years). Most of the children have surpassed (or will presumably surpass) the level of education of their parents.

Most families had a television set and refrigerator, as most of them had electricity in their house and more than all of them had their own boat and bicycles. Due to the higher prices for the oysters paid by Cooperostra, the average family income after the first year of its functioning had increased from 300 US to 400 US, and it increased more for those that continuously handed their oyster to the cooperative marketing.

5.3.2 The socio-economic situation in the Mandira Extractive Reserve

As it was mentioned before, the members of the Mandira Extractive Reserve were (and still are) the most enthusiastic members and the backbone of the Cooperostra. Since the beginning, they comprised the majority of those who regularly delivered their oyster for commercialization, obtained higher incomes, participated regularly in the cooperative meetings and assemblies, provided committed leadership and formed most of the voluntary labor force for the building of the depuration station and Cooperostra headquarters.

The members of the Mandira Extractive Reserve also obtained additional technical and financial assistance from ITESP (São Paulo Land Institute) when they applied to be considered a *quilombola* land (African slave descendants) and obtained guaranteed control of the entire inland area of the community. This control will be effective once they officially receive the land property title from the Federal Government, which will happen in the near future.

ITESP has provided most of the funds to build a community center and support a sewing/craftsmanship project that will benefit several women in the Reserve, increasing overall family income. Because the Mandirans are involved in several projects, some other villages have complained that the Mandira Extractive Reserve is getting most of the external funding. This complaint was one of the reasons that members of Cooperostra from other villagers decided to abandon the cooperative. The main reason, however, was the loss of confidence in the cooperative due to various administrative problems the cooperative faced in 2000-2001 that will be analyzed in the next section.

5.3.3 The cooperative leadership/administration and the first crisis

Although Cooperostra relied on advisory services from the supporting institutions, particularly from the Forestry Foundation and the State Fisheries Institute, it was clear from the beginning that it was difficult for the leaders to manage the cooperative as they did not have administrative expertise. Successful management required strict accounting, safe delivery of healthy oysters to different restaurants situated between 90 to 250 km from headquarters with the use of a newly bought transportation van conducted by drivers paid by the cooperative, receiving and paying members, buying different kind of inputs (boxes for oysters, computers, programs, etc.), managing financial resources from PDA/Ministry of Environment and providing accounting of these funds.

It was decided to hire a professional administrator, a graduate from university who lived in Cananéia. Since the beginning, this well-paid manager started acting as the owner of an enterprise (Garcia, 2005) in which the only preoccupation was quick profit and not the functioning of a cooperative and its associative role. After some time, the cooperative director group, formed by a president, a vice president, a secretary and the fiscal council realized that many members who delivered and sold oysters were not paid and purchases were not paid as well. An audit was required by the supporting group, particularly by the Forestry Foundation and the result was that the cooperative, in 2011, had a deficit of around 30 000 US, a sum that was taken by the manager in a fraudulent way. The external manager was fired, tried by Cooperostra, and although he was convicted, the money had not been recovered until now.

This situation, common in many fisheries cooperatives in Brazil, led to a serious crisis of confidence in the capacity of Cooperostra to function adequately and those members who were not regularly providing oyster to the cooperative have abandoned it. The core of the cooperative, formed mainly by the Mandirans, decided to stay and recover the trust in Cooperostra with the help of the supporting agencies. A high percentage of cooperatives, especially fisheries cooperatives, go bankrupt after two to three years of operation, particularly when the financial support of State agencies ends. In the case of Cooperostra, the funds from Government institutions lasted until 2006, and since then the cooperative has been functioning with its own resources, cutting costs and taking the management into their hands, and using trained young people from families that participate in the cooperative.

5.3.4 The change to a self-managed cooperative – the preparation and training of young people

After these events, when the professional sellers that had high salaries, high commissions and expensive travel costs were dismissed in 2001, there have been limited successful attempts at expanding the market for Cooperostra. The different functions of the cooperative (production, marketing, maintenance of equipment, etc.) were assigned to cooperative members.

In 2005, the cooperative, using MMA funds, started training courses for more educated young people from some member families in order to undertake management tasks. Some 24 members, adult and young people, were trained for the various functions in the cooperative. The trained young people that were not involved in the cooperative self-management found employment in other activities in the Municipality of Cananéia. After this change, the administration improved and some members who abandoned the cooperative returned, with a total of 20 members regularly delivering their oysters to Cooperostra, and raising the amount of oysters to be commercialized.

The basic characteristic of this new phase (2005-2013) was that Cooperostra, in view of the financial/credibility losses due to the outside administrator during the period of 2000-2001, decided that all the decisions would be taken by the members. Some members were assigned leading roles as administrators (members responsible for marketing, maintenance of equipments, etc.) over which the cooperative decided to have control. In 2011, due to increasing marketing costs (transportation mainly), the present administration reduced the marketing points (priority given to regular buyers) and the day-to-day management is presently undertaken by the President and the Secretary (responsible for the marketing operations) and the fiscal council. Several other activities such as oyster cleaning, packaging and transportation are now done by cooperative members, particularly during summertime when workload is heavier.

5.3.5 Environmental sustainability for oyster production

Wild oyster harvesting was an important activity since the 1970s when approximately 35 000 dozens of oysters were taken from the mangrove roots, causing severe damage to the mangrove ecosystem (Campolim and Machado, 1997). In 1997-98, the production increased to 76 000 dozens due mainly to the increase in market demands and increase in number of un-employed people. In 1999, harvesting decreased again to some 47 000 dozens a month (Sales and Maldonado, 2000) due to several climatic factors and also an increasing control of IBAMA that had declared the area as APA: Environmental Protected Area.

Since the beginning of the Extractive Reserve, there was a preoccupation with the sustainability of oyster harvesting. Fisheries researchers, particularly from the State Fisheries Institute, have carried out a two-year survey on the carrying capacity of

the mangrove in the Cananéia Municipality. Pereira and others (2000c and 2001a) estimated that there are 16 774 686 dozen oysters, of which only 1 550 000 dozen oysters are of the commercial size greater than 5 cm. Pereira and others (2000c and 2001a) estimated that the annual maximum sustainable yield of oyster is 700 000 dozen oyster or approximately 58 000 dozen oyster per month in Cananéia mangrove. Bastos (1997) estimated the maximum sustainable yield in the Mandira Extractive Reserve to be approximately 240 000 dozen per year or about 20 000 dozen per month.

The Cooperostra total annual sale in 2003 was 29 000 dozen, less than the estimated carrying capacity of the area exploited (around 58 000 dozen oyster per month). These results suggested Cooperostra members could slightly increase production without compromising the oyster stocks. As the total commercialization in 2013 was also 29 000 dozen oysters, Cooperostra could also increase their harvesting as suggested by the Bastos (1997) findings. Although surveillance functions well in São Paulo, some harvesters go to the neighboring state of Paraná to harvest oysters and sell to middlemen. These oysters are taken to the market without any sanitary precautions and their price is lower than the one paid by the Cooperostra that has had the federal sanitary certificate (SIF) since 1990s.

6. THE ECONOMICS OF COOPEROSTRA: PRODUCTION AND MARKETING AND MEMBERS' INCOME

6.1 Production and price

There is a lack of registered information on the production and marketing of oysters, particularly in the two years when the cooperative was under the fraudulent management of an external administrator (2000-2001) that almost caused the bankruptcy of the cooperative. When the members took over the management, there was also a lack of experience in bookkeeping by the new internal administrators. But, due to the reports of the supporting institutions, some basic information became available. In the first years, Cooperostra had to establish solid commercial links with buyers along the São Paulo coast and the Capital, facing competition of other producers, especially from those oyster cooperatives of Santa Catarina and from middlemen that offered the wild oyster illegally harvested for a lower price. Some buyers argued, however, that Cananéia oyster was known in the market for its high quality due to the excellent environmental conditions of the estuary. It took time for buyers to accept that the health certificate (SIF) was necessary for the commercialization of oyster.

PHOTO 4
Cooperostra member harvesting oysters

Source: http://diariodojrb.blogspot.com.brmundo.

The initial annual commercialized production (1997 to 1999) was 15 000 dozens of oysters and increased to 35 000 dozens in 2000 when an outside administrator relied on two professional sellers responsible for the contacts with the clients. When this administrator was dismissed (by fraud) and the professional sellers took the addresses and contacts of the buyers, Cooperostra's new internal managers had difficulty in re-establishing the commercial links and from 2002 to 2005, production decreased to 25 000 dozens of oysters commercialized (Medeiros, 2006).

When young, educated people (mainly from the Mandira Extractive Reserve) were trained in 2005 and gradually re-established the connection with the buyers, the commercialization increased to 30 000 dozens in 2006 and 33 000 dozens in 2007, when the Management Plan for Mandira Extractive Reserve was completed.

According to field data from July 2013, 29 000 dozens were commercialized, some 12 percent lower than 2007. According to the new administrators, this reduction is due to competition from other producers, particularly from Santa Catarina and buyers that continue buying "wild" oysters without a health certificate. The number of buyers also fell from 120 in 2007 to 50 in 2013 due to the reduction of the administrative staff and dismissal of the professional sellers. However, this smaller number is comprised of frequent buyers that pay regularly, creating a secure relationship with Cooperostra (field work, July 2013).

According to field data (2013), there are 18 members that regularly commercialize their oyster through Cooperostra, using 130 rearing beds (Photo 4). The majority of these members (14) are from the Mandira Extractive Reserve (who have around 80-90 rearing beds). From the 18 members, 5 are women, 4 from Mandira and one from another village. The number of rearing beds is growing consistently from 100 in 2005 to 130 in 2013.The average yearly delivery of oysters by member was around 1 300 dozens in 2005 and 1 600 dozens in 2013, with a high proportion of large oysters that have a higher market price.

The number of oyster dozens per rearing bed was around 300 in 2005 and 223 in 2012, indicating that most of the members are leaving oyster in the beds for longer time in order to achieve a bigger size and consequently a higher market price.

According to the managers, in the last 5 years, no Mandira Extractive Reserve member harvested oyster outside the 1 600 ha reserve area, as had occurred before the establishment of the sustainable use protected area. As of 2013, Ibama (National Institute for Environment) had certified around 27 000 oyster dozens in the rearing beds during the oyster closed period (Dec-Feb), 90 percent of them in the Mandira Extractive Reserve.

The transportation of the product from the rearing beds and the first cleaning of oysters are done by the cooperative members. The depuration process, packing, and equipment maintenance are done by a cooperative member that also functions as the manager. In the peak period, members also participate in the depuration and packing processes (field data, 2013).

Cooperative members are also responsible for the transportation of oyster to the buyers (twice a week during summer and once during winter), using the cooperative van and receiving around 60 USD for driving and marketing the oysters.

The dozen of medium size oysters (5-8 centimeters) is sold to the Cooperostra at 1.5 USD and the larger (8-10 centimeters) is sold at 2.5 dollars, after discounting the costs of depuration, packing and transportation (field work, 2013) (Photo 5). An important management measure was recently introduced by the general assembly in 2011 that established equal quota of oyster delivery for each member, as before, some members, particularly from the Extractive Reserves, were benefitted more than others. Only when the demand is high can all members deliver, particularly during the closed period;

a higher supply is provided by those members with available oysters in their rearing beds. It was also mentioned by the managing group that a lower volume of oysters can provide a higher income to producers, reducing the total amount of harvested oysters (field data, 2013).

According to the present managing group of members, in order to attain economic sustainability, the desirable amount of commercialization would be 700 dozens weekly or 33 600 dozens annually bought by a reduced number of buyers, therefore reducing transportation costs (field data, 2013).

PHOTO 5
Oyster from Cooperostra

Source: http://www.pick-upau.org.br

TABLE 4
Average estimate of total dozen of oyster Cooperostra sold annually, administrative situation and number of regular members/rearing beds

Years	Yearly production in dozens	Managing situation	Number of regular members	N° of rearing-beds
1999	15 000	Initial phase, search for buyers, inexperience, outside administration	21 regular, 32 non regular	15
2000	35 000	Fraudulent management	–	
2001	33 000	Dismissal of outside administrator and begining of crisis		
2002	20 000	Loss of members, continuing crisis		
2004	20 000	Continuing crisis		
2005	30 000	Regaining confidence, self-administration, trained young people	23 regular members, 14 members from Mandira and 9 from other villages	100
2010	–	Self-administration	22 regular members: 17 from Mandira and 5 from other villages	120
2013	29 000	Self-administration Reduced personnel	18 regular members:14 from Mandira and 4 from other villages	130

Data: Cooperostra, Forestry Foundation, Medeiros (2006), Garcia (2005). Field data, 2013.

Table 4 summarizes the situation of Cooperostra in terms of dozens of oysters sold (from 33 000 yearly in 2001, 30 000 in 2005 to 29 000 in 2013). Members regularly delivering oysters to Cooperostra decreased from 23 in 2005 to 18 in 2013, a reduction that occurred mainly in the number of members from villages other than Mandira. Cooperostra leaders say that although there was a decrease in membership, the remaining members are very active and stable, increasing the number of rearing beds from 100 in 2005 to 130 in 2013 (a 30 percent increase).

6.2 Income from oyster selling

Since the beginning of the Mandira Extractive Reserve and Cooperostra in the late 1990s, incomes have significantly increased. This income increase has not been evenly distributed within cooperative members because it depends on the amount of oyster dozens each member can deliver to Cooperostra. On average, income is about 671 reais or 320 US dollars monthly. For most of the Mandiran cooperative members who deliver oysters only to Cooperostra, it reaches around 1 340 reais or 638 US dollars monthly only from oyster selling. In the families where women have their own rearing beds (5 cases in 2013), the family income doubles. Other sources of family income mentioned before (sewing projects, fees from ecotourism, visits from schools, etc.) should be added to oyster selling. Although this additional income is not constantly produced, it is estimated that it represents 10 to 15 percent of the monthly income of members, particularly of those participating in the Mandira Extractive Reserve. The higher income is reflected on the improvement of houses, purchase of cars, bicycles, TV sets, refrigerators, etc.

6.3 Other sources of income

In addition to the activities of women explained earlier, men fish for home consumption, and men and women collect crabs for selling, particularly in the 1 800 ha of mangrove of the Mandira Extractive Reserve. Trained young people also get some income through receiving groups of students that come from São Paulo to learn about the organization of Cooperostra. Explanations are given by trained young people on the functioning of the cooperative and of the extractive reserve, receiving 1 USD per student and around 50 USD when ecotours are organized to visit the mangrove ecosystem to learn and enjoy bird watching (Photo 6). Some groups stay at Mandira houses during the night, listening to stories and traditional songs and contribute 3 USD for each meal provided. Frequently, these groups come year-round and are a good source of additional income. Additionally, women of Mandira have created different types of oyster dishes that are also sold in the different fairs in the cities of the region.

The interest of different social groups, particularly from the outside school students, is a source of increased pride for the Mandirans of the Extractive Reserve but also for the Cooperostra. They also take pride in the recognition of their efforts from local, national and even international media.

7. EMPOWERMENT OF WOMEN AND YOUNG PEOPLE

In the survey undertaken by SEAD in 1977, some 23 percent of the 53 members that delivered oysters to Cooperostra on a regular and non-regular basis were women (Garcia, 2005). These women harvested wild oysters from the mangrove, did not have their own rearing beds and only delivered oyster to the cooperative on a non-regular basis. They seldom participated in cooperative assemblies. This situation changed from 2005-2006 when women started to have their own rearing beds and participate more actively in the day-to-day life of the cooperative. There were 3 women from the 23 members that handed oyster to be commercialized by the cooperative and

5 since 2010 (Field work, 2013). Some of them are wives of present members that decided to establish their own rearing beds in order to increase the family income. Other economic activities pursued by women include: processing cassava for home consumption, sewing projects, production of T-shirts with the Cooperostra symbol, wood handicraft, etc.

PHOTO 6
Tourists visiting Mandira Extractive Reserve

Regarding young people, the level of education of the children in the region is the lowest in São Paulo state. However, the level of education is increasing and students in Mandira are going to middle school in a neighboring village, some 12 km away. Nowadays, some of those who finished middle school are going to colleges and faculties in Registro, the main city of the Ribeira River Valley. The training of young people from cooperative family members, promoted by the support institutions, particularly the Forest Foundation, was crucial to form a new generation of people that were charged with the self-administration of Cooperostra since 2006. The two last presidents of the cooperative were trained through those courses.

8. MANAGEMENT CHALLENGES AND SHORTCOMINGS

a) Centralized decision making process. Although Cooperostra is now responsible for self-management (since 2005) and most important decisions are taken by voting in the general assembly, the day-to-day business decisions are taken by two members responsible for management. Regular communication is weak between the members as only one cell phone is available at Cooperostra and most of the time it is used to receive calls from buyers.

b) External debts that accumulated from 2001 during the administration of the fraudulent, outside manager have only been partially repaid. One of the largest reasons is due to State Government taxes on oyster marketing, which is higher in São Paulo than Santa Catarina, the largest competitor to Cooperostra. In addition, the approximately 25 000 USD taken fraudulently by the outside manager has not yet been recovered, although he has been convicted and flown from the city.

c) Lack of adequate bookkeeping records: in recent years, the data recording is poor due to overcharge of managers/cooperative members.

d) Lack of contributions from members to build the reserve fund established by the by-laws that would be equivalent to 10 percent of the yearly profit of the cooperative. This fund should be used for overall maintenance of items (the van utilized for oyster transportation, computers, telephones, equipment in the depuration plant) and to pay for SIF required examinations, etc. Due to the

financial crisis caused by the external administrator in 2001, this fund has never been established. As result, members themselves pay for every major expense, such as boxes for packing oyster.

e) Risk of losing the health certificate provided by the Federal Inspection Service (SIF). The certification requires increasingly expensive laboratory tests and the Cooperative is not in a position to pay for all of them. The directors claim that this payment will be made on a regular basis as soon as the financial situation of Cooperostra improves. As middlemen do not have this certificate, their costs of commercialization are lower than those of Cooperostra.

f) Unfair allocation of oyster marketing to some few and more active members. This situation has been only recently solved by the establishment of equal quotas of oyster for commercialization for each member.

g) Conflicts with neighbouring communities that claim that the Mandira Extractive Reserve, to which most of the regular members belong, receives most of the funding from State agencies and NGOs. To some extent, the average income of Mandirans has been raised more than other communities because they have been the most active members of the Cooperative. But it is also true that the cooperative has no clear conflict resolution mechanisms. Penalties are rarely applied to members that disobey the established rules (as most of them are relatives), but in some cases, recidivist members accused of consistently selling oysters to middlemen were expelled from Cooperostra.

9. COOPERATIVE/EXTRACTIVE RESERVE: POSITIVE IMPACTS ON MEMBER'S LIVELIHOOD

In spite of crisis, Cooperostra is still functioning and raising the income of regular members after 15 years (very uncommon as far as small fisheries cooperatives are concerned).

Socio-economic impacts

The average level of members' income derived from commercialization through the Cooperative is higher than the average income of small producers, particularly of fishers in Cananéia.

a) Improvement in the level of access to health and education services. Training of young people for cooperative management has been a priority and several courses have been completed both at the Mandira Extractive Reserve and Cooperostra, enabling Cooperostra to partially achieve self-management.

b) Improvement in self-management capabilities, particularly for women and young people, due to the continuous training of young people that have played an important role in the self-management of the cooperative since 2006.

c) Impact on the level of social and political participation of Rema (Extractive Reserve of Mandira Association) and Cooperostra members in social and environmental movements of the region. At a municipal level, their representatives participate in the Cananéia Network (Rede Cananéia), a collective of 23 local organizations created in 2004 which aims at strengthening community initiatives in the domain of traditional culture, sustainable management of natural resources and environmental education. At the regional level, the Mandira community leaders are represented at EACONE, an organization linked to the Catholic Church which actively defends the rights of *quilombolas*, indigenous and *caiçaras* communities. They also participate in the Movement of People Threatened by Dams, an organization founded in 1991 to resist the construction of several dams along the Ribeira River where many communities live (UNDP, 2012). Cooperostra is also part of the international Slow Food network that promotes

traditional local cuisine, and has participated in exhibitions sponsored by this organization in Italy. It also hosted participants of the COP 8 of the Convention on Biological Diversity held in Curitiba in 2006. Cooperostra leaders have also actively participated in disseminating oyster management activities in communities in and outside the São Paulo state that are interested in starting oyster production. For example, in the case of the coastal communities of Paraty in Rio de Janeiro State, representatives of these communities visited Cananéia to learn about the way local communities, particularly Mandira are organized.

d) The model of governance at Cooperostra and Rema has been spread by the use of television, films and printed media. Since the beginning, there has been a high interest in these projects, including some 10 television programs, two of which aired on the largest stations in the country. They also gained interest from researchers and scholars from different institutes and universities that produced several theses and dissertations, as well as ten articles in magazines and 30 newspaper articles (UNDP, 2012).

e) Impact on the establishment of additional extractive reserves benefiting other communities such as Taquari and Itapanhoapina in Cananéia.

f) Impact on the self-esteem of cooperative members that until the building of the Extractive Reserve and Cooperostra were socially marginalized, and now are proud of their achievements. The cooperative members attracted the first visit of Federal Ministers to the region: the Minister of Environment inaugurated the Depuration Station in 1999 and the Ministry of Fisheries and Aquaculture visited Cooperostra in 2002. Apart from being the most well-known local initiative in the whole region, Cooperostra was one of the finalist organizations for the Equator Initiative Prize, which was received by its president in Johannesburg in 2002 (Photo 7). These recognitions motivated Cooperostra and the Extractive Reserve members to overcome many of the existing difficulties. During the field work, the researchers felt that the members were optimistic about the future of their organizations.

PHOTO 7
Cooperostra and Rema President holding Equator Initiative Prize in Johannesburg

Source: http://www.pick-upau.org.br

10. COOPEROSTRA AND THE FUTURE

In spite of numerous shortcomings and obstacles, Cooperostra and the Mandira Extractive Reserve can be considered a benchmark and the beginning of a turning point in development projects initiated in previous years by the Government. These

two organizations were created by social mobilization in poor coastal communities, particularly in Bairro Mandira, with the initial and crucial support of non-government organizations and research institutes. For at least two years (1993-1995), Mandirans discussed which kind of organization they would like to establish until they built the first organization that led to the Extractive Reserve and later (1997) the establishment of a cooperative. After 1995, the involvement of small government institutions (and foundations) took over and strongly supported the newly-created local organizations, bringing funds from different sources.

Unfortunately, similar mobilization did not occur in most of the villages that joined the cooperative, although some meetings were organized to explain the reasons for a cooperative for oyster management and production. This insufficient social mobilization was one of the reasons that led to the abandonment of the cooperative during the crisis caused by fraudulent management by an outside manager from 2000 to 2011. The negative consequences lasted for years, but the remaining members created a self-management system, established equal quotas for members, reduced costs and survived, even when external funding came to an end in 2006. It can be said that the cooperative did not go bankrupt mainly due to the enthusiasm and courage of the members that belonged also to the Mandira Extractive Reserve.

The current self-management small team is aware that the cooperative is not yet fully self-sufficient. The goal is to commercialize 33 6000 dozens a year to make Cooperostra self-sufficient economically and deliver oysters to a select, smaller number of buyers that pay regularly, thereby reducing costs, particularly transportation.

The management team is also aware of the need to build capital through regular contribution of members in order to replace/maintain equipment and reduce costs to compete with other firms and cooperatives, particularly those coming from Santa Catarina state.

The role of young people trained in cooperative management and the increasing role of women managing oysters and participating in the cooperative meetings has started to build a new and more positive scenario.

During field work meetings, the managing group and some members said that they are happier now due to self-control of the cooperative compared with the previous control of external managers that considered Cooperostra only as a profit-searching firm.

It can be said that the motivation for cooperative work is higher than before, stimulated by the interest these local institutions continue to rise regionally, nationally and even internationally.

11. RECOMMENDATIONS FOR COOPEROSTRA

a) Determine the amount of the cooperative reserve fund as established in the by-laws, calling an extraordinary general assembly to decide the amount each member should contribute in order to maintain existing depuration equipment, transportation vehicles, communication systems, etc.
b) Call a meeting with the supporting agencies to advice on modalities to repay the debts at the federal, state and municipal levels. Some of these debts could be waved, particularly at the state and municipality levels in view of the contribution of Cooperostra to the local economy in terms of employment and income to small-scale producers. Additional efforts should be done in order to regain the amount of 30 000 US dollars that was taken by the external administrator who was put on trial and convicted.
c) Expand the yearly production from the present 29 000 to 33 600 dozen oysters to make the Cooperostra self-sufficient as stated by the Directors' Body.
d) Expand the present commercialization level to include the market of the State Capital as recommended in the previous business plan.

e) Negotiate the continuation of the health/sanitation certificate with the Federal Inspection Service (SIF).
f) Continue the on-the-job training of young people to ensure the continuation of a stricter bookkeeping and secretarial job.
g) Expand the training courses for oyster cultivation in surrounding villages as it was done in the recent past.

12. COOPESI – COOPERATIVE OF ARTISANAL FISHERS OF SANTA ISABEL

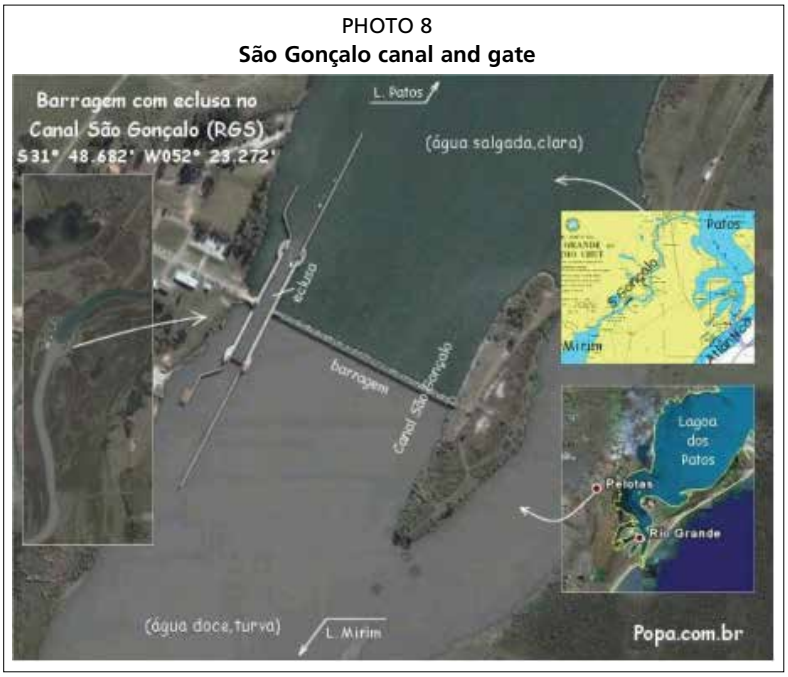
12.1 Location, natural resources and community

Coopesi is located in the community of Santa Isabel in the municipality of Arroio Grande in Rio Grande do Sul State. This community is located at the São Gonçalo Canal that links Dos Patos and Mirim Lagoons at the southern border of Brazil and Uruguay (Map 3).

MAP 3
Location of Santa Isabel village

Lagoa Mirim is today a freshwater ecosystem due to a dam that was built in 1977 that separated this lagoon from the mixed water Dos Patos Lagoon. This dam favors mainly rice plantations and fishers were not consulted before this change. Today, fishers rely only on freshwater fish (Photo 8).

PHOTO 8
São Gonçalo canal and gate



In 2005, there were 120 families of which approximately 74 lived on artisanal fishing. On average, there were 5 children per family. There were 55 motor boats (2.5 tons) and 34 small non-motorized boats (ASCAR-EMATER-RS).

PHOTO 9
Santa Isabel village

Santa Isabel is a small and rather isolated community, with poor road connections to the main regional cities as Rio Grande, some 170 km far away (Photo 9). Apart from fishing, the main activities are linked to commercial rice plantations. Illiteracy rate is high and public services are poor.

13. CO-MANAGEMENT AND THE ESTABLISHMENT OF THE COUNCIL – COMIRIM – COOPERATIVE COUNCIL FOR THE CO-MANAGEMENT OF MIRIM/MANGUEIRA LAGOONS

In the late 1980s and 1990s, there was a clear reduction of stock in the lagoon. Fishers and the Municipal Secretariat for Fisheries organized several meetings to find the causes of this reduction that was deeply affecting the livelihood of fishers. The initiative was supported by universities and extension services. By that time, fishers from outside, particularly from Dos Patos Lagoon, used to fish in the smaller Mirim Lagoon, which led to conflict with local fishers.

The main driver behind the cooperative was the need for social organizations to establish a fish regulation system specific to the Mirim Lagoon. There was a need to limit the access of outside fishers to the resources of the lagoon that was under stress as a result of the strong hydrological and biological changes due to the dam construction. In 1996, a Council (COMIRIM) was established for that purpose with strong participation of fishers.

One of the fishers' demands was the establishment of specific legislation for the lagoon and the São Gonçalo canal, as previously, there were only general regulations for inland fishing (Photo 10). In these meetings, in addition to fishers, several institutions such as universities, research institutions and the state extension service ASCAR/EMATER/RS also participated. In 1993, specific legislation was issued by IBAMA (Federal Institute for the Environment) limiting the fishing efforts in the lagoon through prohibition of certain nets, conservation of wetlands and requirement of an annual fish license as a way of limiting the access of outside fishers). The control of outsider fishers met some resistance from fishers outside the lagoon, but an agreement was reached.

PHOTO 10
Community of Santa Isabel

14. GOVERNMENT SUPPORT AND INTERVENTIONS

In 1993, in order to find new employment alternatives for fishers affected by the dam, state and municipal governments started a project to re-stock fish in Mirim Lagoon. This initiative had the support of universities and extension services.

A fish culture station was built to produce fish larvae in order to re-stock the lagoon. King fish (peixe rei-Odenthestes spp) and jundiá were the species selected for this experience. In 2000, state funded projects were established on drinking water supply and funds were available for extension services and income generating on fishing activities. In 1998, additional funds were used to build the first small ice producing factory.

In 1994, local fishers had access to complementary income from the fishing ban from November 1 to January 31 and in 1998, they were able to obtain funds from PRONAF (Programme of Strengthening of Small-Scale Agriculture).

15. THE COOPERATIVE – COOPESI

The cooperative possesses two buildings: one where the fish is processed and another one that holds an ice plant and a cold storage. It also has an appropriate truck for commercialization of the production.

The cooperative purchases the fish product from the associates and other local fishermen. For the partners, it pays a differential of R$ 0,40 on average, but about R$ 0,20 is retained for administration of the cooperative. Coopesi usually pays its partners every fifteen days. Additionally, the cooperative participates in events where fish dishes created by female partners are sold, including a street market held in the city of Arroio Grande every Saturday morning. One of the main issues discussed in the co-management council (COMIRIM) was the fish trade, as it was controlled by traders (middlemen) who paid little for the local fish. As a result, a group of 28 fishers signed a document creating the cooperative and the number of members increased consistently – today there are 41 associated members. Approximately 5 women are members of the cooperative, some being fishers. The cooperative is managed by one president and one vice-president, one accountant, 1 secretary and 3 fiscal officers.

15.1 Fish harvesting and income

Yearly production (2005) was around 565 tonnes and the main freshwater species were: trahira (*Hoplias lacerdae*) representing 65.5 percent; South America catfish (Rhamdia spp) with 11.5 percent; pintado catfish (Pimelodus maculatu) with 10 percent. Other species are silverside (Odenthestes spp) and *tambica* (Oligosarcus robustus) (Table 5 and Photo 11).

TABLE 5
Fish production and value

Fish species	VOL In tonne		Value for kilo with/without processing	
			Without processing	with processing
Giant Trahira	55.80	9.85%	R$ 1.40	R$ 5.85
Trahira	371.34	65.55%	R$ 0.70	R$ 4.50
Silverside	9.27	1.64%	R$ 0.80	R$ 6.00
Viola catfish	9.27	1.64%	R$ 0.80	R$ 6.00
South America catfish	64.98	11.47%	R$ 0.40	R$ 3.00
Pintado catfish	55.80	9.85%	R$ 0.30	R$ 3.00

Source: Ascar/Emater-Fisheries project Santa Isabel, 2005

PHOTO 11
Boats of artisanal fishers in Santa Isabel-COOPESI

According to the field work in 2013, a cooperative member may harvest between 600 to 900 kg per month. After discounting the costs of ice, fuel and food (around 720 reais a month), a cooperative member may earn from 960 reais to 1 880 reais per month (or around 480 to 940 US dollars/month) according to the availability of stocks, biological/climatic conditions, etc.

15.2 Fish commercialization

Institutional sales, such as sales to schools, have been one of the main ways to guarantee commercialization of product for the cooperative. For example, the cheek of trahira (*H. malabaricus*) is a specialty of the cooperative that is sold to nurseries and schools since it does not have any type of bone and it can be prepared in several dishes.

Although one of the main markets for the cooperative is processed fish for government nurseries and schools, there are other efforts to increase commercialization through a regional network called *Rede Solidária de Comercialização de Pescado da Região Sul* do Estado (Solidarity Network for Fish Commercialization of the Southern Region).This network includes several municipalities, fisher organizations and 4 fishers' cooperative including COOPESI. It is also aimed at making better use of existing commercialization infrastructure (e.g. storing, transportation, etc.).

The establishment of the cooperative has increased the price received for fish, particularly after the state promoted the Fish Acquisition Programme (PAA Programme) for donation for consumption in schools. For example, the fish locally named tambica (*Oligosarcus robustus*) that before the Programme was sold at R$ 0.40 cents was bought at RS 1. Processed fish also received a higher price: Trahira (*Hoplias lacerdae)* are sold at R$ 4.50 per kilo and without processing is sold at R$ 0.70 per kilo (See Table 5).

Launched in 2003, Brazil's PAA is a government-sponsored food procurement programme that utilises the productive capacity of family farms by supplying food to local public school feeding programmes, food banks, community kitchens, charitable associations and community centres for the needy. The programme has a dual function of providing market access to eligible family farmers—by purchasing crops at fair prices based on the regional market average—and contributing to food security through (mainly) donations to vulnerable groups. The PAA is an open program and the city is qualified to elaborate and present projects for CONAB. In the modality of simultaneous donation, the products acquired for the city hall, through view of federal resources, are donated to the devoid families of the city in the modality of acquisition. The products are placed in feeding baskets to be distributed in specific situations or in the modality of institutional purchases. The products are distributed to agencies that need daily feeding including penitentiaries, hospitals, military quarters and universities. There is also the National Program of School Feeding, where the federal government assists cities in acquiring food for public schools. Under this program, it is mandatory to acquire 30 percent of the products from family farmers, a category in which artisanal fishing is classified.

15.3 Ice production and fish processing plant

As a result of cooperation between several institutions at different levels, the Santa Isabel community was able to get an ice machine through the Polo Pesqueiro Programme, a former program of the Ministry of Science and Technology that develops local technologies for regional vocational products. A processing plant was constructed in a plot given by the municipality and equipment was purchased using resources from the state (Rural Programme-Fisheries RS) and the federal government. The processing plant was important for Coopesi to add value to their catch and prepare fish for commercialization.

15.4 Health certificate and inspection

The cooperative operates through a sanitary certification provided by the municipality (System of Municipal Inspection) that allows commercialization inside the limits of the municipality. It is seeking a certification with a broader license provided by the State Agriculture Secretariat (CISPOA) that allows for commercialization in other municipalities of the state. Several expensive laboratory analyses are required in order to get the certification and the cooperative is not in a financial position to pay for all these analyses, so it is asking for state support. The cooperative is also asking for more strict surveillance over those who commercialize fish without these certification documents as they trade fish at a lower price and lower quality.

15.5 Role of women

The women of this community play an important role in the effective exercise of the fishery, distinguishing them from other communities in the region. Many women embark daily with their children to place the nets in the fishing points in the morning and collect them in the afternoon. Through these responsibilities, they encourage women leadership roles with greater magnitude than other communities.

Women played an important role in the establishment of the cooperative. One of them, the president of the local fishers' guild, was among those who founded Coopesi. The women also organized a community kitchen that prepares dishes for large events such as fairs and expositions (Photo 12). This group of women also trains people who prepare fish dishes for schools, funded by PNAE-National Programme for School Feeding.

Fish production in Coopesi is mainly carried out by women, including cleaning, fileting, and packaging. Women also participate in the markets held in Arroio Grande and other cities.

PHOTO 12
Special Dish prepared using local low- cost fish

15.6 Management problems

Management is an ongoing challenge for the cooperative. Coopesi continues to receive support, mainly from the newly created cooperativism units within ASCAR/EMATER-RS, the extension work institution from the state administration. Working with the cooperative, this institution identified several bottlenecks in the production and commercialization process. There was a need to organize a document of internal rules including criteria for staff selection, financial control, etc. It was recommended that a market survey be conducted to identify new opportunities for marketing and organize accounting of sales. At the end, a Coopesi Improvement Plan was established.

Until now, the members met once per month and had a yearly general assembly to discuss the financial situation and decide on the use of the remaining money, when a surplus occurs (Photo 13). The cooperative also has an emergency fund.

Fishers and the cooperative complain about the lack of continuity of programmes initiated by state authorities (Federal, State Municipality) and universities. There is an increasing demand for extension services that are considered insufficient by fishers. Today, Emater has indicated a specific extension worker to provide technical support to the Cooperative.

PHOTO 13
Field work. Meeting with COOPESI, 2013

In order to identify the opportunities and constraints, the Cooperative, with the support of ASCAR/EMATER/RS, has identified the issues presented in Tables 6 and 7.

TABLE 6
Strengths/opportunities of Coopesi

Strengths	Opportunities
Cooperative member New ideas for management Women contribution Willingness to cooperate Recognition of other members' contribution	Credit from banks Infrastructure already built Acquiring health certificate

TABLE 7
Weakness/threats to Coopesi

Weakness	Threats
Lack / better use of raw material Lack of interest/participation of some members Lack of criticism acceptance Lack of consultation of member by the cooperative management Lack of care for the cooperative assets by some members	Fish traders Intrigue among community members

15.7 Benefits from COOPESI and from social mobilization

The Cooperative is also a product of a movement that occurred at the beginning of the 1990s, culminating in the organization of the COMIRIM, a Consulting board with the objective to intervene in the creation of the norms and effective rules in the Mirim and Mangueira Lagoons. It was understood that this organization should dominate the process of improvement and commercialization. Thus, the idea of the cooperative was constructed and consolidated in the decade of 2000.

The social mobilization that led to the establishment of the Cooperative resulted in the amelioration of the living standards of the community of Santa Isabel. In addition to raising the income of Coopesi members, villagers were able to get tap water, access to a public housing scheme, an internet center, a community kitchen and infrastructure for fish processing and marketing (ice production, trucks for fish transportation). Several training courses on cooperativism, fish processing and related issues were organized

by the supporting agencies, such as ASCAR/EMATER-RS. Even more important was the increase in self-confidence of fishers who obtained social recognition and support of village members and were also able to mobilize several government partners and universities through the projects mentioned above. Cooperative members have visited other cooperatives in the State of Rio Grande do Sul, to exchange experiences and have also received researchers and other people interested in learning about the Coopesi experience.

15.8 Recommendations

1. Improve the management of the cooperative through implementation of the measures agreed upon with ASCAR/EMATER –RS. There was a need to organize a document of internal rules including criteria for the selection of staff, financial control, etc. It was recommended that a market survey be conducted to identify new opportunities for marketing and also reorganize the sales accounting system. At the end, a Coopesi Improvement Plan was established.
2. Find resources to get the State Health/Sanitary Certificate-CISPOA that allows for commercialization outside the municipality of Santa Isabel.
3. Improve participation of members in the decision-making process by encouraging participation, fostering professionalization, promoting wider dissemination of the importance of cooperatives within the community, and developing rural extension services and technical assistance.

16. SOME ELEMENTS FOR COMPARISON BETWEEN COOPEROSTRA AND COOPESI

It is challenging to compare the development of two cooperatives that have grown and developed in two different ecological and socio-cultural environments. However, there are certain key characteristics that have some similarities as well as some differences between these two social institutions.

a) Coopesi is based on fish harvesting that depends upon availability of resources in different periods of the year. Cooperostra is less dependent on the availability of natural resources because oysters are raised in rearing beds and can be kept at any economic costs for a long period. The level of production investment is much less important in raising oysters than for fishing which requires boats, engines, fuel, ice and storage, landing facilities, etc. Risks are higher for harvesting than for raising oysters.

b) The marketing features are also different in both undertakings as fish harvested and processed in Coopesi is mainly marketed to government institutions (nurseries, schools) as daily food. Cooperostra oysters usually have a higher price in the city markets, particularly for specialized restaurants and are considered to be a "delicacy for higher income tourists". Cooperostra faces more intense market competition from cooperatives/firms from other states. In addition, the domestic market for oysters is still small because Brazilians do not have a strong tradition for oyster consumption.

c) Both cooperatives were born as a result of social mobilization against the commercialization system that was controlled by traders who paid little for the products of the communities: oyster and fish.

d) In both cases, there was a preoccupation with the decrease of fish/oyster stocks due to several reasons: environmental degradation resulting from the use of pesticides in rice production in the case of Mirim Lagoon, growing number of fishers and insufficient legislation and surveillance to cope with illegal fishing, particularly by fishers/oyster extractivists outside the local communities.

e) In both cases, there was a need to reduce/end the open access and establish common property management systems. The solution was more radical in the case of the Mandira community where most of the members of Cooperostra came from: they proposed and built an extractive reserve, one of the nature conservation categories in Brazil. The existence of the Mandira Extractive Reserve has been an important supporting basis for Cooperostra. In the case of Coopesi, the community established specific legislation for access and management of the Mirim Lagoon through COMIRIM.
f) Both communities participated in the creation of a management plan that established a system of co-management with supporting environmental institutions.
g) Cooperostra and Coopesi were able to rely on several supporting institutions. In the case of Coopesi, several federal, state and municipal institutions were involved. In the case of Cooperostra assistance came from federal/state institutions, but also from foundations, universities and NGOs.
h) Women play an important role in both cooperatives, although there have not been any female members on either management team. The participation of trained young people was more important for Cooperostra because they decided to manage the cooperative without professional workers. In order to ensure success with a young, relatively inexperienced management team, several training courses were organized to enable young people.
i) Both cooperatives have management problems, especially in the areas of marketing, bookkeeping and staff training. Coopesi relies on hired, specialized staff, but Cooperostra decided to continue with self-management, training some of their members to administer the institution. In both cases, there is a need for continuous training of personnel, a time-consuming process.

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5. Institutions and collective action in small-scale fisheries: The case of Coope Tárcoles R.L., Costa Rica

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ACRONYMS

ACNUR	Agencia de la ONU para los Refugiados (United Nations High Commissioner for Refugees)
CCSS	Caja Costarricense del Seguro Social (National Social Security Branch)
CI	Conservación Internacional (Conservation International)
CNP	Consejo Nacional de la Producciòn (National Council of Production)
COLOPES	Comités Locales de Pesca (Local Artisanal Fishing Committees)
CoopeSoliDar R.L:	Cooperativa Autogestionaria de Servicios Profesionales para la Solidaridad Social R.L. (Professional Services Cooperative for Social Solidarity)
CoopeTárcoles R.L:	Cooperativa de Pescadores de Tárcoles R.L. (Fishermen Cooperative in Tárcoles)
FAO	Food and Agriculture Organization of the United Nations
FEDEPESCA	Federación de Pesca para Centroamérica (Central America Fishing Federation)
FIA	Fundación Interamericana (Inter-American Foundation)
GMA	Greater Metropolitan Area
ICSF	International Collective in Support of Fisherworkers
IMAS	Instituto Mixto de Ayuda Social (Mixed Social Aid Institute)
INCOPESCA	Instituto Costarricense de Pesca y Acuicultura (National Institute of Cooperative Development (The Costa Rican Institute of Fishing and Aquaculture)
INEC	Instituto de Estadísticas y Censos (National Population Census)
INFOCOOP	Instituto de Fomento Cooperativo (National Institute of Cooperative Development)
MARFA	Marine Area for Responsible Fishing
MIDEPLAN	Ministerio de Planificación Nacional y Política Económica (National Planning and Economical Policies Ministry)
MINAE	Ministerio de Ambiente y Energía (Ministry of the Environment and Energy)
PNUMA	Programa de Naciones Unidas para el Medio Ambiente (United Nations Development Program UNDP)
PRADEPESCA	Regional Program to Support Fishing Development in the Central American Isthmus
SSF	Small-scale Fisheries
VG	Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication

1. INTRODUCTION

The case of CoopeTárcoles R.L, a small-scale fishing cooperative in the Pacific Coast of Costa Rica is analyzed as a good practice where lessons learned on issues related to sustainable use of fishing resources, social resilience and the improvement of SSF livelihoods can be shared.

The analysis is expected to reveal, through case studies and participatory research, the lessons learned by organizations that have made positive progress toward improving the living conditions of small-scale fishers and the identity associated with the artisanal fishing sector. It is also expected to identify the positive steps that favor and enable the organization and collective work of artisanal fisheries. These attributes are perceived as a necessity in supporting the artisanal production business and livelihoods of thousands of fisherfolk and their families not only in Costa Rica but also throughout the world.

From our perspective, this process not only involves evaluating data from the focal case study, but also developing a process oriented toward strengthening CoopeTárcoles R.L. as an artisanal fishing organization that has regained its history as a national example of artisanal fishing organization.

Three different national and local organizations have taken part in this study, CoopeSoliDar R.L, CoopeTárcoles R.L and Consorcio Por la Mar R.L. Technical support was provided by ICSF – Belgium.

The present case study was carried out from July 2013 to December 2013. Data were obtained from primary and secondary sources. Primary sources of data included (1) in-depth semi-structured interviews, (2) focus groups with members of the cooperative. Secondary data included: (1) information of a quantitative survey done in 2004, 2009 and 2013, as well as (2) literature reviews: including articles, bylaws, and the main agreements passed by the Administrative Council of CoopeTárcoles R.L. These documents provided information for the analysis of lessons learned of CoopeTárcoles R.L.'s history. The files were also used to prepare a list of people to be interviewed, with the objective of rebuilding the organization's historical process, so both the current state of affairs and the organization's almost 25 years of existence could be evaluated.

Interviews were done face-to-face with fishermen, fisherwomen and youth. Also interviews where done with key informants that included managers, presidents of the Administrative Council, founding partners, and people in the national arena that could contribute information on how the artisanal fishing sector is organized or on CoopeTárcoles R.L.'s organizational trajectory. Interview guidelines were developed (see appendix). These guidelines were used to locate people who are relevant to CoopeTárcoles R.L.'s history.

Four meetings were conducted to share the information compiled with the fisherfolk members of the organization, the administrative board and the key people in the community. The first delivery of information to members of the Board of Directors was done on 24 October 2013; it covered the progress made in identifying information gaps. On 19 November 2013, a public event was held on the beach to talk about the process, its findings, and to receive feedback. On 9 December 2013, a summary of the preliminary results of the study was presented to all the associates during the CoopeTárcoles R.L. General Assembly.

A final meeting was conducted with the participation of a member of the International Collective in Support of Fisherworkers (ICSF), and CoopeSoliDar R.L. technical team. The main objective of the meeting was to discuss and analyze the long-lasting lessons of the organization based on the case study results. The purpose is to share these findings at both regional and global levels.

2. ECONOMIC, SOCIAL, AND ENVIRONMENTAL ELEMENTS RELATED TO SMALL-SCALE FISHING IN COSTA RICA

Costa Rica is a country with ten times more area at sea than on land, i.e. 51 100 km^2 of land and 449 000 km^2 of marine territory. It has approximately five million inhabitants, who are concentrated mostly in the country's urban center, also called the Greater Metropolitan Area (GMA). Currently, its external economic sector is fairly dynamic and is based on agriculture, services, and technology exports (State of the Nation Program, 2012).

The extensive marine territory makes the use of marine and coastal resources a crucial issue for the country's sustainable development. The use of these resources is also vital for the wellbeing of communities that are deeply linked to the marine ecosystem both in the Pacific and Caribbean coasts; especially for those communities whose livelihoods are directly linked to food production, recreation, and tourism.

According to the journal *Informático*):

> "Costa Rica is a country with a high level of human development; it occupies the 63rd spot on a list of 187 countries. It has the longest life expectancy in Latin America and its democracy is more than 100 years old. However, it is also a country with high levels of discrimination and with the lowest citizen participation in all of Latin America."

Costa Rica is characterized by an extensive middle class and one of the oldest democracies in Latin America. The army was abolished in 1948, 65 years ago. According to the latest State of the Nation report (2012), the country has moderate growth and financial stability, a weak environmental management system, and a problematic social and political system.

> "The country today is at a juncture, in which the development model and democracy in place have been unable to consolidate progress toward sustainable human development that reaches all of its citizens" (The State of the Nation Program, 2012. Pag. 25).

The increased unsustainable patterns in the use of natural resources compromise the wellbeing of future generations. For instance, the ecological and carbon footprint in 2012 was the highest in the last 10 years in the country. Likewise, in 2013 the country is faced with the lowest participation in the democratic system in the last 30 years; citizens express a very low confidence in the political driving of the country which impacts strongly in the voting rate (State of the Nation, 2012, Pag. 57).

Following the State of the Nation (2012), the main reasons for this situation can be found in the following issues:

1. The emergence of a dual economic system where the primary sector is being substituted by a more unequal tertiary sector whose benefits are not accessed by the most part of the population For example: coastal real estate development substitutes artisanal fisheries.
2. A political system that keeps expanding the legal mandate of laws without analyzing the cost of implementing the law, thus creating expectations that the government is unable to meet.
3. Poor, inefficient management that results in inefficient public services and shoddy infrastructure levels.
4. Inability to prevent and punish corruption in public affairs.

According to the State of the Nation Program (2012):

"Costa Rica is entering a historic period where the gains made in Human Development in the past are ending. We cannot continue borrowing from those advances that took place in the second half of the 20th Century."

Some crucial issues related with citizen participation in public affairs are pointed out in the 2013 National Human Development report, entitled "Learning to Live Together: Co-Existence and Human Development in Costa Rica". Among them, increased citizen participation in the decision-making processes and reduced levels of discrimination that almost half of the population suffers are set as important challenges (UNDP, 2013). The document reports that just 22.9 percent of Costa Ricans participate in events held by family-based associations, 14.4 percent are part of sports groups, 13.9 percent are involved in community associations, 5.7 percent are involved in activities of their professional guild, and barely 2.3 percent actively participate in a political party. The report also mentions that 26 percent of Costa Ricans say they have been discriminated against due to their age, 16 percent due to their religion, 14 percent due to their gender, 7 percent due to a disability, 6 percent due to the color of their skin, and 5 percent due to their ethnicity.

3. OVERVIEW OF THE SMALL-SCALE FISHERIES ORGANIZATIONS IN COSTA RICA

This section includes an analysis of the types of fishing organizations that exist in Costa Rica, their number, and their main characteristics. It also includes an analysis of the current legal structure and the public policies related to small-scale fisheries organizations. The objective is to provide a preliminary glimpse on the effectiveness of the different fishing organizations in relation to present public policies as well as to delineate the historical context for the CoopeTárcoles R.L. case study.

In Costa Rica, efforts are planned towards making fishing more efficient as well as towards a sustainable resource use. The Executive President of the Instituto Costarricense de Pesca y Acuicultura (INCOPESCA, The Costa Rican Institute of Fishing and Aquaculture) mentions these subjects in its 2012 Annual Report:

> "We need to change how fishing resources are used. To do so, we have to bet on responsible, sustainable fishing so our water resources and biological resources are made sustainable. This sustainability should be achieved in agreement with the main stakeholder here, fisherfolk and fishing communities. Through the use of these resources, these communities enjoy the possibility of advancing economically and socially. We should not be talking about subsistence fishing or even artisanal fishing as if we are condemning our fisherfolk to poverty. We have everything that is needed for them to be able to live a dignified life full of opportunities. For this to come true, however, as a nation, we must look to the sea. We must face the sea head on and come up with a shared national endeavor. We must lay the foundations and build the roads necessary to build on fishing activities and capitalize on the full extent of their wealth" (INCOPESCA, 2012).

In order to defend their rights, and given the particular nature of the fishing sector, fisherfolk would benefit from participating in organizations and/or acting collectively towards common aims.

We are not discussing commercial organizations, meaning those companies solely created for profit as the main objective, which in any case already have a prevailing role in the fishing sector. We are initiating the discussion from the perspective of artisanal fishing. This type of fishery could be seen as closer to a more responsible and conservation-based use of marine resources. They are also limited by all the characteristics involved in working with small production units.

According to the provisions in its founding law, INCOPESCA, the state entity in charge of coordinating the efforts and activities related to fishing in the country, has

among its functions organizing, fostering, and monitoring the efforts in order to make sure that fishing activities in country are carried out in a sustainable manner:

Law 7384, written for the creation of INCOPESCA, in its Article 2, paragraph a) establishes the relationship between the Institute and the fishing sector's efforts:

> *"ARTICLE 2. For the purposes of this Law, the following are established as the Institute's ordinary activities:*
>
> > *To coordinate the fishing and aquaculture sector, to promote and organize the development of fishing, deep-sea fishing, aquaculture, and research; likewise to foster, based on technical and scientific criteria, conservation and the effective and sustainable use of the sea's biological resources and aquaculture."*

INCOPESCA has an Extension Division within its organizational framework, which should play a highly relevant role in the outreach to fishing communities, providing support for their collective action. The Division is set to enable fishing communities to improve their fishing practices and their quality of life.

The legal provisions established for INCOPESCA's Extension Division go beyond the mere registration of the fishing communities' organizations. The Division must also build up the individual fisherfolk's development capacity, as well as provide them with support to be organized in the more suitable type of organization in accordance with their objectives.

Thus, the institution's policies are based on monitoring and supporting the communities in their search for the most effective means of organization. However, there is no precise targeting or promotion of one or another type of organization because the choice is up to the communities (Jorge Lopez, Director of the Extension Division of INCOPESCA, personal communication).

Despite this, INCOPESCA informs the stakeholders of the pros and cons of each organizational type based on the community's expectations.

In order of importance, the main forms of organization for the artisanal fishing communities in the country are:

a. **Fisherfolk Associations:** This option for collective organization is made up of a minimum of 12 members. The top governing body is the General Assembly, where the policies and standards that govern the group activities are set. The Assembly elects a Board of Directors that serves as an executive entity for the policies formed under the Assembly. Their foundation is relatively simple and registration is quick. This allows the fisherfolk to create a corporate identity in a relatively short period of time.
b. **Local Artisanal Fishing Committees (COLOPES):** These committees bring together at least forty artisanal fisherfolk and receive technical support from INCOPESCA. They were created by a government executive decree and were mostly in place from 1987 to 1995. Currently, none of them are active probably because of lack of follow up and absent extension capacity of INCOPESCA to provide support. Their structure is based on a General Assembly and a Board of Directors.
c. **Fishing Syndicates:** This is a permanent association of workers created at the national level to enhance and protect their common economic and social interests, including the ones of associations and cooperatives.
d. **Cooperatives:** These are organizations involved in the social economy, registered under the Ministry of Labor and Social Security and linked to the National Institute of Cooperative Development (INFOCOOP- Instituto Nacional de Fomento Cooperativo). They may provide services to members

and keep ownership of the means of production at the individual level, such as with CoopeTárcoles R.L. or work under a collective ownership basis such as CoopeThiel R.L. In the former, the associates keep control of the individual means of production and cooperate in specific activities requiring collective action such as the operation of collection centers and marketing. In addition, they offer special services to their members. Meanwhile, endeavors of the latter are owned collectively so the means of production and other activities such as collection centers, marketing, and transformation of their products are organized within that framework. Cooperative organizations have a more entrepreneurial vision, although they are people associations and not capital organizations. Their organizational structure is based on a General Assembly and the Board of Directors, whose members are chosen from within the Assembly. The Board is in charge of the executive work and monitoring the provisions approved in the Assembly. The cooperative has also an Education and Social Wellbeing Committee and a supervision entity called the Oversight Committee. Their entrepreneurial orientation has at its core the existence of management entities in their operating structure; therefore, their foundation and registration is slower in comparison with the types of organization described above. They also involve more complex operations with the existence of a more entrepreneurial, long-term vision.

e. **Other recent forms of organization related to fishing:** It is important to emphasize that associations related to recreational or sport fishing have recently appeared in the country. These types of organizations have members who have left artisanal fishing behind or who combine tourism with artisanal fishing, as well as national and/or foreign businessmen. They are the indicator of a new reality that has developed in coastal communities due to the influx of tourism. In this vein, it is important to mention Consorcio Por La Mar R.L. (a dual tier agency made up of CoopeSoliDar R.L. and CoopeTárcoles R.L.), as a community marine tourism consortium that is dedicated to raising awareness about the way of life in the artisanal fishing communities of the country (www.consorcioporlamar.com).

Table 1 shows the types of organizations existing in the country and their fishing communities. The total number of organizations that are formally registered in the country is 68. There is no information related to the number of actual members for each organization registered.

TABLE 1
Fishing organizations in Costa Rica in 2013

	PUNTARENAS	
ORGANIZATION'S NAME		**FISHING COMMUNITY**
1	Asociación de Pescadores Pangueros Artesanales, Puntarenas	Barrio del Carmen
2	Asociación Cámara Nacional de la Industria Palangrera	Puntarenas
3	Asociación Cámara de Pescadores Artesanales, Puntarenas	Barrio del Carmen
4	Asociación Cámara Puntarenense de Pescadores	Downtown Puntarenas
5	Asociación Unión Independiente de Pescadores Camaroneros (UNIPESCA)	Downtown Puntarenas
6	Sindicato Unión de Pescadores Artesanales de Puntarenas	Barrio del Carmen
7	Sindicato de trabajadores de la Industria Pescadores Artesanales (SITRAIPA)	Puntarenas
8	Cooperativa de Pescadores de Tárcoles,R.L.	Tárcoles.
9	Asociación de Pescadores Cuerderos de Palito, Isla Chira	Palito. Chira Island.
10	Asociación Organizada Cuidemos el Golfo de Nicoya	Palito. Chira Island.

11	Asociación de Pescadores Mixta de Montero, Isla de Chira	Montero, Chira Island
12	Asociación de Pescadores de San Antonio, Isla de Chira, de Puntarenas	San Antonio, Chira Island
13	Asociación de Pescadores de Puerto Nancite, Isla Chira	San Antonio Chira Island.
14	Asociación de Pescadores Isla Chira Bocana Centro de Puntarenas	Bocana, Chira Island.
15	Asociación Pro Bienestar de los Pescadores de Isla de Chira	San Antonio, Chira Island.
16	Asociación de Pescadores Unidos de ChiraBocana Sur, Isla de Chira. ASODEPU	Bocana, Chira Island
17	Asociación de Pescadores Bajo Blanco Chira Island	Bajo Blanco, Bocana, Chira Island.
18	Asociación Local de Pescadores, Florida, Venado Island	Venado Island
19	Asociación de Pescadores de Venado Island	Venado Island
20	Asociación de Pescadores Unidos Colopes de Isla Caballo	Playa Torres, Caballo Island
21	Asociación Regional de Pescadores de Chomes	Chomes
22	Asociación Verde Manglar, Chomes Puntarenas	Chomes
23	Asociación de Pescadores Artesanales Unidos de Cocorocas de Chomes	Cocorocas
24	Asociación Comité Local de Pescadores de Morales de Chomes, Puntarenas	Morales de Chomes
25	Asociación de Pescadores Artesanales Costeños, Costa de Pájaros	Costa de Pájaros
26	Asociación de Pescadores Costa del Pacífico, Costa de Pájaros.	Costa de Pájaros
27	Sindicato Industrial de Pescadores Artesanales Criadores Acuicolas y Anexos de Puntarenas	Costa de Pájaros
28	Asociación de Pescadores Pro Recuperación de Recursos Marinos y Pesca Responsable	Costa de Pájaros
29	AsociaciónColopes de Manzanillo, Puntarenas.	Manzanillo, Puntarenas.
30	AsociaciónComité Local de Pescadores de Corozal de Jicaral, Puntarenas	Corozal
31	Asociación de Pescadores Artesanales Unidos de Barrio La Cruz, Jicaral, Puntarenas	Jicaral
32	Asociación Lepanteña de Pequeños Pescadores de Lepanto. Puntarenas	Lepanto
33	Asociación de Pescadores y Pescadoras Unidos, Playa Blanca	Playa Blanca
34	Asociación de Pescadores de Paquera	Paquera
35	Asociación de Pescadores Artesanales de Tambor, Puntarenas	Tambor
36	Asociación de Pescadores de Cabuya	Cabuya
	GUANACASTE:	
	ORGANIZATION NAME	**FISHING COMMUNITY**
1	Asociación Comité Local de Pescadores Colorado de Abangares.	Colorado
2	Asociación de Pescadores de Colorado de Abangares	Colorado
3	Asociación Comité Local de Pescadores de Puerto Níspero, Cañas, Guanacaste.	Puerto Níspero
4	Asociación De Pescadores del Distrito IV de Quebrada Honda, Puerto Pochote	Puerto Pochote
5	Asociación Local para el Desarrollo de los Pesc. Art. Puerto Jesús, Nicoya	Puerto Jesús
6	Asociación De Pequeños Pescadores Artesanales de Puerto San Pablo	Puerto San Pablo
7	Asociación De Pescadores de San Pablo, Nandayure, Guanacaste.	San Pablo, Nandayure
8	Asociación de Pescadores Puerto Thiel	Puerto Thiel
9	Cooperativa de Autogestión Pescadores de Puerto Thiel, R.L.	Puerto Thiel
10	Asociaciónde Pescadores Coyoteños	San Francisco De Coyote
11	Asociación de Pescadores Unidos de Cuajiniquil.	Cuajiniquil
12	Asociación Cámara de Pescadores Armadores y Act. afines de Guanacaste	Playas del Coco
13	Asociación de Pescadores de San Juanillo, Santa Cruz, Guanacaste	San Juanillo
14	Asociación de Buzos Comerciales de Cuajiniquil, La Cruz, Guanacaste.	Cuajiniquil, La Cruz
15	Asociación de Pescadores Artesanales del Jobo, La Cruz, Guanacaste.	El Jobo
16	Asociación de Pescadores Acuicultores y Afines de Puerto Soley	Puerto Soley

	QUEPOS	
	ORGANIZATION NAME	**FISHING COMMUNITY**
1	Asociación Cámara de Pescadores de Quepos	Boca Vieja, Quepos
2	Asociación Nacional Operadores Turísticos Acuáticos de Quepos.	Downtown Quepos
3	Asociación de Turoperadores de Cetáceos del Parque Marino Ballena	Uvita
	GOLFITO	
	ORGANIZATION NAME	**FISHING COMMUNITY**
1	Asociación Cámara de Pescadores Artesanales del Pacífico Sur	Golfito
2	Asociación de Pescadores Artesanales Conservacionistas de la Isla Puntarenitas.	Golfito
3	Asociación Mixta de Piangueros de Purruja (APIAPU)	La Purruja
4	Asociación de Pescadores de Bahía Pavones	Río Claro, Pavones
5	Asociación de Pescadores Artesanales de Pavones	Quebrada del Higo Pavones
6	Asociación de Pescadores Artesanles de Puerto Pilón, Pavones	Pilón, Pavones
7	Asociación de Pescadores y Piangüeros del Golfo Dulce	La Palma, Puerto Jiménez
8	Asociación de Pescadores de Puntarenitas de Puerto Jiménez	El Colegio Neighborhood
9	Asociación de Pescadores Artesanales Vecinos del Distrito 1° Cortes, Osa.	Barrio San Gerardo
10	Asociación Pescadores de Pequeña Escala y Turística de Zancudo	Punta Zancudo
	LIMON	
	ORGANIZATION NAME	**FISHING COMMUNITY**
1	Asociación de Líderes Limonense del Sector Pesquero	Downtown Limón
2	Asociación de Pescadores Independientes de Limón (ASOPEIL)	Downtown Limón
3	Asociación de Pescadores Artesanales de Barra del Colorado, Limón	Barra del Colorado

Source: Jorge López, INCOPESCA Extension Division, personal communication

As realized during the research process, the Extension Division only registers in its databases those organizations that fulfill all the necessary legal requirements to formalize their existence. This measure is taken with the intention of providing these organizations with economic and training benefits, either through INCOPESCA or some other institution.

The nature of these forms of organization is different from one another. The syndicates are non-profit organizations that have as their main goal the fulfillment of the union's objectives: to defend the labor rights of the union's associates and the workers' interests. The associations are non-profit civil organizations that are initiated from within a strict non-commercial perspective. For example, they can be created with the objective of promoting science, sports, or charity. On the other hand, the cooperatives are organizations whose main objective is to provide services to its members with an entrepreneurial management and operational type. Thus, cooperatives are created with the objective of improving production and benefiting the income gains of their associates.

All of these organizations have legal privileges and, due to the contributions brought to society, they enjoy tax exemptions. Nevertheless, they still have to keep accounting ledgers.

One can conclude that if the objective is to have a social representation of the common interests of fisherfolk, one could opt for a cooperative or an association. On the other hand, if the objective is small-scale fishing production management, a cooperative or a commercial enterprise might be better options.

The following results may be drawn from an initial reading of the INCOPESCA records:

1. **After the decline of the cooperative movement, associations are currently the main organizational form.**

The cooperative movement started in mid-1970s and remained as the most frequent form of organization until the 1990s, with 20 cooperatives then operative. During the 1990s, they slowly began to dissolve, largely due to a lack of institutional attention (Herrera-Ulloa *et al.,* 2011).

In the words of Mr. Orlando Paniagua, advisor from the INFOCOOP (The National Institute for Cooperative Development) during the creation of CoopeTárcoles R.L.: "The cooperative movement peaked in the 1980s and 1990s. After that, the movement's euphoria dissipated. Luis Alberto Monge (President 1982-1986) provided a great deal of support to the movement. After that, not much support was given."

For the purpose of this case study, it is necessary to emphasize that the main difference between an association and a cooperative lies in the underlying objective for organizing in fishing communities. Cooperatives base their main objectives in obtaining benefits as a collective group of people to improve fishing livelihoods and the wellbeing (education, health) of their associates. Their creation is based on values and promotes a long-term view. An association usually has a short-term objective; as has been common in Costa Rica, most have been formed to obtain the official permits for fishing or to receive assets from government.

Fishermen and fisherwomen, on the one hand, may simply want to form a group to deal with hardships and to present themselves as a block. On the other hand, they may want to create productive synergies with a collaborative vision towards generating, in their productive activity, economic profit. In turn, the cooperative model also makes possible for the fisherfolk to cope with the hardship involved in their business.

During the interviews for this report, we tried to clarify why there are such a high number of associations compared to other types of organizations. The response was that there is no bias toward encouraging one form of organization over another from the governmental point of view. Instead, INCOPESCA limits their task to accepting requests for support from each community. In general, the fisherfolk already have an idea on the type of organization they want. There is no clear reason why fishers prefer one or the other model.

The choice of associations as the favorite organization model by fisher communities may respond to their need for an immediate legal representation, which is easier to obtain in the case of associations, and this type of model also is compatible with the institution's expectations for channeling resources and general government support in a short term.

The cooperative as an organizational option for fishers entails a small degree of risk, which is natural for a business alternative. Without taking into account the need to create productive synergies and work chains, these are efforts that imply widespread communication among the members, as well as indispensable investments to make this alternative effective.

Faced with this outlook, because of the fisherfolk's own culture, they see the idea of a cooperative as being too high risk and too demanding. You might say that it requires too much effort.

An association does not imply any financial risk, and if it does, it is minimal. Thus, fisherfolk continue on their own individual path to subsistence. From this perspective, we might think that a cooperative such as the one in this case study implies a higher level of engagement and complexity. There is not just a need to join together to respond to immediate problems but sharing a set of values and principles to sustain a more complex organizational structure: this requires a far-reaching business vision involving commitments and risks.

Nevertheless, the record shows that since last year four new cooperatives have been formalized in fishing communities in Costa Rica. This information is extremely important since it reflects the joint work done by INCOPESCA and INFOCOOP, akin to what has happened in the 1980s that led to the predominance of cooperative organizations in the artisanal fishing sector.

As mentioned in the 2012 Institutional Report:

> "INCOPESCA and the agro-food sector encourage fishing and aquaculture cooperatives. The actions taken by INCOPESCA and the agro-food sector with the support of the Cooperative Advancement Institute involve creating four fishing and aquaculture cooperatives (INCOPESCA, 2012):
>
> COOPEDELIMAR, Cooperativa Delicias del Mar, which is located at Playa Zancudo and which targets housewives who want to market fish product derivatives. It is made up of 9 men and 14 women.
>
> PRECOOPERATIVA DE PIANGUEROS DE CIUDAD CORTES, which is located in Ciudad Cortés and whose purpose is the direct extraction and marketing of "piangua" mangrove cockles (Anadara tuberculosa). It is made up of 24 members.
>
> COOPEBONIFACIO: this cooperative is located in Bonifacio de Penshurt, Limón, and also targets housewives who want to sell products derived from hydro-biological resources and fish that are caught in their community. It is made up of 20 men and 10 women.
>
> COOPEQUEPOS, located in Quepos, has a plan that consists of a fishing supply store, improved marketing, and possible distribution and management of fuel for fisherfolk."

The nature of each cooperative is different and the way they are built up varies; however, they always include work on fishing production and commercial chains.

The dearth of cooperatives may very well be as we said, the result of multiple factors, such as:

- The particular characteristics of fishing communities;
- The status of the national cooperative movement and its policies on encouraging artisanal fishing;
- The loss of credibility of the cooperative sector;
- A product of poor management;
- The decrease in the fishing resources that made the existing cooperatives enter in crisis; as well as
- The administrative costs that are involved in cooperatives.

For the time being, it would seem that the automatic response by the fishing communities in choosing an organizational model is directed towards creating an association, based on the need of seeking legal recognition. The challenge will be to find the best way to incorporate within the chosen organizational model a long-term vision that includes the improvement of the quality of life in an integral way.

2. Puntarenas region as the focal point for INCOPESCA's work

It seems evident and understandable from Table 1, that INCOPESCA's location in the Province of Puntarenas enhances its ability to support community-fishing organizations. This is not necessarily a negative factor but it does result in a comparative disadvantage for other areas, despite the fact that the Institution has offices in other regions.

Despite all this, there is a need to increase the control, support, and follow-up of the fisherfolk's organizational efforts on the Caribbean coast and the North and South ends of the Pacific coast. In addition, there is a need to track what is happening in these zones, which are constantly besieged by an exponential increase in tourism that may impact negatively the small-scale fishing sector.

Encouraging tourism is not detrimental to the national economy, but it is a constant danger for sectors such as small-scale fishing in Costa Rica, which are being motivated to change their way of life based on an external development model without strengthening the endogenous development in their communities.

TABLE 2
Types of organizations registered with INCOPESCA by geographic area

Number of Organizations by Organizational Type						
	Puntarenas	**Guanacaste**	**Quepos**	**Golfito**	**Limón**	**Total**
Local Fishing Committees	3	2	0	0	0	5
Fisherfolk Associations	18	9	0	5	1	33
Artisanal Fisherfolk Association	4	2	0	4	1	11
Cooperatives	1	1	0	0	0	2
Diving Association	0	1	0	0	0	1
Chambers	3	1	1	1	0	6
Syndicates	3	0	0	0	0	3
Tour Operators	0	0	2	0	0	2
Unions	1	0	0	0	0	1
Other	3	0	0	0	1	4
Total	36	16	3	10	3	68

Source: Data based on a comparison with the INCOPESCA database in Table 1

FIGURE 1
Location of fishing organizations in Costa Rica by their different types

Source: http://www.zonu.com/mapas_costa_rica/Costa_Rica_Political_Map_2.htm.

Table 2 and Figure 1 identify specific situations, based on geographic units, where INCOPESCA is involved in fishing community organizations.

For example, we can see that most of the organizations are present along the Pacific coast in the Province of Puntarenas. Furthermore, a first glimpse points to a significant decrease in the number of COLOPES (Local Fishing Committees), which the Government promoted in a specific period of time. The organization type disappeared since it was a model brought by the government that the fisherfolk considered not adequate for their purposes, now they do not exist in practice. It is likely that the demands related to having 40 organized members caused this type of organization to be practically unsustainable. As seen in CoopeTárcoles R.L., to have a collective group working equitably in practice is difficult if the number of members is too high.

3. Many small-scale organizations in small geographical units

Table 1 shows multiple small-scale organizations coexisting in small geographic units. This is the case with Chira Island, where there are nine associations in a population of less than 3 000 inhabitants.

At first glance, this may seem to represent a vital example of the desire to organize with the objective to improve the quality of life by joining collective forces; however, from INCOPESCA's perspective and the perspective of this research, the multiple entities actually result in low efficiency in use of resources.

From INCOPESCA's perspective, fisherfolk are looking for opportunities in the short-term since they feel generally abandoned by the public institutions. They also feel threatened by large corporations, tourism development, and by knowing that their market is unstable and depends on natural factors.

Given this situation, fisherfolk feel a certain level of distrust towards becoming organized and there is no ability to strike a balance with visions and goals.

This circumstance makes it more difficult for INCOPESCA to work with all the organizations at the same time. The Extension Division works primarily in the creation and initial training, with a lack of follow up or further organizational strengthening.

4. New Trends: Tourism and Marine Conservation

Tourism is a part of the economic diversification policy that Costa Rica has developed in the last decade. The coasts that used to be of no interest have now been turned into places with huge capital gain for real estate development and tourism.

Traditional coastal communities were suddenly mired in huge financial transactions and sudden change. Additionally, protected areas were established in the coasts, which were then extended out to sea based on international policies to increase marine conservation. This has had a huge impact on artisanal fisherfolk's way of life.

Most artisanal and small-scale fisherfolk are located in areas that are part of environmental protection plans; this drives them to stop fishing and to find some other type of work. Meanwhile, tourism or eco-tourism businesses develop in these environmental protection zones. It is logical for these businesses to encourage people in other sectors to come to work for the tourism sector.

Therefore, fisherfolk are faced with unfamiliar, undesirable work while coping with a change in labor and culture. As we have said, fisherfolk form part of a cultural entity with its own life style. Huge, complex challenges are created when an attempt is made to force unwanted changes on that culture, even when the changes would bring more profits.

From INCOPESCA's perspective, small-scale fisherfolks should not be forced to engage in radical changes in their livelihoods. Nevertheless, in practical terms, evidence shows that in some regions their aim is to turn the fisherfolk into tourism workers, which is deemed as more profitable. In essence, the contributions to development and sustainability of the artisanal fishers' lifestyle and cultural identity are being cast aside.

4. THE CASE STUDY'S LOCAL CONTEXT

The community of Tárcoles, with its fishing trajectory, and CoopeTárcoles R.L. are located on the Costa Rican Pacific coast. This small community is located in an area of 13 500 square kilometers. It includes the watersheds of the most important rivers in the country, the Río Grande de Tárcoles and the Río Tempisque. The mouths of these two rivers are in the Gulf of Nicoya, which is surrounded by high mountains. The Gulf encompasses various islands of different sizes and appearances. The region has at least eleven life zones, ranging from mangrove wetlands and very humid forests in the area of the coast to oak forests and sub-alpine moors in the Talamanca range uplands.

The community of Tárcoles is located 37 kilometers southeast of downtown Puntarenas (one of the main ports in the country), on the eastern side of the mouth of the Gulf of Nicoya (González, et al., 1993) (Figure 2).

FIGURE 2
Location of the Community of Tárcoles on Costa Rica's Central Pacific Coast

The Pacific Ocean, which bathes the coast where the town of Tárcoles is located, represents an immensely wealthy natural resource for this fishing community. It provides its inhabitants with a means of earning a living by fishing.

Like in other artisanal fishing communities on the Pacific coast, this community is confronted by huge threats, including: debris and contamination from the Río Tárcoles inflow, the use of large-scale commercial fishing gear to catch shrimp resulting in overfishing, and the lack of governmental support in developing strategies that capitalize on marine resources in a more fair and equitable fashion to address local needs. In addition to all these, Tárcoles is surrounded by massive tourist locations that have not significantly taken environmental sustainability into consideration, such as Jacó and Herradura (where the largest marina in Costa Rica is located). The Tárcoles Watershed is one of the most polluted watersheds, collecting this pollution from the Central Provinces of Costa Rica. The lack of job opportunities, a massive tourism model that does not take into account local potential for job generation, the lack of recreation and informal education spaces for a growing population, and the presence of the scourge of drugs, are some of the negative influences that threaten the community's social resilience and aspiration for a better quality of life.

CoopeTárcoles R.L. has made it possible for this organization to keep a grassroots development model, where the community is still participating in development

and conservation. In the last few years, the cooperative model seems to provide the community of artisanal fisherfolk some hope for a better quality of life. The study expands in this respect with how they have deal to overcome these threats.

5. DETAILED STUDY OF THE ORGANIZATION

5.1 Origin, initiatives, motivation, and type of organization

On 13 December 1985, CoopeTárcoles R.L. was legally registered as a cooperative, under the authority of the Minister of Labor and Social Security (MTSS), by the Department of Social Organizations, and the National Institute for Cooperative Development (INFOCOOP)..

The artisanal fishing cooperative was founded on several objectives: direct marketing of fishing products, lowering middlemen's power over the market, obtaining better prices, encouraging better working conditions, creating sources of employment, and raising the fisherfolk's organizational level and participation.

Since its formation up to 2001, its purposes have been:

"Article 9: The aims and purposes for organizing this Cooperative are to:

- Obtain better working conditions.
- Improve its members' socio-economic situation.
- Eliminate the middlemen's power over the market and prices.
- Create sources of employment.
- Obtain better prices for the product.
- Open up new markets for the product so the Cooperative will be able to grow quickly.
- Raise the fisherfolk's organizational level and participation."

In 2001, with the support of CoopeSoliDar R.L., CoopeTárcoles R.L. began a process of review and update of its Statutes. In the General Assembly held that year, the members approved the new articles.

"Article 9. The aims and purposes for organizing this Cooperative are to:

- Obtain better working conditions.
- Improve its members' socio-economic situation.
- Lowering middlemen's power over the market.
- Create sources of employment.
- Obtain better prices for the product.
- Open up new markets for the product so the Cooperative will be able to grow quickly.
- Raise the fisherfolk's organizational level and participation.
- Promote research on forms of sustainable management of natural and cultural resources. "

There is a consensus that CoopeTárcoles R.L. arose to eliminate the middlemen's power, to seek better prices, and to prevent other people from reaping the benefits or end up in debt (Teófilo Naranjo, personal communication). The research shows that at the creation of the cooperative, the fisherfolk had other objectives beyond business. They wanted to group together to have a better quality of life. And little by little, the cooperative turned into an engine for community development.

The public institutions helped the fisherfolk at the beginning of the process to get organized. INFOCOOP (The National Institute for Cooperative Advancement) helped them with the organization. The Mixed Social Aid Institute (IMAS) helped with the initial capital investment but they were left alone to learn to manage their cooperative (see below).

It is important to acknowledge three basic aspects in the history of CoopeTárcoles R.L. as an organization that may help understand their development progress as a collective enterprise, namely:

1. The creation of a storage center that makes it possible for them to market fish providing a fair price to the fisherfolk and establishing a reference point for the independent fisherfolk of the area.
2. The location of this infrastructure also ensures that the associates have control of their work area and that they are able to access it. It is also a space that makes the artisanal fishing culture visible to external people that visit the community.
3. The support received from state and aid institutions (MIDEPLAN, ACNUR, etc.) that have helped consolidate the business with donations such as the ice-making machinery, motors, and boats. These have enabled the fisherfolk to remain active through a cooperative organization for more than 25 years.

5.2 Governance Structures and Nature of the Membership

Cooperatives are managed like an enterprise, although the objective is service and they are not for profit. The Cooperative Law regulates them.

According to the CoopeTárcoles R.L. Bylaws, Article 10:

> "The Cooperative will have a single class of members, whose number will be unlimited but will depend on the amount of productive resources that the Cooperative requires in the estimation of the Board of Directors."

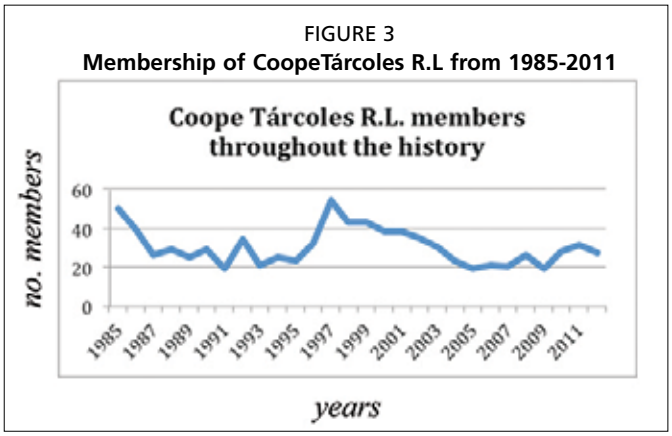
To be a member, an application must be filed with the Board of Directors, which will be referred to the General Assembly. In practice, the application is reviewed and approved by the Board of Directors.

The requirement established to obtain membership is: "any person older than fifteen years of age who owns a boat."

Nevertheless, since the General Assembly held on November 11, 1989, people without boats have been granted or promoted for membership, such as the people who untangle the nets or the administrators. In practice, the bylaws were not modified on the basis of achieving some gender balance, but women have been accepted since 1989.

The membership fee is 50 000 colones ($100 at the current exchange rate) settled in a single payment. This is set forth in Article 15 of the Bylaws, but in practice that amount is not charged. Figure 3 shows the trend in membership over the years.

FIGURE 3
Membership of CoopeTárcoles R.L from 1985-2011



The membership increase in 1998 is when the Regional Program to Support Fishing Development in the Central American Isthmus (PRADEPESCA) project was underway. The project built the storage center, which made many people approach the cooperative.

The drops in membership in 1991, 1993, 2005, and 2009, are explained as being due to overexploitation of fishing resources and a crisis on how the cooperative was managed (David Chacon, personal communication). The crisis even led to the leasing out of the building and facilities of the cooperative from 1992 to 1993.

5.3 Leadership and Succession

Each year, a General Assembly is held where the Board of Directors is appointed on a yearly basis. CoopeTárcoles R.L. has had a Board of Directors and a General Assembly every year throughout its history. There are people who have remained in managing positions in the cooperative for almost the 30 years of existence. For example, Paulino Gonzalez Cambronero has been part of the Board of Directors for 13 years. David Chacon has been a member of the Board of Directors for 11 years.

The first woman was appointed to the Board of Directors in 1991: Marcia Vargas. Later on, in 2006, Andrea Solis Perdunni was elected as the Vice President and Jeannette Naranjo González became Secretary.

The fisherfolk have learned to manage their cooperative through practice, by participating in the Board of Directors. In the words of Rolando Gonzalez, "I have spent a lot of time on the Board of Directors. I have rotated through all the positions."

5.4 Time Line: The History of CoopeTárcoles R.L.

Using individual and collective interviews, a historic timeline was created that summarizes the most significant events in the cooperative's history:

1985	IMAS gives 20 000 colones (approx. $380) to 60 fisherfolk for them to set up a cooperative under their request.
December 13, 1985	CoopeTárcoles R.L. was legally recognized with the following objectives: market fish directly, eliminate the middlemen's power over market exchanges, earn better prices, encourage better working conditions, create sources of employment, and raise the organizational level and participation by the fisherfolk.
1989	The requirement of having a boat for being a member is removed. Net detanglers can join the cooperative. First women enter the cooperative.
1990	UNCHR, The UN High Commissioner for Refugees, gets involved with the refugee project. Two 33-foot boats with a central motor and 5 skiffs with 14 HP motors are donated. A supermarket is set up for women.
1992-1993	The cooperative is leased to a private owner by the fishermen.
1995-1998	PRADEPESCA, The Regional Assistance Program for Fisheries Development in the Central American Isthmus, provides the original donation for the storage center.
2000 and after	Drug consumption becomes a serious problem among fishers and youth in the community.
2001	The association with CoopeSoliDar R.L. begins.
2001	The bylaws are changed to include the objective to: • "Promote forms of sustainable management of the natural and cultural resources"
2004	The Responsible Fishing Code is adopted.
2005	First social, economic, cultural, and environmental baseline. Tárcoles: a community of artisanal fisherfolk in Costa Rica contributes to conserving marine coastal resources in the Gulf of Nicoya.
2005	The Fishing Table is initiated: a database with information about the species that are caught, the location, the fishing practices, and the relationship with the moon. The database includes traditional and ecological knowledge.
2005	MIDEPLAN donates 10 million colones (approximately $21 000) for an ice machine. CoopeTárcoles R.L. obtained funds to convert to three phase electric power: 5 million colones (approximately $10 500).
2006	The Responsible Fishing Code's application and enforcement is evaluated.
2007	The Consorcio por la Mar R.L. is created: a second-tier cooperative between CoopeSoliDar R.L. and CoopeTárcoles R.L.
2007	CoopeTárcoles R.L. is selected finalist by the Equatorial Initiative among the best 25 examples in the world. The Equatorial Initiative is an alliance directed by the United Nations Development Program (UNDP) that recognizes the ties between biodiversity conservation and poverty eradication.
2009	The FAO, through the Telefood project, donates 5 000 000 colones ($10 000) to remodel the storage center and to obtain a freezer and coolers for the skiffs.
2009	Second social, economic, cultural, and environmental baseline: Tárcoles+5
2009	The INCOPESCA Board of Directors approves the establishment of the Marine Areas for Responsible Fishing.
2010	The Fishing Zoning Plan is prepared.
2010	The IMAS donates 1 250 000 colones ($2 500) per motor, for 20 motors
2011	The Marine Area for Responsible Fishing is recognized.
2012	In 2012, IMAS donated: 80 farm baskets that are used to bring in the fish and weigh them; Coolers to hold the bait; An industrial freezer and; A vacuum sealer for the storage center.

5.5 The Role of Employees

Commitment and engagement with the cooperative were identified as main values held by the interviewees, especially those in management positions. For example, in the words of the current Manager, Teresa Leon:

> "When I began [working here], it [the workspace] was a big shed with a tiny office. […] I started out by working in the snack bar. […] Then they sent me to help Flor Guzman with billing. Everything was done by hand. There were problems with organization. The money was being mishandled. After two years, the fisherfolk fired him [manager]. There were problems with sardines [quantity], sometimes there were sardines and sometimes not. But that has always been a problem.
>
> Then came [as managers] Chepe, then Mauro, José Eduardo, Jorge Cambronero, another boy from Orotina, José Zúñiga, and then me. I began management in 2002, and was officially appointed in 2003.
>
> When I became Manager, it was really difficult because at that time the situation of fish conservation was very bad and the ice machine did not work. We had to go to Puntarenas by car to get ice. There was nothing but loss after loss. I worked with Andrea and we did not pay ourselves a salary. We just took out vouchers [minute amounts of money when available] because we had so many losses.
>
> Ten years later, one of the most recognized elements in the management of CoopeTárcoles R.L. is honor."

The CoopeTárcoles R.L. members have taken over many of the administrative or oversight functions to try to decrease costs.

As David Chacon says, "one of the organization strengths is to believe in ourselves, to realize that we are able to run a business, to market, to orient the cooperative according with our interests. Fifteen years ago we were looking for people outside the community to manage CoopeTárcoles RL and we had many problems".

Mauro Morera, one of the first managers recounted: "I remember the sacrifice to develop the cooperative; we came from fishing at 11 at night, and early in the morning I was at the office or attending meetings looking for projects or business in Puntarenas, and then at 6 pm went fishing again".

5.6 Involvement by Non-members, their Role, Benefits, and Dependencies

Fisherfolk who are not members of CoopeTárcoles R.L. are able to sell their fish to the cooperative at the same price as members. They are able to purchase ice and bait, also at the same price as that paid by members. Because the intermediary has been eliminated the sale of the fish in situ has increased quite a bit and so the cooperative can sell products from other fishers who are not necessarily members of CoopeTárcoles R.L.

They do not, however, receive any share in the surplus at the end of the fiscal year and they are not included in the payroll reported to the Costa Rican Social Security Fund. They are not allowed to ask for "IOUs" (loans) or take cash advances to prepare for their fishing trips. Nor do they receive benefit from the projects that strengthen the cooperative.

5.7 Nature of the Decision Making Procedure

The General Assembly elects the members of the Board of Directors, the Education and Wellbeing Committee, and the Oversight Committee. The members vote by raising their hands. The person presiding over the Assembly counts the votes and incorporates them into the minutes.

Ever since it was created, CoopeTárcoles R.L. has held General Assemblies every year in November or December as stated by the Law. The Assembly is when annual administrative council and committee appointments are made and the financial report is presented to all fishers.

The support given by government organizations has been timely and specific but has lacked long-term vision. It has not been oriented towards strengthening the organization. On the other hand, it has focused on the immediate acquisition of goods. MIDEPLAN provided support in the form of an ice machine, which is crucial to maintain the cooperative. IMAS, during the fishing bans approved by the government, has subsidized the individual fisherfolk but has not provided assistance to the community and cooperative as a collective.

"After the ice machine was donated by MIDEPLAN, a loan was taken out with Coope Orotina R.L. to put in three phase electric power." (Teresa León, the Current Manager of CoopeTárcoles R.L., September 9, 2013)

MIDEPLAN donated the ice machine. The cooperative then realized that in order to use the ice machine they needed three-phase electric power. Ultimately, they had to ask for a loan to pay for the necessary electric grid. This experience is just one example of how government support has been immediate but has lacked the integral, supportive approach needed by small-scale enterprises.

5.8 Second Degree Organizations

Within CoopeTárcoles R.L.'s history there have been two initiatives to participate in second-degree organizations.

Federation of Artisanal Fishing Organizations

The organization was promoted in the 1990s with the idea of receiving fish products and increasing the quantity of exports. Later, in the 2000s the Consorcio por la Mar R.L. was established.

CoopeTárcoles R.L. took the decision of joining a Federation due to the influence of PRADEPESCA, which was promoting the idea of a single national organization. The Federation was quickly established in Costa Rica and exports were sent to the United States of America. CoopeTárcoles R.L., Coope Golfito R.L., Coope Chapú R.L., Coope Thiel R.L., Coope Impesa R.L., and Coope Marte R.L. made up the National Federation of Fisherfolk of Costa Rica. The Federation asked INFOCOOP for a three million colones loan (approx. $33 000 at the time) to pay for the export expenses. The Federation went bankrupt due to financial mismanagement, and most of the cooperatives disappeared. As CoopeTárcoles R.L. remained, its members had to face the debts. Due to this, INFOCOOP embargoed Coope Tárcoles R.L. and froze their assets, asking them to pay for the initial loan. After many years, INFOCOOP finally cancelled the debt. Among other losses, CoopeTárcoles R.L. lost 1 000 kilos of unpaid snapper from this experience.

The reasons of the bankruptcy of FEDEPESCA remain unclear. The information was not properly shared among the cooperatives taking part in this Federation, as can deduced by the assertions in the next paragraph related to an asset which property is until now unclear.

One of the interviewees has these memories about the experience:

"Le Jardin is a Canadian organization that was helping out; they supported us to begin a supermarket for example, but to receive aid we had to join FEDEPESCA. Their idea was that all production had to be turned over to FEDEPESCA so it could be exported. This [the Federation] lasted five years in total, from 1990 to 1995. Their buildings are the ones across from Coope Inpesa R.L., which ASOPAPU [now] uses. Coope Chapu R.L., CoopeTárcoles R.L., and Coope Marte R.L. took the matter of the Federation seriously. But Coope Inpesa R.L. was the biggest [cooperative] and they wanted to use it [the federation] for their own benefit. There is a lack of information about the consequences of the Federation's failure" (Mauricio Moreira).

This experience caused the fisherfolk to gain distrust for second-degree organizations. It took years until another relationship of this sort was considered. In this case, they joined CoopeSoliDar R.L. and established the Consorcio por la Mar R.L.

Consorcio por la Mar R.L.

On August 7, 2007, the *Consorcio Por la Mar R.L.* was formally incorporated as an auxiliary cooperative body formed by CoopeSoliDar R.L. and CoopeTárcoles R.L. It is dedicated to community marine tourism.

The Consorcio Por la Mar R.L.'s vision is the following: "Share the experiences related to responsible artisanal fishing in Tárcoles, showing Costa Ricans and foreigners that the fisherfolk work with honor and responsibly."

Likewise, its mission was established to "propose alternatives to improve the quality of life while protecting their culture and the environment, with equality and justice."

This initiative is presented in detail as one of the example of important processes in CoopeTárcoles R.L. that has made the difference across its history.

5.9 Financial Management

There are four main items in the CoopeTárcoles R.L.'s revenue stream:

a. Sales of fish
b. Sales of ice
c. Sales of bait
d. Distribution of subsidized gasoline.

Sales of Fish

The profit margin of the cooperative derives from:

200 colones ($0.4) per kilo of fish in wholesale and 600 to 700 colones ($1.20 - $1.40) per kilo of fish in retail.

When there is affluence on a certain species of fish, these are sold for export with the same margin as above.

The fisherfolk think that CoopeTárcoles R.L. buys fish at fair prices. The cooperative can do that because 70 percent of fish is sold on site. This is one of the objectives of the establishment of the cooperative: to eliminate the middlemen's capacity to set the prices. The price is established on the basis of the average price that is paid in the market plus an additional benefit for the fishermen that is paid at the time it is delivered. Afterwards, the cooperative must find the best way to sell the product.

Gasoline

According to the INCOPESCA's constitutive law, each fisherfolk should receive subsidized gasoline.

"At CoopeTárcoles R.L., there are 18 fishing licenses, which would mean that more than 20 000 liters of gasoline could be purchased. Not all the gasoline that people have a right to is purchased. In the last three years, gasoline consumption has increased by 25 percent as the fishermen have to go further. In the past, 4 000 liters were used per month, now 6 000 liters are used. Four liters of gasoline with oil would cost more or less 2 820 colones. On the market it would cost 3 380. The difference is 560 colones." (Gilberto Naranjo, administrative assistant at CoopeTárcoles R.L. August 12, 2013)

There is a fuel tax exemption in Costa Rica for the fishing businesses. By means of the Article 5 of the Regulatory Law on Current Exemptions, Repeals, and Exceptions, No. 7293, dated March 31, 1992: an exemption was established for all taxes and surcharges on the import of merchandise that the fishing businesses require, except for sports fishing, and the fuel needed for the aforementioned fishing business. By means of Executive Decree No. 21278, dated May 12, 1992, bylaws were issued on this exemption for the fishing industry, based on Article 5 of the cited Law No. 7293.

It is important to indicate that Article 4 of these Bylaws establishes the following: "Beneficiaries are understood to be only those individuals or companies dedicated to the artisanal, semi-commercial, and commercial fishing business who have a current fishing license at the time that the exemption is applied" (Mestre and Ortega, 2013).

Bait

In Coope Tárcoles R.L. the bait used is sardine, tuna, or squid depending on the type of fish species targeted. It is sold based on the prices in Puntarenas, 200 colones ($0.4) if it is fresh, 300 colones ($0.6) if it is packaged. For squid the price is 900, 1 000 or 1 100 ($1.80, $2, or $2.20). The bait is sold at cost price.

Getting priority access to bait at a fair cost is one of the benefits of being a member.

Ice

The high price of electricity is one of the problems that micro-enterprises are currently facing in Costa Rica. This problem is addressed by investing the benefits from selling ice:

"The ice is sold by shovel – 1 full shovel costs 400 colones ($0.80); a bag costs 1 350 colones ($2.70). These sales are used to pay for electricity, which increased from $1 600 to more than $2 000. The profit can vary from 800 to 900 thousand colones ($1 600 or $1 800) [worth of ice]. It is not enough to pay for the whole bill. The rest is paid by the cooperative" (Gilberto Naranjo, administrative assistant at CoopeTárcoles R.L. August 12, 2013).

There are two further benefits of being a member of the cooperative, which are important to the fisherfolk involved: social security and administrative permits.

Social Security

Social Security is a universal right in Costa Rica since 1948. Every employee has to be insured by his or her employer. Nevertheless, the fisherfolk were not insured individually and they had no right to handicap and death insurance. In Costa Rica, the employer must pay an additional 34 percent of the employee's salary to the National Social Security Branch (CCSS) and the employee must pay 9 percent of their salary to the CCSS. For this reason, the fisherfolk did not have insurance since the costs were too high for them. It was not until 2003 that the country established the procedure for the fisherfolk to be insured, lowering the costs by subsidizing their insurance. The agreement only subsidizes fisherfolk and their families, but not the people who are related to management duties.

"One of the highest costs that the cooperative pays for, other than electricity, are employee benefits. At first, an agreement was reached between CCSS, IMAS, and INCOPESCA. We had to be organized. CoopeTárcoles R.L. signed the first agreement in the country (2003). IMAS participated because during the periods when fishing was banned, they paid social security" (Gilberto Naranjo, administrative assistant at CoopeTárcoles R.L. August 12, 2013).

Currently there are 43 fisherfolk and 2 administrators from the Cooperative who are reported on the Costa Rican Social Security Fund payroll.

"In the past we had the full administrative staff insured and the amount owed came to 700 000 colones ($1 400). We could not pay it. It made us broke. The company could not meet the legal requirements. Each fisherfolk had to pay 11 000 colones ($22); the Costa Rican Social Security Fund estimates their salary at 130 000 colones ($260) per month. If there is a period of poor fishing, the cooperative has to pay the insurance until the fisherfolk can pay it again" (Gilberto Naranjo).

Fishing Licenses

The cooperative supports fisherfolk in the procedure to apply for fishing licenses and keeps them informed on the norms passed that are relevant. The cooperative also pays for the fishing licenses an amount of 22 000 colones ($44) per year for each.

Financial Support from international and national cooperation

CoopeTárcoles R.L. has received support from international aid projects along its history. Since its foundation in 1985 due to the IMAS support, they could buy the first motors for their boats. Table 3 summarizes the financial aid received by Coope Tárcoles R.L. since its inception.

The relation with the cooperation agencies served to accumulate experiences and lessons learnt. Some were not good experiences, as the one with the ACNUR project (Table 3). The support by MIDEPLAN to buy the ice machine was crucial due to the financial problems that the lack of ice was causing to the cooperative regular operation. During the last years, the support by IMAS unfortunately has become aid oriented and not to promote or strengthen new capacities.

TABLE 3
Financial Support from International Cooperation and Government Institutions

Year	Organization	Type of Support
1985	IMAS	120 000 colones (approx. $2 300) 20 000 colones (approx. $380) for 60 members to buy a motor
1990	ACNUR	Two 33-foot boats with a central motor. 5 skiffs with 14 HP motors.
1995-1998	PRADEPESCA	Supply center
2005	MIDEPLAN	10 000 000 colones ($21 000) ice machine
2009	Telefood-FAO	5 000 000 colones ($10 500) to remodel the storage center, freezer, and coolers for the skiffs.
2010	IMAS	1 250 000 colones ($2 500) per motor for 20 motors
2012	IMAS	- 80 farm baskets that are used to bring in the fish and weigh it - Coolers to hold the bait - An industrial freezer and a vacuum sealer for the storage center.

One of the interviewees had these memories about the ACNUR project:

"ACNUR bought a piece of land and built houses. Then they brought in refugees who didn't know a thing about fishing. It was funded partly by ACNUR and the other part was given by the cooperative. Ovidio Céspedes was hired as a Manager, he was recommended and came from Golfito. The idea was that the boats [with central motor] would carry the ice, the bait, and the fisherfolk in skiffs would drop the fish in them [the boats]. Then the boats were taken to Coope Chapu R.L. because CoopeTárcoles R.L. could not manage them. Carlos Rodríguez was appointed after as Manager even that by that time there was no product. The members of the cooperative had been financed and refinanced for a bunch of issues, all of them had debts with the cooperative.

ACNUR had brought in five 14-horse-power skiffs and two boats. When Calú [Carlos Rodríguez] got here there were only five skiffs with one motor. The other motors had broken down. So the policy that only boat owners could be members caused a crisis. So they leased [the cooperative] to Walter and his wife Viqui and he bought [fish] from anyone. A movement started to sell CoopeTárcoles R.L. The movement was really strong. They were led to believe that if they sell [the cooperative], the earnings would be shared. That's when I came on the scene, for the second time. I explained to them that if they sell CoopeTárcoles R.L. they would lose out because the cooperative is what regulates the prices. INFOCOOP would be the one to begin the dissolution process.

So then I appointed myself in the bait area to accept fish from the CoopeTárcoles R.L.'s members and we started over. We were there when the people from ACNUR came to take away the five skiffs and the motor that were there. I explained to them [ACNUR] that if they did that [take away the skiffs] it would make CoopeTárcoles R.L. disappear. So I proposed to Roger De Winter, from the De Jardin project, that for every 1 million [colones] that we put up then he could put up 1 million [colones additionally]. So then we asked ACNUR for a loan: 'You give us 2 million colones'; and with the 2 million from De Jardin, the boats, the skiff motors, the fishing gear, etc. were bought back.

Walter took off and left us 250 000 colones owed for electricity. We went to bring back the skiffs from Coope Chapu R.L. [Then] we had a storage area worth 11 million colones.

When PRADEPESCA built the Storage Center, what was on the blue prints was not built. It [was supposed to] have two stories and administrative offices. We were thinking about drying fish and the possibility of making flour.

They named me to be the Regional Coordinator for PRADEPESCA and left Teresa and my sister, Flor Guzman, as the assistant. I dedicated myself to looking for fresh resources for the cooperative. The policy was that you had to produce. I grabbed bad motors so the people could fish. Nobody said "poor guy" any more. That is why the storage area was built, but they charged for the supplies and the debts.

The FIA had begun to involve women. A piece of land belonging to the Community Development Association was used to build a supermarket. The idea was for it to be a business to complement CoopeTárcoles R.L. The group of women was shrinking because there was no work for all of them.

When I got to CoopeTárcoles R.L., the supermarket was in in debt every year. What was going on was that they were not charging what it [the products] really costs. When I tried to set up some controls, there was a huge reaction. The General Assembly proposed that the supermarket should break off from the cooperative so they stopped subsidizing it…" (Gerardo Guzmán Q.).

5.10 Main Activities and Their Relationship to Fisheries

The cooperative has facilities located across from the sea. It includes fisherfolk from Tárcoles and the surrounding areas such as Playa Azul, Pógeres, and Tarcolitos.

The fisherfolk's main business over the years has been to fish for marine species, mostly sea and other bass, tarpon snook, shark, and whole fish (small fish for popular consumption).

The fishing business in the Tárcoles area is the main source of employment. It is the most important source of revenue for 90 percent of the total population directly of fisherfolk who deliver their fresh products to the Cooperative and indirectly to businesses and post fishing activities. Tárcoles has a population of close to 4 000 people. Approximately 38 percent are direct members and the remaining 62 percent are small fisherfolk who are not members but who are in good standing with the cooperative (CNP, 2005).

From the point of view of fishing practices, the cooperative has three groups of fishers: those who fish exclusively using nets (30 percent), those who only use lines (20 percent), and the remaining 50 percent who use both methods. The first group uses nets measuring 7, 5, 3, and 3.5 inches. They fish close to the coast.

The extraction grounds are located from Herradura up to a sector belonging to CoopeTárcoles R.L., at a place called El Peñón. These fisherfolk usually make trips that last less than 24 hours. They generally leave in the early morning (3-5 a.m.) and return before noon.

Most have several *paños* (combination of assembled nets) that are alternated.

The longline fisherfolk use J-shaped hooks that vary in size between 7 and 8 (according to the international convention on measuring fishing supplies). The number of hooks per line may vary from 1 000 to 2 000. The number depends on the length of the line and sometimes on the sector and the fishing conditions.

The fisherfolk who combine nets and lines regularly make long fishing trips, even for more than a week. They use high-powered motors, with two or three crewmembers, in addition to the skipper. During their fishing trips, they usually go down to the South Pacific (of Costa Rica).

The CoopeTárcoles R.L. members fish practically the whole year. Nevertheless, they make regular stops to make repairs depending on the needs. They make the repairs themselves. In general, they say that they like the performance and the type of boats they use. Nevertheless, they are aware that they are continuously expanding to new fishing grounds which are located farther away so they need more efficient and more autonomous boats and motors.

Most of the fisherfolk have only one boat registered with the cooperative; however, 15 percent of the members have 2 to 3 motorboats that they use for fishing within the cooperative.

CoopeTárcoles R.L.'s current fishing infrastructure should be taken into account as an important and fundamental input in the decision making process on the status of the fishing fleet (available at: www.coopesolidar.org: Fishing infrastructure study, 2005. Infraestructura Pesquera).

The document prepared in 2005, not only lists the most current fishing inventory of assets belonging to the members of the cooperative as of May 3, 2005; it also provides details about in which conditions the goods are. At that time, the cooperative's fishing fleet consisted of artisanal crafts made of fiberglass with dimensions that ranged from 4.0 to 8.2 meters long and 1.5 to 2 meters wide. In general, they have very little navigating autonomy: none of the boats is equipped with GPS, and most of the motors are low horsepower (between 15 and 45 HP). Some 50 percent of the boats have freezers. There is no other database recording the fishers' infrastructure since the one mentioned above.

The 2011 research report presents information related to the productivity of the small-scale fisheries in Tárcoles (available at: www.coopesolidar.org: Análisis de la base de datos 2011).

5.11 CoopeTárcoles R.L. relevant processes

In the last eight years, CoopeTárcoles R.L. has been a national and regional representative of a small-scale fishing community promoting a participatory conservation process. In the process, artisanal fisherfolks have advanced their business responsibly and sustainably using a local governance model that shares the power fairly and equitably with the Government.

Tárcoles is also the first community of small-scale fisherfolk in the country to be involved in a community tourism business of guided visits that promote responsible fishing, using tourism as a sector that is complementary (see attached) to artisanal fishing. This has motivated other artisanal fishing communities to redirect their actions toward responsible community governance for marine resources.

Prior to the creation of "Por la Mar R.L. Consortium", when fishing did not provide enough income to fulfill the needs, fisherfolks had to work in other activities such as construction or gardening.

Since 2001, the Self-Managed Professional Service Cooperative for Social Solidarity (CoopeSoliDar R.L.) and the Tárcoles Fisherfolk's Cooperative (CoopeTárcoles R.L.) have built a mutually beneficial relationship. The relationship has been strengthened along the way and has provided benefits for sustainable development in the community of Tárcoles, Canton of Garabito, Province of Puntarenas, Costa Rica.

This synergetic relationship is explored and developed progressively thanks to the interest and openness of the fishermen and the fisherwomen, members of CoopeTárcoles R.L. Their interest in carrying out more sustainable practices in artisanal fishing has made possible the mission of these organizations: to "promote forms of sustainable management of the natural and cultural resources".

CoopeSoliDar R.L. is a self-managed cooperative of professionals who primarily promote sustainable development and sustainable use of resources in less developed communities, combined with natural resources' research. This cooperative, in association with CoopeTárcoles R.L., has been working on promoting new environmentally friendly business alternatives. These proposals have given rise to initiatives with national and international recognition and awards, highlighting the Responsible Fishing Code signed by CoopeTárcoles R.L.'s associates.

a. The Responsible Fishing Code

The initiative to adopt a voluntary responsible fishing code at CoopeTárcoles R.L. arose from the desire to extend and spread the FAO Code of Conduct for Responsible Fisheries, already adopted by the country. The initiative sought creative answers and citizen participation in an aim to move forward in the conservation and sustainable use of the marine resources.

Simple discussions about adopting the code were held with artisanal fishing groups. The discussions covered the main principles of the FAO Code of Conduct for Responsible Fisheries. Some of the thoughts expressed in these meetings include:

> "A code is a group of standards that organizes how we behave in our society or in our work."
>
> "The Code of Conduct for Responsible Fishing is a group of norms or recommendations for fishing and obtaining products from the sea that guarantee we have work and can bring home the daily bread."

During the preparation process, five groups were formed to deal with the different parts of the draft that was proposed for discussion.

a. In relation to environmental responsibility, the proposals were oriented toward caring for and cleaning up the beach. Thus, the following suggestions were proposed and put in practice:

- The formation of beach cleaning squads.
- The fish should be cleaned before reaching the beach.
- Proper handling of fish.

b. In relation to compliance with the Responsible Fishing Code, the Education and Social Well-being Committee was strengthened and an educational process was developed that covered:

- Legal fishing practices in the country and the environmental impact that other fishing practices have.
- Species in danger of extinction: characteristics of the species, why they are threatened, life cycles, and so on.
- Environmental legislation and how we can help enforce it.

c. In relation to the problems of the Gulf of Nicoya, its environmental situation, and the impact on its longevity, the group thought that not only associates should be informed but also the other independent fisherfolk,

> "*Everything we are learning should be shared with more people*".

d. They thought that other institutions needed to provide support: The Ministry of the Environment and Energy (MINAE) and INCOPESCA. Fundamentally, the government should have the ability to respond to emergency calls from civil society in a timely matter about, for example, river contamination.

- INCOPESCA should enforce requirements for permit holders about the hooks that may be used.
- The use of fishing gear that is "destructive or other harmful methods related to the marine ecosystem" should be prohibited.

e. Compliance issues, if a member fails to follow the code, he or she should be warned, after which he or she may be suspended. A breach of the code should be taken up with the CoopeTárcoles R.L. General Assembly for the member to possibly be expelled. The Responsible Fishing Code should be reviewed on an ongoing basis and discussed with diverse fisherfolk so their knowledge and implementation of the Code turns into everyday habits.

The CoopeTárcoles R.L. Responsible Fishing Code was approved unanimously in the General Assembly at the end of November 2004. It was presented officially to national authorities in April 2005. The Code is a voluntary guideline that has been adopted by this artisanal fishing cooperative on the Costa Rican Pacific as an expression of its will to contribute to the sustainable use and conservation of the coastal marine resources.

"Compliance with the code and laws comes from the heart of each fisherman and fisherwoman and depends on their awareness about doing certain things. It will not be easy to change the customs that have been in place for many years."

b. The Community Marine Area for Responsible Fishing

No precedent existed in Costa Rica of a Marine Area for Responsible Fishing; nor has any set of norms existed up to this point by State Institutions (responsible for developing and conserving marine territory) that guarantee recognition of marine territories for community use.

Faced with this situation and based on a request made to the INCOPESCA Board of Directors by CoopeTárcoles R.L. and CoopeSoliDar R.L., a Commission was created whose main objective was to prepare a national proposal. The proposal would allow, not only CoopeTárcoles R.L. but also other organized small-scale fishing communities that met certain requirements, the possibility of requesting the recognition of a Marine Responsible Fishing Area from the INCOPESCA Board of Directors.

The national proposal preparation process was slow and complex. On the one hand, the State has first to recognize the legal authority of INCOPESCA to establish a Marine Responsible Fishing Area of this type. On the other hand, being able to define a norm that would respect the rights of all citizens living in the country without excluding any sector during the drafting process had to be taken into consideration.

In association, CoopeSoliDar R.L. and CoopeTárcoles R.L. were able to make their own contributions while preparing and negotiating the proposal. For example, CoopeSoliDar R.L. contributed by preparing the technical contents referring to Costa Rica's norms and compiling and analyzing the primary advances in the area globally. In parallel, CoopeTárcoles R.L. contributed by identifying the particular attributes of the artisanal fisherfolk: their history, fishing tradition, local needs, and so on.

The draft proposal was taken to the Commission, where the final proposal for the Marine Areas for Responsible Fishing was devised. CoopeTárcoles R.L. and CoopeSoliDar R.L. participated in all of the commission's meetings. As defined within the institution's responsibilities, the INCOPESCA representatives facilitated the technical and legal proposal.

The final proposal does not perfectly adjust to what is defined internationally as a community conservation area but it has made it possible for the country to move with more participatory governance proposals. In a country with a centralized orientation, such as Costa Rica, this must be considered as a step forward.

The bylaws proposed for setting up the Marine Areas for Responsible Fishing were approved in a meeting held by the INCOPESCA Board of Directors on April 4, 2008. These bylaws recognize the fisherfolk's right to work, to participate, and to have a healthy and ecologically balanced environment. From that point on, the procedures began to recognize and establish the Marine Area for Responsible Fishing in Tárcoles.

The definition established in the bylaws of a Marine Area for Responsible Fishing is as follows:

> "This is an area with important biological, fishing or socio-cultural characteristics, in which fishing is regulated in a particular way that ensures that fishing resources may be enjoyed in the long term. INCOPESCA may count on the support of coastal communities and/or other institutions in conserving, using, and managing this area."

It defines a procedure where the applicant organization takes the lead by providing, for example:

- Historic records and information that demonstrate the biological, fishing, socio-cultural, and environmental importance underlying the given areas;
- Mechanism for regulation;
- A baseline for the socio-economic status of the members of any interested organization;
- A map that indicates the geographic coordinates of the proposed zone according to the National Geographic Institute;
- Participatory zoning (with the support of INCOPESCA or another institution or organization) for the areas to be used for fishing, and the areas where fishing is fully or partially prohibited;
- Details about the types of fishing (commercial, sports, tourism, etc.);
- Quantity, number, and types of practices;
- Types of boats;
- The size of the first catch; and
- Any other information that is relevant for the proposal to be viable.

Once the request was analyzed and accepted, INCOPESCA, with the support of the applicant organization, issued the Fishing Zoning Plan that set forth the characteristics and individual regulations for fishing or aquaculture practices in the referred area.

What is innovative about this initiative is that it does not create exclusive rights. On the contrary, fishing in these areas will be allowed for members of the applicant organization and any other fisherfolk so long as they have a current fishing license and follow the regulations set forth in the Fishing Zoning Plan defined for each area.

Along with the applicant organization, a Follow-up Commission was appointed to ensure that the Fishing Zoning Plan is enforced, tracked, and monitored.

Parallel to the national proposal preparation process, the work done internally by CoopeSoliDar R.L. and CoopeTárcoles R.L. has included an analysis of possible scenarios and conflicts. The purpose is to identify the best way to negotiate the area, reach agreements with other users, and identify action plans based on the responses obtained when the proposal for the Marine Area for Responsible Fishing in Tárcoles is presented.

The most complicated point in this political impact process was the analysis of the state's responsibilities and the involvement of community participation spaces for the making of decisions on marine resources, common property to all. The initial proposal was legally binding for the state to recognize the practice of artisanal fishing in the Tárcoles area for more than forty years and, consequently, their rights of access to the coastal marine resources. This stance met with resistance at INCOPESCA because they held that authority over public property, the sea, pertained exclusively to the

State, which must exercise its right of domain in making decisions. It is precisely this position that is included in the bylaws, since INCOPESCA is the entity that sets up the Marine Areas for Responsible Fishing; however, the creation of a Follow-Up Commission with the participation of the applicant organization was accepted, guaranteeing the participation of local stakeholders.

The legal regulation that established the Marine Areas for Responsible Fishing accepted two representatives of the Government and one from the applicant organization for the Follow-Up Commission. The scheme proposed for the Marine Area for Responsible Fishing for Tárcoles is more complex than that because it includes a whole chapter on governance, that is, on how decision-making is accomplished in the area.

The CoopeTárcoles R.L. Administrative Council passed a motion on 5 May 2008 that included the filing of the guidelines for the Marine Area to the INCOPESCA. The INCOPESCA's Board of Directors revised this information to recognize the Marine Area for Responsible Fishing in Tárcoles. That area was officially named: The Tárcoles Community Marine Area for Responsible Fishing.

On 21 January 2009, the INCOPESCA's Executive President issued the PESJ 33-01-2009 legal ruling. This ruling set up an Inter-institutional Working Group to prepare the Fishing Zoning Plan. They established the characteristics and individual regulations for the active functioning of the Tárcoles Marine Area for Responsible Fishing.

The plan resumes a process that is close to turning a decade old. The process calls for an active participation from the fisherfolk in conserving the marine resources that are the basis for their economy.

The Fishing Zoning Plan includes the proposal prepared by the Inter-Institutional Working Group that was approved by the INCOPESCA's Board of Directors.

The Plan recognizes Community Responsible Fishing Areas as an alternative that achieves conservation efforts, the sustainable use of resources, and the inclusion of local populations in protecting nature and the resources that they depend on for survival.

In August 2013, at the request of the Tárcoles fishing community, INCOPESCA extended the ban on shrimping to the agreed-upon area and approved standards for sustainable use and management of the resource, based on the fisherfolk's local knowledge, which has had an important positive impact in the local fishing economy and at the community at large.

c. The "Por la Mar R.L. Consortium": An Inclusive Business for Responsible Management of the Sea

Another important product born from the relationship between these two cooperatives has been the formation of the Auxiliary Cooperative Body, Consorcio Por la Mar R.L., formally incorporated on 7 August 2007.

The vision is to seek development and consolidation for the alliance's aims and to promote better living conditions for the Tárcoles fisherfolk and the community members by offering guided visits. The guided visits reflect the knowledge of the community and showcase the way of life of artisanal fisherfolk in the area.

The Consorcio Por la Mar R.L. vision is the following: "Share the experiences related to responsible artisanal fishing in Tárcoles, showing Costa Ricans and foreigners that fisherfolk work with honor and responsibly. "

Likewise, its mission was established to "propose alternatives to improve the quality of life while protecting their culture and the environment, with equality and justice."

They also mutually agreed to define the *values* that will identify their actions and the members' behavior, i.e.:

- Solidarity

- Responsibility
- Transparency
- Honor
- Honesty
- Effective communication
- Conservation of the environment

Both cooperatives use the following framework to bolster their objectives and aspirations: "Show that responsible artisanal fishing is a dignified way of life that helps conserve marine resources and culture while helping our families."

This framework has been accomplished by capitalizing on community tourism that bolsters two important elements: the residents' cultural identity and experience in artisanal fishing practices and the wealth of the natural resources that are found in the Tárcoles marine coastal environment. The Consortium offers guided visits with the purpose of making people aware of how the fisherfolk live. The visits include spending time with the fisherfolk, getting to know their fishing practices, their daily work life, and the natural resources that exist in the area.

The Consortium may be used as a good example of an inclusive business. It is an innovative instrument that will make possible, over the long term, to not depend on international and/or external aid. It will ensure the sustainability of the initiatives that are being undertaken by both CoopeSoliDar R.L. and CoopeTárcoles R.L., namely: the Community Marine Area for Responsible Artisanal Fishing, creating new knowledge based on local research and techniques, and sustainable fishing management by CoopeTárcoles R.L.'s local fishery.

d. Generating knowledge and a database for decision making

In mid-2005, with the aim of strengthening local capacities, a Fishing Data Table was set to collect information about daily fishing hauls, fishing effort, main fishing spots, and the moon's influence.

Reconciling traditional knowledge with scientific knowledge made the fishing database particularly important for CoopeTárcoles R.L. The database records the fishing effort; species caught, and associated information that strengthens responsible artisanal fishing.

The data is taken from each fisherfolk and compiled by a local fisherwoman who tabulates the information and enters it into a computer. CoopeTárcoles R.L. and CoopeSoliDar R.L. analyze the data and use it for decision making in sustainable fishing management. Sharing this information with society from month to month has been a major element in generating knowledge (Box 1).

This work has also made possible to provide feedback in a timely manner to the State institutions responsible for marine research. For example, a recommendation was made to monitor fishing on stingrays as well as the need to do participatory research about lobsters on the Costa Rican Pacific.

BOX 1
Participatory Zoning

The zoning for the fisherfolk's fishing area, proposed as a "Marine Area for Responsible Artisanal Fishing," has been a very interesting exercise that has made it possible for the CoopeTárcoles R.L. artisanal fisherfolk to build a vision, objective, and common orientation about their work area. Through open meetings with the artisanal fisherfolk, a map was built of the fishing spots, the types of fishing practices used, and the areas with the greatest environmental vulnerability. Once the geographic marine spaces were defined, it was double checked against the information compiled in the database.

During this process of identifying the fishing spots, the artisanal fisherfolk were trained on using compasses, how to read land and sea maps, and how to use a GPS. This process strengthened their skills.

Data was complemented by a participatory geo-referencing exercise. Once the geographic coordinates were defined, the information was integrated with the geographic information system to create area maps.

Participatory zoning also made possible the identification of new stakeholders that share the marine resources as well as latent conflict areas, linked particularly to the fleet of shrimp dragging fleet and to other artisanal fisherfolk who fish with a high environmental impact. This information was used to prepare the fisherfolk for possible negotiation scenarios with the different stakeholders.

Participatory zoning brought along progresses in identifying the sectors considering the type of coast, existing natural resources, the fishing gear used, the parties using the resources, areas of conflict, and fishing practices. This information is a fundamental element in developing the small-scale fishing zoning plans as well as the specific responsible management standards for each sector of the Community Marine Area for Responsible Fishing (http://www.coopesolidar.org/images/plan.pdf ; http://www.coopetarcoles.org/images/boletines/08/abr08.pdf).

e. Fishing Zoning Plan

The Tárcoles Marine Area for Responsible Fishing (Tárcoles MARFA) is located on the outside of the Gulf of Nicoya in the District of Tárcoles, the Canton of Garabito, in the Province of Puntarenas.

In 2010, CoopeTárcoles R.L., with the technical support of CoopeSoliDar R.L. and along with the commission that was officially appointed for these purposes, presented the Fishing Zoning Plan to the INCOPESCA Board of Directors. This plan divides the Tárcoles MARFA into 6 distinct zones that regulate the different types of fishing gear that can be used in each zone. The plan authorizes different types of fishing gear for the different areas based on the characteristics and fishing potential of each area. This authorization is based on both traditional and scientific knowledge.

On 19 August 2011, the Costa Rican government, through decree A.J.D.I.P./193-2011 published in *La Gaceta,* official journal number 159, formally recognized the Tárcoles Marine Area for Responsible Fishing.

The approved Fishing Zoning Plan has the following pivot points:

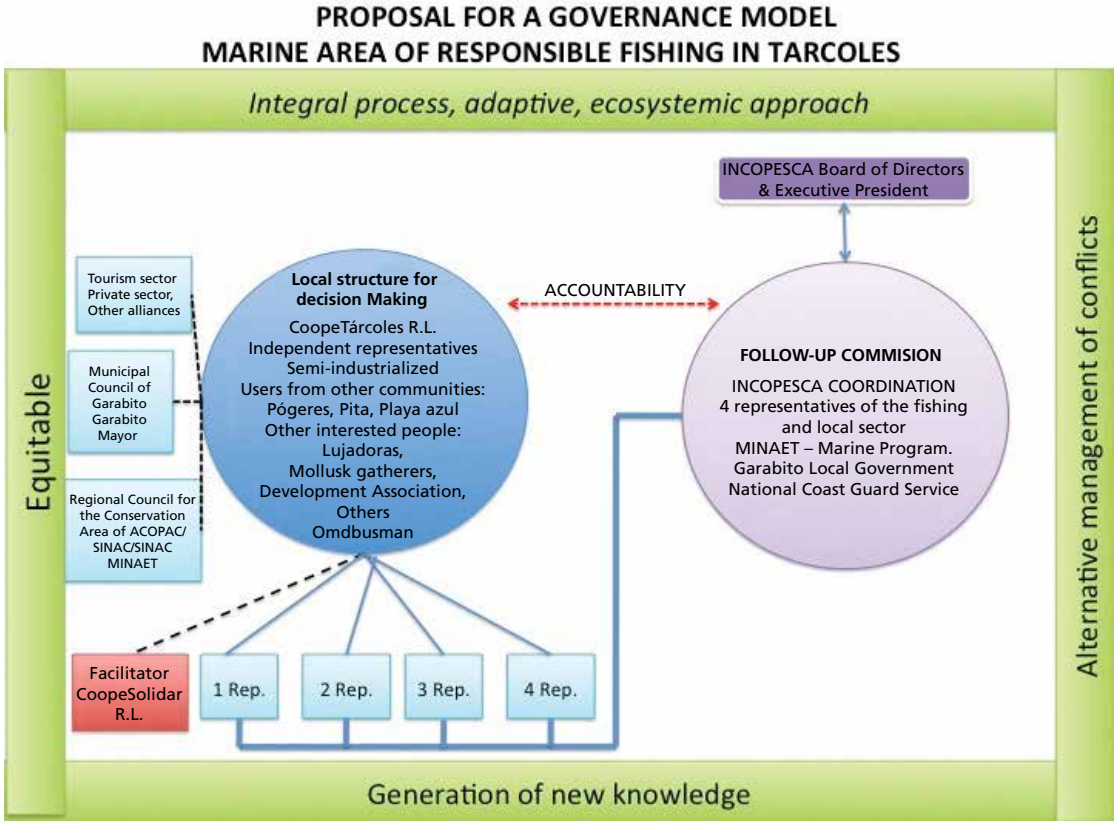
1. identification of the areas with full or partial bans: biology and fishing management;
2. identification of the fishing gear and methods allowed: biology and fishing management;
3. training and extension program: projection into the community and building knowledge;
4. training and extension program: strengthening of the local organizational structures;
5. training and extension program: strategic alliances and marketing;

6. productivity;
7. commercialization;
8. enforcement programs and compliance with current legislation; and
9. monitoring and research program: tracking and monitoring.

The agreements for the Tárcoles Marine Area for Responsible Fishing established a zone that banned shrimp fishing for a period of one year, in an area that runs from the coast up to 15 meters ocean deep. In this area drag boats, artisanal fishing targeting shrimp and the use of nets is prohibited. Only fishing with a hand line will be legal during the ban.

This banned zone would be extended for one year after official recognition by INCOPESCA. At the end of the year, the commission that was appointed and coordinated by INCOPESCA to follow up on the Fishing Zoning Plan's approved governance model would define the need to maintain, extend or eliminate the banning of shrimp fishing and similar species based on the existing information. The purpose is to sustainably manage the resources with a fair and equitable distribution of the benefits derived from conservation. The needs of the population and the artisanal fisherfolk in the communities involved in this conservation and fishing resource management process should be a priority.

The agreement was extended for one more year without being revised. As of August 2013, based on scientific information, the Board of Directors was able to approve the proposal by the fisherfolk to keep the shrimping boats away but allowed shrimp to be fished with a 3.5 gauge net in December, January, and February; as well as scale fishing with gauge 5 (AJDIP 312-2014, August 14, 2013).



Within the participatory process for local zoning for the marine territory, the fisherfolk in the Tárcoles community proposed an innovative system of governance for their Responsible Marine Area. Since this system of governance was included in the Fishing Zoning Plan, it was officially recognized by the State.

The model is an integral, adaptive process with an ecosystem approach that suggests that conflicts may be transformed by applying the principles of equity and knowledge generation. It promotes voluntary standards for the artisanal fishing sector as a function of conservation and development.

For a year, the Local Follow-Up Commission met periodically. The official Follow-Up Commission, appointed by INCOPESCA, was not able to meet since it never had the quorum to validate the meetings.

MARFA has been able to integrate the fisherfolk, members of CoopeTárcoles R.L., with the fisherfolk who are not members, thus maintaining communication with fisherfolk from beaches close by such as Pógeres, La Pita, and Playa Azul.

5.12 Social Cohesion: Relationships among the Fisherfolk and with those who are not members of the cooperative

In 2003, members of CoopeSoliDar R.L. ran a quick diagnostic on the members of CoopeTárcoles R.L., asking the following question: "The cooperative movement is founded on a series of values: equality, democracy, responsibility, mutual help, solidarity, and equal rights. Do you think that these values are being met at CoopeTárcoles R.L.? Can you think of an example of when you can see these values?"

On one hand, the interviewed members said that the cooperative, to some extent, has provided support in cases when the fisherfolk or their families were going through difficult times (no job, some sort of illness or accident). On the other hand, they also mentioned that the oversight and education committees, in charge of overseeing the subject of values in the cooperative, have not been successful in any way.

5.13 Social evaluation of the work of the focal organizations

During 2004, 2009, and 2013, CoopeSoliDar R.L. and CoopeTárcoles R.L. ran diagnostics on how the organization is perceived and other subjects of interest in the associative process. The following is a recap of the main findings that are relevant for the present case study:

a. Recap of Perceptions – 2004

In relation to the importance of CoopeTárcoles R.L. within the town's socio-economic dynamics, it would seem that the cooperative is not important and is not generally popular. There is a large percentage of artisanal fisherfolk in the community who do not care about being a member of this organization and they do not perceive being a member as particularly advantageous. Of the 76 fishing workers who answered the question, 28 (37 percent) do not believe that the cooperative is vital for their livelihood. They do not see it as belonging to them and there is just a convenience-based relationship in the sense that the cooperative needs products and they provide them.

The cause for this opinion pointed to multiple issues related to how the cooperative was mismanaged in the past by previous administrations. It would seem that negative experiences with the management and problems on financial resources management have been the main problems that have caused this group of fisherfolk to back away from the cooperative organization. In addition, some fisherfolk have said that there are "cliques" and power is concentrated in the hands of some managers, which does not provide an incentive for them to seek a cooperative alliance. By working independently, they have been relieved of certain responsibilities that they do not want. They are able to go out fishing, come back, sell their catch and go home.

There was a consensus in 2004 that the most important commercial species have become scarce. There are disagreements on whether the scarcity is of the rose snapper (*Lutjanus guttatus)*, Pacific bearded brotula (*Brotula clarkae*) or the shark (*Mustelus dorsalis*) but these disagreements are irrelevant. What they do agree upon is that the

general scarcity leads to financial problems, uncertainty, fear, and instability for the cooperative and the community. Shrimp fisherfolk also say that there has been a big drop in quantity, which is not unusual or unheard of since it points to the general decline in the Gulf's resources as an ecosystem.

It is important to reiterate that the cooperative is located in front of a tropical estuary that has a rich biodiversity but has been subject to aggressive and progressive removal of resources with little regulation. There has been no effective control over the massive extractions of fish, shrimp, lobsters and other crustaceans and mollusks. As one of the fisherfolk said: "*The Gulf is already getting resentful from so much fishing*."

The specific problems related to the scarcity of resources are only one of the problems faced in the chain of fish workers' life. In the interview, the fisherfolk mentioned:

- The economic implications of searching for marine resources in zones that are farther and farther away from the traditional fishing spots;
- Longer fishing trips mean more time spent fishing, more investment in fuel, and in some cases changing the fishing gear that is used; the lines or coastal nets are not very effective in the deep sea and the currents can tangle ("ball up" as the fisherfolk say) the nets.

We are also talking about an increase in the effort involved in fishing, which translates into fewer kilos of fish per time unit and person.

The scarcity of bass, snapper, and brotula has a backdrop that cannot be ignored: all these species are top predators from the point of view of the marine food chain. This means that there is a series of links or processes that must take place for these fish species to co-exist. If there are any breaks between the estuary's trophic levels (caused by contamination and overfishing), their reduction can mean that other biotic groups with lower trophic levels, such as sardines, anchovies, and jack fish, are also disappearing. With this whole drop in coastal resources, it is increasingly difficult to pay for the costs involved in fishing (bait, fuel, and net, boat and motor maintenance) and to earn enough to live on.

Faced with this outlook in 2004, the opinions on fishing point out that the fisherfolk feel that something is not right. The pessimism is the same for cooperative members and non-members. Reality dictates that there is nothing the cooperative can do about its members' negative feeling about fish as a resource. It is perceived as an aspect of the environment that transcends the boundaries of an organization and becomes a community affliction. The numbers indicate that, of the 76 interviewees, 46 percent say that the business is fine. If that were true, the satisfaction level percentage should be higher. The percentage of people who think fishing is not doing well and those who do not know is 48 percent. This figure is higher than the percentage of people who are satisfied.

This discouraging state of emotions is reflected in the answers to the question about what the working conditions are like. The fisherfolk in question were dissatisfied with the poor and difficult conditions, and were especially worried by having to supply ice, bait, and fuel. In conversations with the cooperative members, they point out that there is no dock or place to tie up and anchor their boats when they arrive after they have been out fishing. Currently, after hours of hard work they come back to the coast and they have to dismount the boat motor, wash it, and take it to storage. Some 24 percent of the interviewees (n=76), however, think that the conditions are all right. This give-and-take about working conditions does indicate that, for the non-member fisherfolk, conditions are worse than for the CoopeTárcoles members, because the coop members at least have an organization that can lend them money to buy ice, fuel, or bait. It can also give them cash advances to be paid back when delivering the fish. Non-members do not have this sort of help.

This whole state of uncertainty has led the fisherfolk, Coope Tárcoles R.L. members and non-members alike, to open up about their future expectations about what they want or are able to do related to work. New businesses are opening up that in the end will ensure an income and ways to support the family. Although most of the interviewees have fished for a living, they agree that they are willing to work in other business. Above all else, they are not willing for their children to continue working in this business, as indicated by 53 percent of the interviewees. Tourism and the goods and services chain have overtaken the fisherfolk and they want their children to look for other types of work. Most see themselves working in tourism, hotels, business, or construction. A minority is not sure what they could do if they stopped fishing and think they would do just about anything. Meanwhile, 2.5 percent of the fisherfolk would not stop fishing and think that their children should fish as well since it is the only thing that they themselves know how to do and because they cannot learn a different trait due to their age. If the fishing industry were to collapse, the fisherfolk in Tárcoles have visualized new job possibilities and, although they have been fisherfolk all their lives, most of them do not want their children to be fisherfolk. Instead, they think that the community and its surroundings have a series of natural attributes that may be used as channels for job supply and demand. They know for a fact that there are a lot of job opportunities in the Carara and the Río Grande de Tárcoles National Park. They know for a fact that thousands of tourists come each year to see the natural wonders. They know what kind of attractions their community has. They have knowledge on crocodiles, parrots and other birds, and about bird and animal watching. They think that those kinds of jobs can be occupied by their family members or even possibly by the fisherfolk themselves.

The new job possibilities would imply a change in the way of life, a jump from the sea to the land, a new cosmology, a new way of dealing with daily life. But, as one of the interviewees said, "*my family is stuck between fishing and another kind of work*."

The same way that they know for a fact that they should look for other types of work, they also know about the negative changes in the community. They know about the new threats that have come in or that have been aggravated, for example, the problems with alcohol, drugs, and prostitution.

The fisherfolk are not blind to the fact that Tárcoles has to change socially. They know that they are the ones who should organize, the ones who should join together to keep the young people from falling into the trap of drugs and vagrancy; they should do this to avoid tourists from staying away.

b. Recap of Perceptions – 2009

When we asked in 2009 about the main positive or negative issues that CoopeTárcoles R.L. had in relation to the community, 16 percent (43 out of 274 interviewees) indicated that they did not know about the cooperative and/or they did not answer the question. The rest of the interviewees (230 questionnaires) provided assessments that may be grouped together as follows:

Most of the interviewees (44 percent–102 questionnaires) agree that the cooperative has contributed as a source of employment. A second group (26 percent–60 questionnaires) brought up the contribution and benefits that the artisanal fisherfolk receive such as gasoline, supplies, and member benefits, and even financial support when the situation is critical. The rest of the population that was interviewed indicated, other contributions: receiving and selling of fresh fish, working together, solidarity and the support that some local institutions receive, such as the Tárcoles elementary and high school. Some 3 percent of the interviewees (8 out of 230 questionnaires) mentioned that they do not receive any benefit from the fact that Coope Tárcoles R.L.

exists in the community. A small group of people mentioned other benefits such as the establishment of projects that have reached the community thanks to the work done by Coope Tárcoles R.L. (AVINA, CI, FIA, FAO) with the support and joint work with CoopeSoliDar R.L.), the international recognition received in the last few years (the CCAD Award for the cooperative's contributions to environmental management, being finalists for the global Equatorial Initiative award), and the contribution made to society by the cooperative as a product of selling fresh fish.

Continuing with this group of interviewees, when they were asked what areas the coop should improve, the data show some key issues. A group of 40 people interviewed (the largest group) did not answer or did not know what areas should definitely be changed. The rest of the people interviewed, which represents the majority, may be divided into three groups. The first group with most of the people interviewed emphasized in the following order: administration, contamination, waste management, working on social issues, approaching the community, and actions to decrease the consumption of drugs and alcohol. The second group of answers pointed out that the coop should obtain better prices, engage in actions to improve the fisherfolk's conditions, improve the organization, and work as a team. The third group of answers includes subjects such as human resources and the importance of staff rotation, having CoopeTárcoles R.L. promote new sources of work, and improve security and surveillance in the coop.

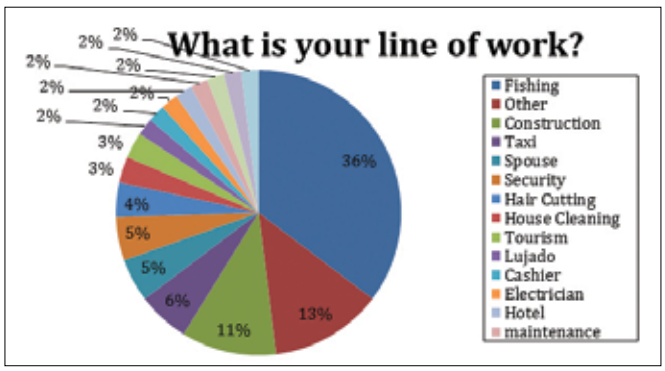
The people who were interviewed also focused on actions to reinforce values, transparency, marine conservation, setting up an area for untangling nets, improving the relationships with government institutions, and making an effort to bring more members into the cooperative.

The people who were interviewed in 2009 about the cooperative's work provided the following assessment: 11 percent said it was poor or very poor (27 answers), while 49 percent (120 answers) think the cooperative's work is good to very good. When the information is broken down, most of the people perceive the work done by CoopeTárcoles R.L. to be all right (99 answers, 40 percent), followed by a second group of people (92 answers, 37 percent) who perceive the work to be very good.

When they were asked about the existence of the auxiliary cooperative organization, Consorcio Por La Mar R.L., 39 percent of the interviewees (108 forms) indicated that they did know about the existence of the consortium, while 58 percent (158 forms) indicated that they did not know about or had not heard about Por La Mar R.L.

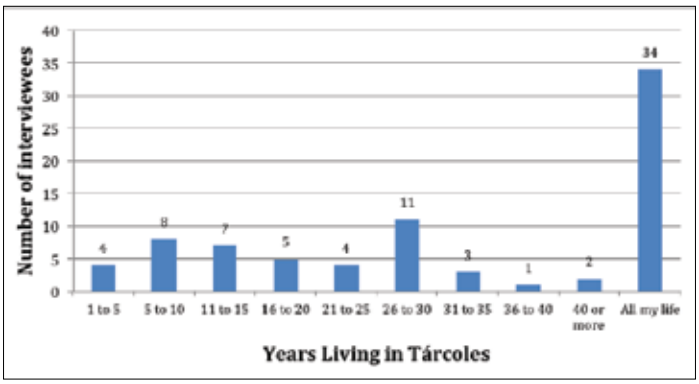
c. Recap of perceptions – 2013

In 2013 a major percentage of the interviewees said they worked in jobs related to fishing.

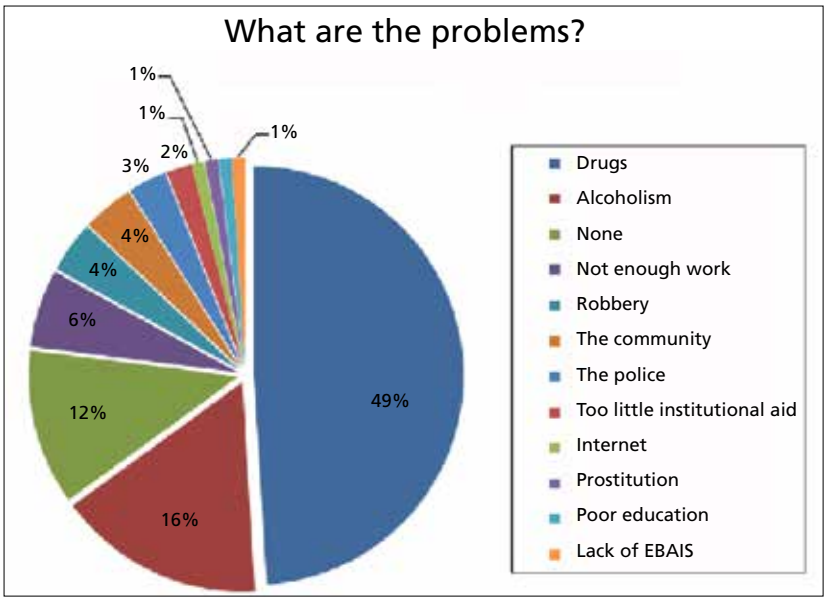


Fishing is followed by the 'other' category, which includes a wide variety of jobs: farming, working in a bar, carpentry, day care, management, gas stations, machinery, border protection, retired, and working in a cafeteria.

The following graph shows that most of the interviewees appear to have lived in Tárcoles their whole life. They are rooted to the area and to its identity, which includes a relationship with fishing and the sea.

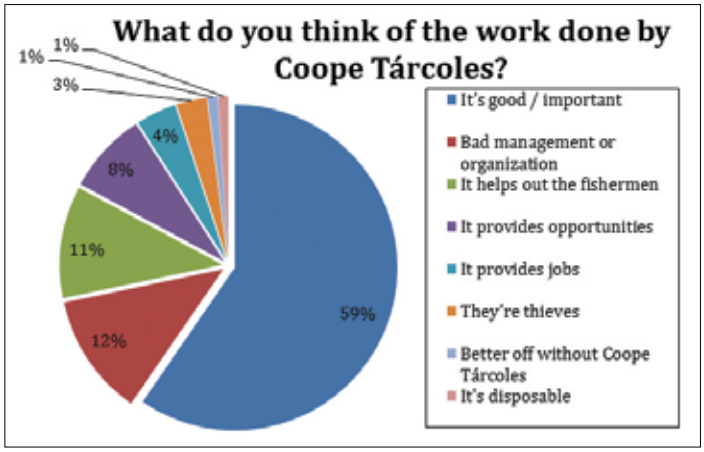


When people were asked if there are any problems that need to be solved in the community, most (90 percent) answered by saying yes. Of those, 49 percent mentioned drugs as the most important problems to solve.

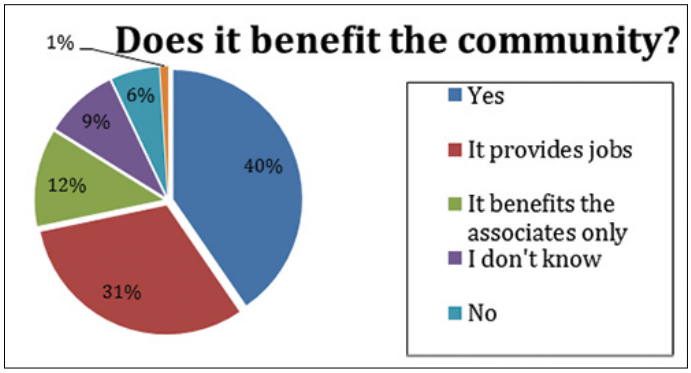


Most of the people (92 percent) who were interviewed know about the work done by CoopeTárcoles R.L., 5 percent knows a little, and 3 percent doesn't know about it.

Most people consider the cooperative to be doing good work that helps the fishermen and provides opportunities and employment. Some 12 percent think that it is poorly managed and organized.

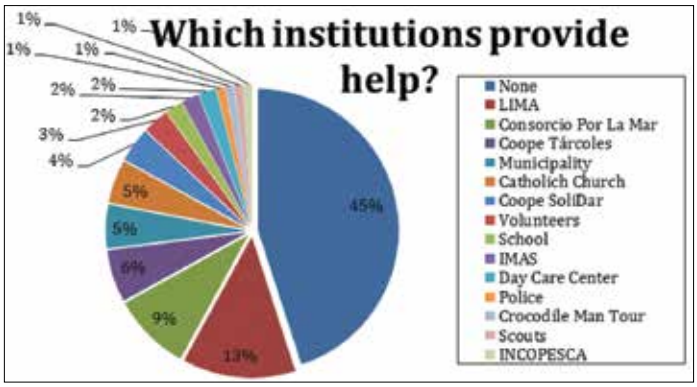


Close to half the interviewees think that CoopeTárcoles R.L. benefits the community and its members, in addition to 31 percent that think it provides employment.

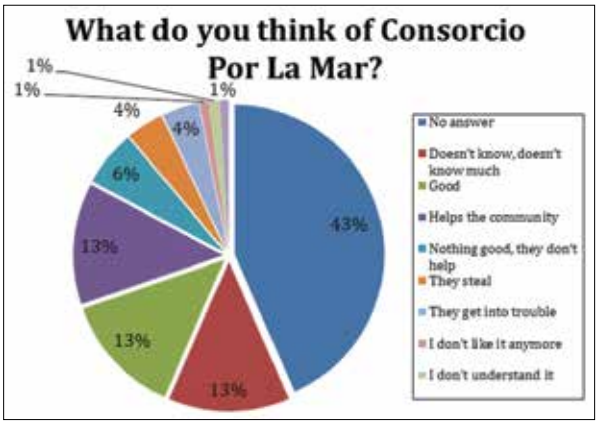


More than half of the interviewees (51 percent) have participated in activities put on by the cooperative, 49 percent felt that they were not invited.

Consorcio Por la Mar R.L., as of 2013, took third place when the interviewees were asked which institutions provide support to the community. Institutional support in this community is not strong, evidenced by the amount of responses saying none of the institutions help.



Most people (59 percent) say they are familiar with Consorcio Por la Mar R.L. Even so, there is still a need to explain how it works and its importance for conservation and community development activities, due to the fact that 33 percent doesn't know about it or didn't answer.



When asked about the Marine Area for Responsible Fishing, as of 2013, the majority of those interviewed (61 percent) did not answer the question, which could be due to the fact that they were not informed since they work in activities unrelated to fishing. A third of those interviewed (32 percent) believed that the Marine Area was a positive thing while 7 percent had negative opinions on the Area.

From our perspective, small-scale fishing in the community of Tárcoles is now well-recognized and stronger than 10 years ago. The cooperative has remained strong as the main economic local organization. Furthermore, the Responsible Fishing Area has been seen as something important and positive for the community.

5.14 Gender Issues

Women (fishers, lujadoras, youth) from Tárcoles reproduce the patterns learned from their parents. These patterns, often negative and stereotypical-driven, have been repeated through generations. They believe that they are able to contribute additional income to the family by preparing foods and handcrafts, but they have no clear-cut objectives or know how to properly manage a micro-enterprise. With a few exceptions, they do not perceive themselves as being part of fishing. When they do, it is out of financial need. They are positive about their future, but they see their economic situation as a roadblock. Nevertheless, the young local women long for opportunities; they see themselves as future professionals.

a. Women: Outlook and dreams in 2004

As may be surmised from the interviews held in 2004, 55 percent of the women explicitly say that one of their main daily activities consists of domestic chores. In juxtaposition, 8 percent are receiving formal education. Some 9 percent of the population interviewed indicates that during the day they "work," without clearly indicating if it is paid work or domestic work.

Following the national fishing tradition pattern, the women in Tárcoles have not fully given themselves over to fishing work. Very few women work in the fishing industry. The women who were interviewed tend to think that it is a man's market niche.

Female support in the fishing industry is related to work that does not involve much physical effort. Nevertheless, the women who were interviewed show a great deal of satisfaction in fulfilling an important role in the fishing chain of activities. Specifically, they mention their responsibility for preparing the bait, straightening out the lines, and cleaning the fish when the fisherfolk come ashore at the end of the workday.

Most of the women who are involved in fishing are not members of the cooperative. They are part of a group that stays out of CoopeTárcoles R.L., but this does not keep them from having a vision similar to that of the male cooperative members or non-members in relation to fishing and marine resources.

The fact that there is one female for every three male fisherfolk does not distort the opinion about the socio-economic dynamics in Tárcoles. Women perceive problems the same way. They know about the coastal marine resources being exhausted, they view drag fishing for shrimp as a negative practice, and they agree about the serious repercussions of contaminating the Tárcoles River. They also share the men's concerns for the social environment and the pathologies that affect the family and neighborhood.

The organizational structure of the cooperative relies on women for certain jobs ranging from management level to office work, as well as work in the sea. There are no boats or fishing equipment owned by women at CoopeTárcoles R.L. This fact lowers their power and indicates that labor relationships continue to be governed by the men's willingness to include women in the business.

b. Women: Outlook and Dreams in 2009

The community identifies a broad participation by women in production, community organizations, and support in Government Institutions. According to the interviewees (149 women), women participate in the following community organizations: The Development Association, Sports Committee, Women's Committee, Water Pipeline, Campaign against Cancer, Elementary School Sponsorship and High School Board, groups of organized women, Scouts, and community meetings. Their support and participation are visible in the different government institutions: PANI (child services), AYA (water and sewage), the police, INA (government-sponsored training), the church and the municipality.

Women's involvement is seen in industries such as cafeterias, restaurants, fishing, net straightening, cleaning, sewing, and other activities, as well as cooperatives that work in the community: CoopeTárcoles R.L., Consorcio Por La Mar R.L., and CoopeSoliDar R.L. Added to all this, their participation in community and school meetings is also recognized.

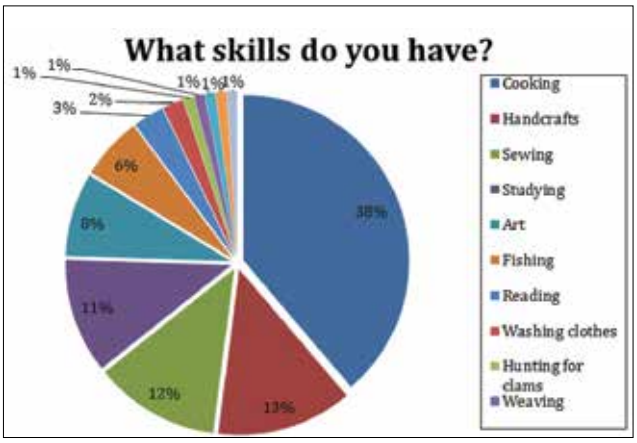
When the full population that was interviewed is asked about women's participation in making decisions in the different community organizational structures, 29 percent said they did participate. When the population is reduced and when an analysis is done of the responses by the women who were interviewed, 49 percent say that they do participate in the decision making process, while 40 percent say that they do not participate, and 11 percent do not know or did not answer the question.

When this population was asked about their vision for the future or dreams, 70 percent did not answer the question. The remaining 30 percent of the population (42 interviews) dream about being a professional, studying, having better job opportunities and owning a home.

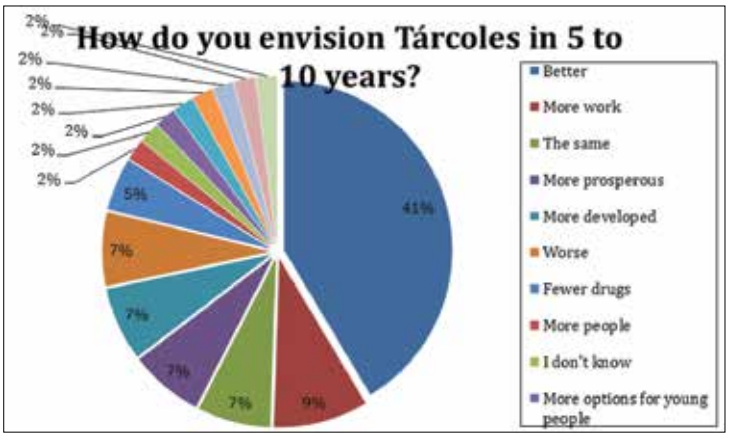
c. Women: Outlook and dreams 2013

Eighteen percent (18 percent) are doing some sort of work, while most women, more than 50 percent, are housewives. As was mentioned for the past years, the activities that women engage in during their spare time vary and many are related once again to their home or they say that they do not have any spare time (16 percent). It is interesting to point out that, as of 2013, 12 percent said that they had some sort of access to technology (computers or the Internet) in their spare time.

Most women said that they were interested in some sort of business, but other than cafeterias and restaurants, no business is mentioned related to fishing, even though at least 6 percent of the interviewees said that they had fishing related skills.



A major percentage think that Tárcoles will be better in 5 to 10 years mainly because there will be more jobs and prosperity. Money and education were mentioned most frequently as factors that make it difficult for women to overcome obstacles to development.



The social construction of women is not unrelated to the reality of the fishing communities. From the times of their ancestors, there has been a myth that "nothing feminine, no symbol or presence, could be in the boats that go out to sea, because it was a sign of bad luck and tragedy." Many women in the fishing communities have been overcoming these deeply rooted ideas, not just in relation to the traditional culture, but also in relation to a society where most of the opportunities, the control of resources, and the power to make decisions have been concentrated in the hands of 50 percent of the population. In other words: men.

Women's reality as it relates to fishing is very similar to the situation of women in agriculture. For many years they have not been visible in production-related roles. Due to peer pressure or pressure from society, some women, have resisted fishing as an employment alternative. They have stayed in their domestic chores and engage in other informal businesses that are not recognized or valued in their just dimension.

A smaller group of women, on the contrary, have found an important niche in fishing and related businesses and see this business as a source of complementary resources for their family's wellbeing. In that regard, we can relive the testimony of Maritza Mena, an artisanal fisherwoman (Box 2).

BOX 2

Testimony of Maritza Mena, Fisher, La Pita – Tárcoles

I have been fishing since I was a little girl because I live very close to the sea. I always dreamed of going out to sea, but we were really poor and couldn't afford a boat so my brothers would say to me: You want to go fishing? I would say: Sure, of course, but how am I going to go out there? And I would point out to sea. They told me, "just watch, you're going to go," and then made me a raft with oars. That was the happiest moment of my life. They had barely finished building my little raft when I took it out to sail. I didn't go very far out because the raft wasn't safe and the winds were really strong and they could blow the raft apart. Then they made me a boat and "that was an entirely different story." I always felt safe when I was rowing and I started fishing for real.

I didn't have any place to sell my fish because not many people lived in our community. So I assembled packages of five fish and went to town. The rocks in the road didn't even bother my bare feet. In town I went from door to door and sold all the fish. I went back home all happy about the money I made and I built up my hopes. Thank God my dreams came true. Today I have a skiff with a motor but I'm still dreaming about having a bigger boat for my son. He's 16 and he's a fisherman. That's why I'm all in favor of the [fishing] ban because we are all responsible for taking care of the sea. It's an eight-meter strip of the sea that we take care of. It has a ton of shrimp and fish and us fisherfolk depend on it.

The sea gives us work, for both women and men, both at sea and ashore. That is why I love it because in addition to the money, it's a way for you to leave your problems behind. When you fish you forget about everything and when you go home you're all new again, you want to go back, thanks to this work.

CoopeTárcoles R.L. little by little has been opening up minds on the role of women, so they can play an active role and contribute on a daily basis to the community's economic, social, and cultural life.

There have been some contributing factors:

-The realization that women have taken a position on the Board of Directors or as managers (such as Teresa Leon) and that they have done a successful, responsible job.

-Recognition of the women who straighten lines prepare the bait, find mollusks, who have an important role in the artisanal fishing chain and who were recognized by the possibility of being members of the cooperative.

-Opening up and supporting training. This work has been done both through the support provided by CoopeSoliDar R.L. in the form of assistance and advice; and opportunities linked to networks, institutions, aid agencies, and students from the different universities (national and international) who have provided their support to both women and men who are part of the population associated with artisanal fishing.

Opportunities have opened up for some of the women fishing leaders. They participate in activities, conferences, and seminars that put them in contact with other fisherwomen so they are able to broaden their horizons and build up their self-esteem. Table 4 provides a list of events that were extremely important in their development.

It has been important to open up these spaces in the nation and the region so that women from Tárcoles can legitimize their leadership roles, their self-esteem, their knowledge about artisanal fishing, and strengthen their cultural identity.

Through its alliance with CoopeSoliDar R.L., CoopeTárcoles R.L. has been concerned about recognizing the social and cultural rights of women related to artisanal fishing. For this reason, sessions were held to reflect on the work done by the women who straighten fishing lines.

TABLE 4
Projection by Female Fisherfolk from Tárcoles into National and International Activities that Emphasized a Focus on Gender

Activity	Year	Objective	Participants	Results
First Latin American Congress on Artisanal Fisherfolk, Chile.	November 2007	Strengthen organizational capacities for fisherfolk with a focus on gender and through access to information.	At the Latin American level. Jeannette Naranjo and Teresa León from CoopeTárcoles R.L. participated.	Motivation for cooperation, from the perspective of women, in subjects related to artisanal fishing.
Latin American Congress on Artisanal Fisherfolk, Costa Rica	September 2008	Do an analysis of artisanal fishing.	Latin American countries and female fisherfolk and female line detanglers from Tárcoles.	This event provided the opportunity to delve into the subject of gender with the women.
The International Day of the Rural Woman	October 2012	Highlight the subject of female fisherfolk in the rural sector	Public institutions in Costa Rica with ties to the fishing sector and rural issues, as well as groups of organized women in the country.	Created a focus on female fisherfolk and their contributions to food safety in the country.
A Day of Learning: Promoting Alliances and Contributing to Capacity Enhancement for Small-Scale Fisherfolk in Central America.	February 2013	Enhance the capacities of the men, women and young people who represent the small-scale fishing communities in the region.	Central American encounter where men, women, and young people from Tárcoles also participated.	Emphasizing the lessons learned and incorporating a focus on gender for artisanal fisherfolk, both male and female.
International Congress of Artisanal Female Fisherfolk	June 2013	Gain access to knowledge, research and critical discussion of different subjects related to the reality of fishing.		

During 2006, the experiences of the women net straighteners were systematized. Women doing this job spend 2-5 hours of work untangling the lines; it is a job done only in the months when the line is used, and the untangling of that line can cost 5 000 colones ($10). One woman can straighten 3-4 lines a day. During that process, the women reflected on their role in and contribution to responsible artisanal fishing and their interest in participating in the guided visits. These visits are promoted by Consorcio Por La Mar. They also reflected on some of the women's interest in joining CoopeTárcoles R.L. Although the process has not been easy for various reasons, there has been an interest in strengthening their self-esteem and rights. Since 2010, a series of learning sessions have been held that contributed to the knowledge and development of the female net straighteners.

Box 3 shows the main training subjects that were given to the female net straighteners. It also includes subjects related to drug prevention geared towards young people and children.

BOX 3
Subjects of the workshops held with the female net straighteners:

1. Self-esteem as a woman and fisherwoman.
2. Personal and collective development: Democratic leadership.
3. Families and co-living networks in Tárcoles.
4. Communication, gossip, and conflict management.
5. The right to integral health and non-violence.
6. My community across from the sea: how to make it a healthy, safe place.
7. Tárcoles: Marine Area for Responsible Fishing
8. My culture, land, and customs: maintaining strength when faced with uprooting and the loss of identity in the coastal zones.

BOX 3 *(continued)*

9. A sound, prosperous economy: The role of savings and healthy nutrition.
10. An organization based on respect and participation.

Each session included a practical exercise or homework that had to be fulfilled for the next meeting. There were some individual achievements. Nevertheless, straightening nets, which is done individually, does not allow them to visualize the importance of collective organization for other strategic objectives.

On the other hand, it's important to mention that other women involved in the guided visits promoted by Consorcio Por la Mar R.L. have improved their quality of life and receive concrete financial benefits from community tourism for responsible fishing.

Another aspect worth mentioning on the subject of social strengthening is the work done to prevent drugs. This is a problem that has been mentioned in different consecutive stages in the life of Tárcoles (through surveys taken in 2009 and 2013).

Subjects on drug prevention geared towards young people and children:
How drugs affect a community
How to prevent drug consumption
The difference between using and depending on drugs
Strategies to face drugs and allied institutions
Self-esteem and drug consumption
Communication between parents and children

Work on drug prevention was done together with different stakeholders such as the police, the Scouts, the Tárcoles elementary and high schools, women, and young people. Instead of using a kiosk with information on drug prevention, a small boat was placed on the beach where people were stationed to hand out important information to the fisherfolk. Simple information was also passed out door to door on the subject. In addition, written material and books on the subject were distributed, with a priority placed on families and young people.

In Tárcoles, there is still a need to keep working on social and gender issues. These issues include: the need for the community to understand the importance of boosting self-esteem, recognizing rights, and strengthening identity. Men may also become involved in the discussion and reflect on the masculinity models that are imposed by society. There is also a need to conserve marine resources to benefit the community and the country by engaging in new sustainable development visions.

The gender and rural policies in Costa Rica still have not positioned themselves to include a true recognition of women or young people. There is a lack of resources to implement actions that involve improving the quality life for the different social stakeholders.

More examples, actions, and good practices are required that confirm the valuable, active role of women in managing and conserving responsible fishing areas, their role, vision and contributions. Their role in the decision-making of the organizations is fundamental to make the communities more inclusive and democratic. Empowerment must take place at the organizational, cultural, and socio-economic levels.

Women need to share information and build strategies to take possession of the power that they have been denied for such a long time. The subject of finances is important but it should be approached from the side of gender (i.e. taking into account the limitations that women have had historically). This would avoid deepening poverty with projects that will create more work for women and that in the long run do not contribute to true personal and economic development. There needs to be further work done on distributing the roles between male and female fisherfolk in housework

and family care so both genders have just, equitable chances to move toward a better future. As was stated by a fisherwoman: "democracy in the country, democracy at home," a change that passes through the mind and through the heart, a change that can contribute to a more just, equitable society.

Table 5 shows that 0.01 percent of the population of employed women work in the fishing and aquaculture sector at the national level.

TABLE 5
Total Women Occupied in Fishing and Aquaculture By Province Canton and District

Province / Canton	Women Employed		Province / Canton	Women Employed	
	Total	In Fishing and Aquaculture		Total	In Fishing and Aquaculture
Costa Rica	**583 523**	**583**	**Heredia**	**71 108**	**5**
San José	**230 071**	**26**	Heredia	23 328	3
			Barva	6 721	
San José	51 527	5	Santo Domingo	7 028	
Escazú	11 510	1	Santa Bárbara	5 207	1
Desamparados	33 611	2	San Rafael	7 705	
Puriscal	4 051		San Isidro	3 514	
Tarrazú	1 405	2	Belén	3 929	1
Aserrí	7 742		Flores	3 511	
Mora	3 950	1	San Pablo	5 159	
Goicoechea	20 467	2	Sarapiquí	5 006	
Santa Ana	9 688	4			
Alajuelita	11 381	1	**Guanacaste**	**35 675**	**203**
Vázquez de Coronado	10 826	2			
Acosta	1 918	1	Liberia	8 588	14
Tibás	11 990	1	Nicoya	5 441	6
Moravia	10 864		Santa Cruz	6 750	4
Montes de Oca	10 853		Bagaces	1 599	19
Turrubares	414		Carrillo	3 888	11
Dota	707	3	Cañas	2 861	100
Curridabat	12 770		Abangares	1 635	35
Pérez Zeledón	13 582	1	Tilarán	1 942	1
León Cortés Castro	815		Nandayure	846	11
			La Cruz	1 496	2
Alajuela	**103 479**	**16**	Hojancha	629	
Alajuela	37 326	3	**Puntarenas**	**40 779**	**289**
San Ramón	9 837	1			
Grecia	9 639		Puntarenas	12 363	206
San Mateo	489		Esparza	3 215	4
Atenas	3 118		Buenos Aires	2 875	1
Naranjo	4 892	1	Montes de Oro	1 375	4
Palmares	4 569		Osa	2 812	34
Poás	3 444		Aguirre	3 188	12
Orotina	2 189		Golfito	3 760	14
San Carlos	18 501	6	Coto Brus	2 927	
Zarcero	1 332	1	Parrita	1 538	3
Valverde Vega	2 078		Corredores	4 252	1
Upala	3 354	3	Garabito	2 474	10
Los Chiles	1 607				
Guatuso	1 104	1	**Limón**	**37 897**	**22**
Cartago	**64 514**	**22**	Limón	10 577	12
			Pococí	12 524	3
Cartago	20 044	2	Siquirres	5 155	2
Paraíso	6 388	2	Talamanca	2 751	

Province / Canton	Women Employed		Province / Canton	Women Employed	
	Total	In Fishing and Aquaculture		Total	In Fishing and Aquaculture
La Unión	17 017	10	Matina	3 118	1
Jiménez	1 289	4	Guácimo	3 772	4
Turrialba	7 398	1			
Alvarado	1 400				
Oreamuno	5 721				
El Guarco	5 257	3			

Source: INEC National Population Census 2011.

5.15 Youth Issues

a. Perceptions by young people – 2004

It is easily appreciated the large number of young people that live in Tárcoles. People have always told us that the young people like the place where they live and they look forward to contributing to the development of the region. One hundred people or so attend Tárcoles high school; these children and teenagers have very valuable ideas for the future of the community.

In 2004, 107 young people were interviewed. Of those, 45 percent (48) were young women and 55 percent (59) were young men.

Their ages ranged between 14 and 24, with the majority being between 15 and 25 years old. Only eight teenagers were younger than 15.

Most of the young people replied by saying that they liked living in the community of Tárcoles (73 percent), 21 percent said that they did not like living there, and 2 percent said they sort of liked living there. Some 4 percent of the sample did not answer.

Of the 92 young people who answered that they liked living in Tárcoles, most said that they liked it because of the features of the community, town, or geographic space where they were located (23). They also said they liked it because of the natural capital, natural resources such as the sea and the forest, (16), because they had a sense of belonging to the town (16). They could express more than one reason about liked living in Tárcoles.

Of those who answered negatively 15 in total, 35 percent of the young people said that they did not like living in Tárcoles because there is no work or income; 23 percent said it was because of traits in the community; and 19 percent said it was because of social problems. They could express more than one reason or none.

The young people expressed their opinions about what adults need to do to increase the quality of life in Tárcoles. Most (47) of the 107 interviewees think that what is needed are sources of work and income while 12 think that civic pride and more community cooperation are needed.

If they had the resources to support their community, 29 of the young people interviewed would set up social work institutions, 16 would set up companies and develop new sources of work, and 14 would improve the town's physical infrastructure and would engage in environmental conservation.

Most of the young people interviewed dream about studying (35) and about being professionals (15). Others dream about having a job (8), leaving Tárcoles and traveling (7), and having their own business (6).

There was no difference between what young men and young women dream in Tárcoles.

Most of the young men want to be professionals, study, have a job, have their own business, travel, and leave the community.

Some 43 of the young women dream about being professionals (23), formal studies (20), because they wanted to be somebody important in life or to be able to help their families and the more needy people in the community.

According to the young people (men and women), they need more opportunities and the ability to study (38) and more sources of work (14) to have a better future. They also mentioned the need to improve their quality of life; they want better economic development (10), fewer drugs and less alcohol (6), more civic pride and community cooperation (6).

b. Perceptions by Young People – 2009

When young people of both genders in the community were asked about their primary needs to build a better future, 17 percent (16 of the 93 young people interviewed) did not answer the question. The rest of the young people indicated different factors, issues, and conditions needed to achieve that objective. Some 42 percent of the young population believes that the opportunities for study, including schools, are a determining factor. In relation to this answer, they also believe that universal education (formal, informal, open, community) is important. The second most frequently mentioned point was actions needed to control drugs, prostitution, and addiction to tobacco and alcohol. In third and fourth place with 12 percent of the answers came development of job opportunities and preparing recreational spaces. Young people also brought up the need to be heard, to improve the community, and to receive scholarships to study, among other points.

When they provided more information about the profession and/or occupation that they preferred, the young people from the community brought up, as may be seen in Table 6, a variety of alternatives that run from formal options that require a university education (engineering, law, and biology) to other occupations such as beauty and handicrafts. This group also emphasized that one of the alternatives is artisanal fishing and even alternatives such as volunteering to protect species in danger of extinction were mentioned.

TABLE 6
The main preferences for a profession or occupation as stated by the young people in the community

• Business administration • Architecture • Handicrafts • Beauty • Marine biologist / protect all the species in danger of extinction and protect the world from global warming. • Criminal studies • Athlete / surfer / soccer player	• Law / Criminal Law / Criminal Judge • Doctor • Executive • Physical therapist • Tour guide • Engineer / IT engineer • Medicine / forensics • Fisherman or fisherwoman • Interpersonal relations • Veterinarian

As for the dreams expressed by the young people who were interviewed, 19 percent did not know or did not answer the question. The rest of the interviewees (75 interviews) wrote down a series of dreams and expectations for the future. The most outstanding includes being a professional (39 percent), personal success (16 percent), studying (14 percent), and building a business (7 percent). They also pointed out means of improving the community and controlling drugs and alcoholism.

c. Perceptions by Young People – 2013

From the social arena, the community of Tárcoles maintains attractive conditions for the young population. In the 2013 interview, 94 percent of the young people who participated said that they liked living in Tárcoles, mostly because of the peace and quiet, the beach, nature, the river, and the people. The development limitations of Tárcoles that the young people brought up are mostly related to the need for better education (better teachers, more education), places for recreation, and the presence of drugs. The improvement in conservation, that has brought more fish to the area, has been important in creating jobs and opportunities for youth.

6. MAIN FINDINGS

Concerning the organization

The organization's main goal has been the integral wellbeing of its members, not only the economic profit.

The organization has strengthened the fisherfolk's self-esteem so that they can have trust in their ability to manage the company.

The organizational structure brings about greater safety and benefits, not just economic, but social as well, for its members and the community in general.

CoopeTárcoles R.L. has kept its cooperative structure functioning throughout its history. Every year a General Assembly is held and the Board of Directors holds regular meetings. Occasionally, the Oversight Committee has fulfilled its functions of supervising management and its members. The Education and Social Wellbeing Committee has been appointed but has not been successful.

CoopeTárcoles R.L. has received support from international aid projects and processes. It has not, however, received any support from cooperative organizations or institutions related specifically to fishing.

The cooperative is a productive organization in a legitimate coastal community with a strong cultural identity. It has held social resistance to the massive development model that prevails around it maintaining local identity, small-scale fishing as a main productive activity, and local decision-making organizations.

The leadership roles have been shared and are recurring, which has upheld the cooperative's representative legitimacy.

CoopeTárcoles R.L. is an organizational model where the fisherfolk practice their art individually but they share the company and the market as a group. It's been a 'learning through action' experience.

CoopeTárcoles R.L. has adapted the cooperative model to its way of life and being, based on its culture and economy.

It is unusual for women to participate in the cooperative, first because of gender inequality issues, and second because even when recently the cooperative admit women, the conditions of women still makes it difficult for them to participate (education, economic capacity, priorities).

The cooperative organization is led and established by the fisherfolk.

The association between CoopeTárcoles R.L. and CoopeSoliDar R.L. has played a major role in the community.

Concerning the production base

When the Tárcoles fisherfolk got organized, they were able to eliminate the power held by middlemen. Then the cooperative model was able to move beyond and was established as an important player in local development.

The product that CoopeTárcoles R.L. offers is prioritized in the internal and domestic markets. The production process ensures that the food is safe and food sovereignty is kept.

The number of members has kept up the productive base. Accepting fish from non-members has helped with managing the cooperative's finances.

CoopeTárcoles R.L. has an important social projection in the community.

The number of fish caught has risen so the cooperative's financial situation and the fisherfolk's quality of life have risen as well.

Concerning the Environment

The environmental milieu improved after an association was formed with CoopeSoliDar R.L. The association compounds the knowledge and will to practice conservation in the long term, leading to environmental hope.

Coope Tárcoles R.L. has consistent assistance from another cooperative in a now crucial moment for environmental matters, responsible fishing for environmental sustainability, and developing a positive quality of life.

The fisherfolk's knowledge is a fundamental part of marine conservation.

Concerning political Influence

The association relationship has had a political influence on spotlighting the artisanal fishing sector, resurrecting the importance of their local knowledge.

CoopeTárcoles R.L. has had an influence on international fishing organizations when it comes to generating global policies and on the situation's national and regional positioning.

7. CHALLENGES

This study has highlighted some challenges that need to be addressed in the short to medium term. In particular these challenges need to be addressed by the CoopeTárcoles R.L. Administrative Council and its members, both through discussion and action, in ways that build their capacity and strengthen social resilience.

In the context of the FAO-led process to develop and implement Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (VG-SSF), addressing these challenges also provides an opportunity to review and take stock of lessons learned about organizational structures and ways of organizing in the small-scale fishing sector in Central America.

Coope Tárcoles R.L. is without doubt an exemplary organization both at the local and national level in the field of community-based fisheries. It has gained experience and provides us with important lessons about the three dimensions of sustainable fisheries development: the social, environmental and economic aspects. The Cooperative venture has served to strengthen both the fishery economy of the community and the social structures needed to support small-scale fishery activities.

These challenges should also be used to provide learning pathways; they have arisen through a process of dynamic change and transformation that the cooperative itself has engendered in its members and the community.

Sustainable use of fish as a renewable natural resource that guarantees food security and wellbeing (community marine area for responsible fishing)

Local governance of small-scale fisheries (SSF) is a good indicator of the progress made by the community of Tárcoles. In small-scale fisheries, sustainability cannot be seen as the exclusive responsibility of coastal communities that depend on the use of marine and coastal resources for their survival and livelihoods. Often, there are a lot of other external impacts on the resources that come from other activities, which these communities have no control over. In the case analyzed, it is clear that fishery resources have been affected by several different external factors. These include pollution coming

from the upper watershed in the Tárcoles River, inappropriate policies that force communities in the coastal areas into ever more vulnerable conditions, and incursions into nearshore areas by trawlers and other destructive fishing activities.

The Cooperative has been able to improve this situation by garnering State support in a new initiative to promote and implement conservation measures by establishing a Community Marine Area for Responsible Fisheries. The measures adopted should contribute to sustainable long-term use of the small-scale fisheries resources by helping the recovery of the ecosystem and fishery resources.

As a result of this initiative, Coope Tárcoles R.L. members will now have the opportunity to sustainably use shrimp and fish resources in a responsible fishing area supporting food security. In the long-term this distinguishes small-scale fishing as a productive activity that provides wellbeing to future generations of tarcoleños (people from Tárcoles).

Database and information maintenance

Up to now, Coope Tárcoles R.L. has received support from Coope SoliDar R.L. and some external donors in compiling an important database. The database has provided information required for establishing the Marine Area for Responsible Fisheries. It has also provided useful information to cooperative members, making them better informed about their fishing actions. Benefits from this include increased profitability at the fisherfolk level.

The Coope Tárcoles R.L. database has now compiled information going back over more than 7 years, including both traditional knowledge and scientific data, concerning the use and status of resources in its local fisheries. As standard practice the cooperative should allocate resources for the continuing update, compilation and analysis of this database. This will provide cooperative members and the rest of the Costa Rican society with a good example of knowledge generation system in the sustainable use of fisheries. The database should be enriched through monitoring the new experiences of the sustainable use of shrimp at the local level.

The sustainability of Consorcio Porlamar R.L.

One important issue to consider is the way in which the Consorcio has supported and strengthened the diversification of activities of CoopeTárcoles R.L. In recent years, there have been few possibilities for developing alternative productive activities to fishing. This has created a positive motivation towards improving the income of this vulnerable sector by optimizing existing practices, and which has, in turn, strengthened their self-esteem. At the website of Coope SoliDar R.L. there is a report about the income generated from marine touristic activities promoted by the Consorcio. These touristic activities are oriented towards raising awareness about small-scale fisheries in Costa Rica and how to improve the sustainability of fishing and livelihoods.

Fishing Youth, Women and Gender considerations, and Cultural Identity

As can be seen from the case study, the youth in the community is actively engaged, with new ideas, strengths, and dreams. The improvement in local fisheries sustainability has brought a number of young fishermen and fisherwomen to the scene. A major challenge is to promote collective organization among them, develop leadership and forge linkages with and create space in the cooperative, in order to guide them towards a more secure future. Creating space for and gaining recognition for women and youth participation are big challenges in moving ahead. The democratic and regular transfer of leadership is certainly an issue to discuss.

Drugs

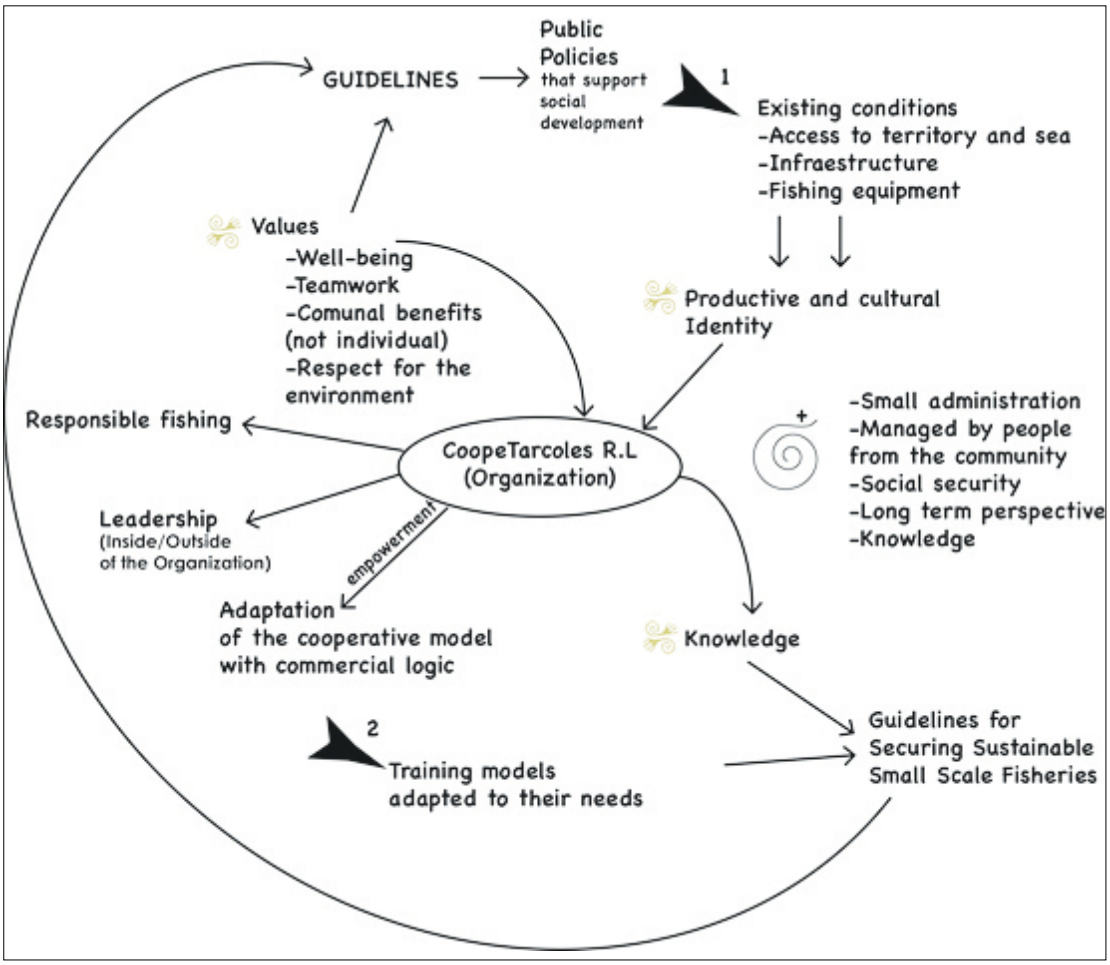
For this small cooperative and community on the Pacific coast of Costa Rica, drug trafficking and drug consumption/addiction remain big challenges. There will be no sustainable use or improvement in wellbeing ("buen vivir") so long as drugs and their abuse remain a threat to the community.

Even though the cooperative has made some efforts to improve the condition of the beach and increase recreational activities for young people, the problem persists and places the future of the community in grave danger.

How the fishermen and fisherwomen of Tárcoles control this problem remains a crucial challenge.

8. LESSONS LEARNED

We have summarized the lessons from this case study in a diagram presented below:



It is vital to recognize that the history of this small-scale fishing community goes back much longer than the establishment of Coope Tárcoles R.L. in 1985.

Before the formation of the cooperative, the policy environment in Costa Rica (absent today) helped to launch and strengthen the cooperative. There was also a developing social movement among the fisherfolks that promoted its creation.

Coope Tárcoles R.L. is essentially an entrepreneurial organization dealing with economic activities, but its activities also include a strong social dimension. The social dimension links people living in the community to actions aimed at promoting community wellbeing. This is not only about strengthening economic resilience but also requires that steps be taken towards providing social and cultural benefits more widely.

There were certain conditions that supported the initiation of the cooperative, which include:

An appropriate political framework provided by the State: a State which in the 1970s was concerned with social welfare

Coope Tárcoles R.L. was strengthened and supported by State policies that promoted social development. A central plank of these policies was the improvement of the quality of life and wellbeing of rural (including fishing) communities.

These policies also provided for material support. At the beginning of this initiative, governmental policies supported land and sea access for fisherfolk, as well as for infrastructure development and the provision of fishing gears. Fishers mentioned as important the support given to them to create a collection centre. Specifically they refer to the increased productivity that the ice machine provided as particularly important. This provided from the outset of Coope Tárcoles R.L., a foundation on which to build a cultural and productive activity that continues today.

Within a political framework, the fishers have sought out governmental institutions that exist in the country, not necessarily directly related to the fishing sector. They have called on the institutions related to the social sector (IMAS–Institute for Social Support, MIDEPLAN–Ministry for National Planning and Economic Policy). The extended service of INCOPESCA (National Fisheries Institute) does not seem to have played an important role in Coope Tárcoles R.L.'s history and/or activities from the perspective of the fisherfolks, but its role is recognized in the creation of the organization and again only recently with the establishment of a Community Marine Area for Responsible Fisheries.

Social values provided the foundations on which the cooperative was built, on the premise that these values could strengthen the community and its fishery activities. The cooperative model strengthened and promoted these collective values that have in turn strengthened social resilience in the small-scale fishing community necessary for sustaining their local development model. The cooperative has also provided the main economic motor for this local development. Wellbeing, collective action, community benefits, and respect for culture and environment are important elements of the model.

What the model of organization has given back: providing a learning process adapted to local needs and capacities.

Some of the key lessons learned from the experience of Coope Tárcoles R.L. include: a small administration that has not increased through time; people from the community working in the administration; a social security system and system for allocating responsibility adapted to the local organization; a long-term perspective; and valorizing potential of traditional knowledge.

All these aspects have contributed to the development of leadership capacity based on experience; adaptation of the cooperative organizational model to local realities; entrepreneurial thinking, and knowledge building. The cooperative, as an organization, has been strengthened enabling it to adapt and to integrate a model of responsible fishing into its functioning. The cooperative has enabled the productive activity of fishing to become more sustainable and contributed to the wellbeing of the community.

Lessons learned for the implementation of the VG-SSF Guidelines:

We identified three main issues arising from this case as instructive for the implementation of the VG-SSF guidelines.

The first has to do with the policies that support social development and provide small-scale fisheries with adequate infrastructure, the necessary conditions of access, and the possibility to become better organized. This support has also been valuable in

strengthening the cultural and productive identity of the communities; it is essential for achieving the necessary conditions for responsible fisheries that guarantee both biological richness and human well-being (Box 4).

The cooperative provides learning opportunities and serves as foundation for adequate leadership. These two factors allow the organization to remain flexible in a changing environment and also be seen as potential capacities like resilience, governance, and an integrated management that considers human rights-based approach to conservation.

For the moment, Coope Tárcoles R.L is meeting its commercial objectives. There is no obvious need to develop product certification (quality, ecolabels etc.), or to develop international markets. The cooperative primarily accesses local and national markets. Very few kilograms of fish are exported.

The VG-SSF Guidelines should be used as a tool to establish appropriate public policies to support small-scale fisheries development as well as promoting local sustainable use in the small-scale fishery. There is also an important need to train and prepare the social organizations targeted by the guidelines and to promote local follow up and auto-evaluation of the implementation process.

BOX 4

Organizational Success Factors

The fisherfolk were asked important questions that reflect on the cooperative's history. Here are their answers**:**

CoopeTárcoles R.L. is an organization that is vibrant and working: Why?

"The cooperative, despite some internal differences and difficult situations, has managed to stay united. There is honesty, the arguments may get heated up but we don't hit each other. People are humble and accept when they are wrong. The fisherfolk feel proud of their organization. There is camaraderie."

What are the cooperative's strengths?

"Believing in ourselves. We are able to manage a company, able to market products, and able to manage our interests. CoopeTárcoles R.L. was born for the wellbeing of the community. It did not come about just because of financial reasons."

What are the cooperative's weaknesses?

"In the past we did not think that we were capable of managing the company and we turned it over to other people who stole money. In the past, even the people who worked in the fishery were not locals."

What would you do to strengthen CoopeTárcoles R.L.?

"I would not think about financing or capital. We have to think about the most important material, which is the fish as a resource. If there are no fish, there are no fisherfolk. Properly using the resources will support us for many years." David Chacón R.

"Out of need, we had to use techniques that over-exploited the [fishing] resource. There was more contamination. We need to figure out how to learn from the past so we do not impact the environment." Gilberto Naranjo V.

"One can dream about zoning the Gulf of Nicoya. There can be zones for certain types of fishing with a determined type of fishing practice. The drift lines are very destructive as well as the nets in a fence. I'd like to see a future where fishing benefits the fisherfolk and the organization." Gilberto Naranjo V

What do you think about the stamps, product processing, and certification? Are they doable?

"No, it's just starting up, but it's moving forward."

"We want a certificate of origin for responsible fishing for Tárcoles."

"New products should be part of innovation: breaded products, fish patties."

BOX 4 *(continued...)*

"Freeze the product for when the price goes up, that was done with mahi mahi in 2012, 450 kilos were sold off season and we got 30 percent more. But that's just for some products, not all of them, just for seasonal products."

Why has CoopeTárcoles R.L. been able to stay afloat?

"Production. I see fisherfolk come in with barely any fish. If there is no production, there is no cooperative." Mauricio (Mauro) Moreira, Manager, founding member.

"The need. People need for the cooperative to exist." Fabio Chacón.

"The cooperative has settled in. It has a more stable administration, maybe not so well run, but it is stable. You can't aspire too high here -- if you see an honest person, it is better for him or her to stay." Fabio Chacón.

"The first element is organization. There have been lots of things that have damaged it [the cooperative]." Gerardo Guzmán Q.

"People have to be very brave to be a fisherfolk and especially an artisanal fisherfolk. They should receive support from the government. The motors, the fishing gear, the boats; all of them are essential for the business." Gerardo Guzmán Q.

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Documents related to this case study:

At Coope SoliDar R.L. website you can find documents related to this case study and the Spanish version:

http:///www.coopesolidar.org:

Cooperative Bylaws of Pescadores de Tárcoles R.L
List of Managers, CoopeTárcoles R.L.
List of Board Members, CoopeTárcoles R.L.
List of Interviewees.
Lujadoras booklet
INCOPESCA political agreements related to Responsible fishing area
Map of the Tárcoles Responsible fishing area
Infrastructure study.
Financial analysis of the touristic activities of the Consorcio Porla Mar R.L
Research analysis of data base information

6. West Aceh Fishers' Co-management Organization: Prospects and dilemmas of newly-created hybrid organizations

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ABBREVIATIONS

ARC	American Red Cross
DKP	Dinas Kelautan dan Perikanan
EB	Executive Board
FAO	Food and Agriculture Organization of the United Nations
FAO/ARC	Food and Agriculture Organization of the United Nations-American Red Cross
FAO/BOBLME	Food and Agriculture Organization of the United Nations-Bay of Bengal Large Marine Ecosystem
GAM	Gerakan Aceh Merdeka
GT	Gross Tonnage
INGO	International Non-Government Organization
IBM	In-Board Motor
ICSF	International Collective in Support of Fishworkers
ICT	Information and Communication and Technology
IDR	Indonesia Rupiah
JPKPA	Jaringan Pegiat Kommunitas Pesisir Aceh
JICA	Japanese International Cooperation Agency
KBL	Kawasan Beujroh Laot
KABARI	Kawasan Bina Bahari
KPL	Kawasan Peudhiet Laot
KPeuL	Kawasan Peujroh Laot
KRL	Kawasan Ramah Lingkungan
KuALA	Kualisi Advokasi Laot Aceh
KAUM	Kelompok Amal Usaha Mandiri
LOGA	Law on Governance of Aceh
MM	Motivator Masyarakat
MMAF	Ministry of Marine Affairs and Fisheries
MCS	Monitoring Control and Surveillance
NGO	Non-Government Organization
OBM	Out-Board Motor
SK	Surat Kepatusan
WAFCO	West Aceh Fishers' Co-management Organization
UNCLOS	United Nations Convention on the Law Of the Sea
USAID	United States Aid for International Development
USD	United States Dollar

CURRENCY CONVERSIONS

Between 2007 and 2010, One USD averaged 9500 IDR. Between 2011 and 2013 the average was around 11000 IDR. These are the rates used for conversions in the text.

INTRODUCTION

This study is about a group of fisher organizations which commenced functioning in the Aceh Province of Indonesia after 2008. In this case study we have, for ease of reference, refered to it as the West Aceh Fishers' Co-management Organization or WAFCO for short. It is composed of five entities spread over four districts of the Province. These entities were initiated as part of an FAO and American Red Cross (ARC) collaborative venture (which we shall refer to as the FAO/ARC Program). They were the result of a 'transition' program bridging rehabilitation and development after the tragic event of the 2004 tsunami which hit this Province.

The highlight of the WAFCO entities were that they were not envisaged as conventional fisher organizations of the type well-known around the world – associations, cooperatives, unions and so forth. Instead they were distinguished by being 'hybrids' and based on the principle of co-management of fishery resources for sustainable livelihoods by multiple interest groups – importantly the active fishers, the coastal community and the representatives of the state. The WAFCO entities were envisioned as an effort to 'build back better'!

The study is based on the first hand knowledge of the author, who as a staff member of the FAO/ARC Program was responsible for facilitating the process of creation of the WAFCO between 2007 and 2010 and thereafter re-visited the Province to study the entities in 2012 and then in 2013 for this case study. The material used in this case study include the process notes maintained by the author between 2007 and 2010 and the material collected during the visits in 2012 and 2013. This case study is in a sense an 'insider' account of an organizational innovation strategy and is hence marked by the merits, demerits and biases of such accounts. However, a conscious effort has been made to examine the evolving dynamics of the entities from as 'detached' a perspective as possible.

The main purpose of this study is to provide a diachronic analysis of the whole process and to make an attempt at reflecting on the prospects and dilemmas of such 'hybrid' organizational interventions.

The study commences by contextualising the special situation in Aceh Province as a backdrop. It then describes the origins and motivations for setting up the WAFCO entities and follows this up with the operational details of each of the entities. This largely historical account is then supplemented by an analysis of different dimensions of the entities including an effort to examine the factors accounting for failure, success or dormancy. The final part of the study presents what can be considered the main achievements and spells out a brief strategy for addressing the challenges before the WAFCO. The study ends with an attempt to sum up some of the important lessons, prospects and dilemmas of the WAFCO initiative and point to their generic relevance in a world where coastal communities are increasingly becoming victims of natural disasters and political conflicts.

1. CONTEXTUALISING ACEH AND ITS FISHERY

Aceh Province, located at the northern tip of the island of Sumatra in Indonesia, grabbed world attention after Christmas Day in 2004. Until then most of us had hardly heard of it (see Map 1).

On the morning of 26 December 2004 a gigantic and unprecedented earthquake followed by a ferocious tsunami ripped through the western coastline of Aceh. It took human lives by the hundred thousands and damaged property and livelihoods valued at several billions of US dollars.

It has been estimated that between 15-20 per cent of the fishers of Aceh died in the tsunami. And in the western districts of Aceh the percentage was even as high as sixty. A significant share of the fishing vessels were destroyed and a major part of the fishery infrastructure was also partially damaged and often beyond repair.

The devastating effects of the disaster were available on a real-time basis over the visual media and beamed across the globe. This triggered an outpouring of sympathy and instant response for relief and assistance.

However, what is less well-known is that the tsunami changed not only the human demography and physical geography of Aceh. It also radically altered its political and social context. Aceh Province and its people had been experiencing a long-drawn, low-intensity, socio-political conflict between the popular Gerakan Aceh Merdeka (GAM) – Free Aceh Movement – and Indonesian federal government and its armed forces for nearly three decades. This had led to political isolation of the province from the mainstream of development processes in Indonesia. It was only in October 2004 that a peace and autonomy agreement was being carefully brokered between the Indonesian Government and the GAM with the former President of Finland Martti Ahtisaari playing the role of arbitrator. It was the devastation of the tsunami, two months later, which finally brought both parties together to demonstrate that they meant business. A peace accord called the Helsinki Agreement was signed on 15 August 2005.

One of the important provisions in the Helsinki Agreement was that Aceh would have greater control over the management of all its natural resources. This implied not only control over revenues, but also freedom to make innovative and new institutional arrangements.

MAP 1
THE PROVINCE OF ACEH, INDONESIA

A. Post-tsunami aid for fisheries

One of the results of this unique combination of circumstances – natural disaster and political peace – was the sudden opening up of Aceh to unprecedented international development asssistance. The post-tsunami relief and rehabilitation – perhaps one of the largest international relief and rehabilitation operations in history – commenced within days of the tsunami event. It was soon formally accepted by the Government of Indonesia as a necessary step for peace and stability of the Province. One of the hallmarks of the aid operations was the huge importance given to rehabilitation of the most affected sector – fishery and the coastal community.

There have not been many disasters in the world where a marine fishing community was so totally devastated. Every aid agency thought it appropriate to 'do something' about the situation and responded mainly by making immediate arrangements for distribution of boats – seen as the most obvious asset needed for the survivors to get back to making their livelihood.

B. Many boats, few nets

In many villages the boats distributed were designed basically for use in lakes and they were useless for operations in the sea. Many agencies, in the name of employment generation, engaged people to build boats using locally available materials. But without the adequate quality control, these boats often did not last very long. Many developed leaks. Many were crushed by the strong waves.

While boats were in surfeit, nets and other fishing gear were in short supply. This prompted the disturbing post-tsunami trend of persons investing in not-so-expensive nets, such as mini-trawls, just to make a living. These non-selective nets initially started to yield high levels of fish catch. This resulted in their rapid diffusion. The trend was most apparent in the south-western districts of Aceh Barat and Nagan Raya where there were fewer small islets near the coast and where the sea bottom was not very rocky and without corals reefs.

Often, those who worked as labour on the mini-trawl boats were persons who hailed from the immediate coastal hinterland. They were primarily agriculturalists who had lost their livelihoods as a result of salinization of their soils by the tsunami seawater which reached several kilometres inland. Fishery was not their forte. The traders who financed the nets and boats hardly cared to make distinctions between good fishing gear and gear which were destructive of the ecosystem as long as they got fish. They were also making a lot of money.

Gradually tensions began to develop between the customary small-scale fishers who were using passive, selective fishing gears governed by numerous customary norms and practices and those who used mini-trawls in total disregard of them.

C. Post-tsunami Aceh's fishery continues to be small-scale

The fishery of Aceh was undoubtedly a small-scale fishery with a few larger vessels at the top end. These larger vessels operated mainly from the few large ports which existed in Aceh. The rest of the fishery was largely beach-based. The small-scale nature of the fishery is evident from the Table 1.

While over the decade 2001-2011 the total number of fishing boats has increased by over 40 per cent, the share of boats below 5 GT has increased from 23 per cent in 2001 to 40 per cent in 2011. The decline in the total number of boats between 2008 and 2011 is primarily due to the 'mortality' of numerous boats as explained above. If we compare the situation in 2004 (before the tsunami) with that of 2011 the increase in the total number of boats (less than 500) was very marginal. However, the noticeable change is that non-motorised boats (6 229 in 2004) reduced or got motorised largely with in-board engines. This was another one of the post-tsunami technological changes in the fisheries sector.

TABLE 1
Details about the number and size of fishing boats in Aceh

Fishing Boat Detaiis	Base Year	Year of Tsunami	Post-tsunami peaking of aid	After deveiopmerit agencies depart
	2001	**2004**	**2008**	**2011**
Total Boats	11 288	15 576	17 584	15 995
Of which				
Non -Motorised	4 131	6 229	3 874	2 376
Motorised OBM	3 187	3 570	4 390	4 971
Motorised IBM	3 970	5 757	9 320	8 648
Of which				
Below 5 GT	2 621	3 803	6 439	6 484
5 to 10GT	1 106	1 316	1 650	1 171
Above 10 GT	243	638	1 231	1 093

Data Source: Statistik Perikanan Tangkap Provinsi Aceh 2011, Dinas Kelautan dan Perikanan Ace h, 2012

D. Custom and the tsunami

The fishery of Aceh was dominated by customary practices. The political and social isolation of Aceh from the mainstream of Indonesian society is one of the most important reasons for the strong continuance of custom. Custom gave people identity. It distinguished them from the "other". The head of the customary institution in the fishery was called the 'Panglima Laot' – which roughly translates as – Sea Commander.

The Panglima Laot was an institution set up by the ruling Sultan of the erstwhile Kingdom of Aceh about 400 years ago. Its prime function at that time was that of a decentralized navy, intended for coastal protection of the sultanate from the many enemies who ventured to attack by sea. Gradually, in more recent times, when the naval function lost its relevance, the Panglima Laot became the elected leader of the fishing skippers or '*pawangs*' of each of the coastal settlements.

Each Panglima Laot (the individual) controls a territory called a '*lhok*'. The lhok is a socio-ecological spatial unit composed of sea and coastal land. Most lhoks also encompass one of the numerous rivers in Aceh which flows into the sea from the hills and highlands of the central parts of the province. In its original structure, the Panglima Laot (the institution) can be compared to a necklace. The beads are the lhoks. The string is the Hukom Adat Laot – the Customary Law of the Sea.

The Hukom Adat Laot contains norms and rules regarding access and allocation of coastal resources. It also deals with the important issue of conflict resolution over these resources. The rules are not written down. They are passed down from generation to generation by word of mouth and praxis. So its propagation and effective continuance depends on the nature and quality of the individual Panglima Laot. They are the repositories of the knowledge system and hold the concomitant socio-cultural authority. One of the tragedies of the tsunami was the death of several of these customary leaders – many of whom were vanquished by the monster wave while they assisted others in the community to seek safety. The coastal community members who survived the tsunami, almost immediately elected new Panglima Laot. The new leaders were often either very young and inexperienced or old and unprepared to take on the onerous responsibility. In the circumstance, many who were not full-time '*pawangs*' themselves got elected.

E. Religion and Collective Ethics

Aceh is called the Verandah of Mecca. It was from here that Islam spread to the rest of South-East Asia in the 12th – 13th century. Islam continues as the religion of Aceh. It is also the only province in Indonesia where Sharia Law is formally practiced.

This long tradition of Islam, the presence of many customary practices which pre-date Islam and the more recent political isolation of Aceh from Indonesia combined

to create a special and separate socio-cultural and political milieu with Islam as its bedrock. There is a great sense of the 'collective' element in Acehnese society. For example, decision making about community related matters is physically mediated in the *meunasah* (an open structure outside the mosque). Here people gather and discussions take place in a transparent manner through a consensual decision-making process called *musyawarah.* Individuals violating such community decisions attract gradated social sanctions in the form of tendering apologies, accepting rebuke, being fined etc.

The element of Islam is therefore a vital ingredient in all official matters and it influences people's social ethics to a considerable degree. It conditions people's views towards nature and society. Coastal communities consider the tsunami and the thousands of innocent lives lost as "God's training and not God's punishment". The same communities however look upon the three decades of strife and repression, when thousands of innocent lives were taken by their own federal government and military, to be against all tenets of Islam.

F. Understanding Interventions in Aceh

The years of political isolation, the sudden natural disaster of epic proportions, the dynamics of disaster aid, the resilience of coastal small-scale fisheries, the role of custom, religion and collective ethics have meshed together to create a very unique socio-cultural, political and techno-economic ethos in Aceh.

This overall backdrop is important for contextualising and understanding efforts made at fostering new organizational interventions in the fisheries of Aceh which is attempted in this case study.

2. THE CURRENT CASE STUDY

This case study is about a relatively new set of five coastal fishing community/fisher organizations which commenced functioning in the Aceh Province of Indonesia from 2008. They were initiated as part of a post-tsunami human capacity development program focusing on the fisheries sector of Aceh. The program was jointly organized by the Food and Agriculture Organization of the United Nations (FAO) and the American Red Cross (ARC) between January 2007 and June 2010 (hereafter FAO/ARC Program).

We consider these new organizations to be 'hybrid entities' as they do not fall into the conventional categories usually found in the fisheries sector such as customary fisher institutions, cooperatives, associations, unions, welfare societies and the like. Being 'hybrids,' they do exhibit some characteristics and activities of all the aforementioned.

The concept of hybrid and networked organizational forms among fishers was first articulated in a background paper prepared for a meeting to discuss strengthening organizations and collective action in small-scale fisheries held in Rome in March 2013. Such organizations (entities or arrangements) were considered to be based on '*collective action by a mix of 'face-to-face' and 'virtual' organizations aided by support groups and even the state with important use of information and communication technology (ICT) for collective action and organizational management.'*

In this case study we will refer collectively to these five hybrid entities as **"**West Aceh Fishers' Co-management Organizations**"** (hereinafter WAFCO) as they are located in the four western districts – Aceh Besar, Aceh Jaya, Aceh Barat and Nagan Raya – of Aceh Province of Indonesia which were most affected by the tsunami (see Map 1).

It should be noted that the acronym WAFCO is being used only for the purpose of this case study for convenience of reference to the five distinct co-management entities which were created in the four western districts of Aceh between August 2008 and November 2009.

The WAFCO entities were created with representation from customary fisher institutions, community organizations, the fishery and other executive departments and the local governance bodies of the state. It is this multi-interest partnership, with rights and responsibilities, which gives them the undergirding of a 'co-management' initiative.

3. THE ORIGINS AND MOTIVATIONS FOR THE WAFCO

Providing an account of the origins, motivations and initiators of WAFCO will require getting into some detail about the work of the FAO/ARC Program undertaken as a partnership for post-tsunami rehabilitation in Aceh which focused on capacity building rather than delivery of inputs. This collaboration was a 'first-of-the type' for both organizations.

One of the important components of the FAO/ARC Program was to introduce the idea of fisheries co-management into Aceh. The new political context of autonomy for the province, contained in the Law on Governance of Aceh (LOGA) passed in 2006, gave powers to the Province to manage and utilize all its natural resources for the benefit of its people. Therefore, the idea of co-management – a sharing of rights and responsibilities between the state and other interest holders in the fishery – was seen as appropriate to the new social and political ethos prevailing in Aceh Province in the post-tsunami period.

This process of negotiating co-management involved a four-fold strategy composed of: awareness creation, capacity building, field action and networking. Those who participated as the key interest groups included young men and women from the coastal community, the members of the Panglima Laot and the representatives of the state (primarily staff of the fishery departments of the districts and the province). The initial and prime focus of co-management was to be resource rejuvenation and conservation for livelihood restoration.

As many as 400 individuals from these three groups, representing four districts of the western coast of Aceh, were directly involved in all aspects of the strategy for over a period of three years (2007-2010). Some of the important details of the different awareness raising, capacity building and training programs initiated are provided here as they were the foundation for creating the WAFCO.

A. Awareness raising and capacity building through training programs and other actions

The initial months of 2007 were utilised by the FAO/ARC Program to undertake a menu of awareness creation activities. Together with this, a variety of awareness creation products were also widely disseminated to the various interest groups in the coastal fishery to highlight the meaning and relevance of co-management of the fishery. An important approach was to produce posters, brochures and calendars using idiomatic expressions and sayings found in Acehnese culture and in Islamic teachings to sensitise people about the need to work together to 'Sustain the Sea' – or '*Peujroh Laot*' in Acehnese.

Samples of Posters Used for Creating Awareness

It was a conscious strategy of the FAO/ARC Program to obtain the services of the Panglima Laot network for the creation and dissemination of the products, and the ideas they contain, through the *kadai kopi* (coffee shop) in each lhok. The *kadai kopi* is the place where people meet to drink coffee and discuss politics, a favourite pastime in Aceh. In a closed knit society, just recovering from the trauma of three decades of conflict and a major sea-induced disaster, new and alternate messages became important talking points.

Another important occasion for discussion on the issue of co-management was the community meal after breaking of the fast during the holy month of Ramadan in 2007. These gatherings at dusk, after the prayers in the mosque, over a simple meal, were also very effective occasions for debating matters of ethics and good practice. On several of these events, the District Coordinators of the FAO/ARC Program arranged for playing DVDs relating to fisheries management and conservation in other countries. For a community isolated from the world for three decades, these images of good and bad practices became a major rallying point for talk and thought.

Following on the heels of this low-key but focussed awareness campaign the issue of a training course for young men and women from the lhoks on the theme of community organization and fisheries management was mooted in all the four districts. The key leaders of the village – customary and official – were contacted. The criteria for selection were mutually agreed. They were requested to call a *musyawarah* at which they could select the youth from the lhok who would participate in the training organized by the FAO/ARC Program. This decision making approach ensured that the lhok collectively supported the selection and the youngster had a moral obligation to serve the lhok on completion of the training.

i. Training for Youth from the Coastal Community

The training for the youth was intense. It was residential and seven sessions, each lasting three weeks, were conducted between August 2007 and August 2008 in the government fisheries school. The training focussed on skills for community organization and knowledge of the technical and social aspects of fisheries management with special emphasis on the ingredients for co-management. Each segment of the training was composed of knowledge inputs and a learning-by-doing process. The pedagogy was very participatory. The local experience and knowledge of the youth was always the starting point of discussions. New knowledge inputs were provided based on this assessment. The approach was always to offer a framework for understanding and comprehension, rather than providing an overload of information. The core group of facilitators resided with the trainees and they were hence able to devote quality time to the learning process as well as the personal needs of the participants.

The latter was important considering that many of the youth had also suffered the trauma of the tsunami – such as loss of parents and siblings. This overall approach and perspective was responsible for the creation of a cadre of 164 youth – 33 were women, who were enthused and committed to the cause of community action for fisheries co-management. The individual 'human capital' and collective 'social capital' that was generated in this process was enormous. The vision was to ensure that these youngsters played the role of 'creative irritants' in their respective villages to advocate responsible fisheries co-management. They were named *Motivator Masyarakat* (Community Motivators) or MM for short.

Motivator Masyarakat during Training

ii. Interactions with Members of Panglima Laot

The interactions of the FAO/ARC Program with the Panglima Laot were primarily to understand their role in the coastal community and to ensure that both the individual Panglima Laot in each lhok, and the Panglima Laot as an Acehnese customary institution, would foster the idea of co-management. Meetings and workshops at the provincial and district levels were the means adopted to facilitate this. At the Panglima Laot Convention in December 2007 the FAO/ARC Program staff made a presentation titled "Fisheries Co-management: Is it Relevant for Aceh Today?" This was the first occasion when this concept was discussed in Aceh.

The Panglima Laot had been largely in an 'adversarial' position vis-à-vis the state during the last three decades prior to the tsunami. The idea of collaborating with the state was thus not always readily acceptable to many of the individual Panglima Laot. As custom provided the coastal community with an 'identity', it was thought important to foster customary practices which helped to assert the rights of the coastal community over the fishery resources. One such practice was the role of conflict resolution on matters relating to the fishery for which the Panglima Laot's authority was accepted by the police, navy and the civil administration.

One measure taken as part of a capacity building procedure was for the FAO/ARC Program to produce a film with the participation of the members of the Panglima Laot, the coastal communities and state officials, which described these conflict resolution procedures. The film, which also became a commercial hit in Aceh, was then utilised as a medium for 'reviving' this customary practice.

iii. Re-orienting Fishery Officers

The initial interactions of the FAO/ARC Program with the staff of the *Dinas Kelautan dan Perikanan* (Department of Ocean and Fishery – DKP for short) revealed that significant number of them had no earlier fishery education or training. Consequently,

many of them were reluctant to visit the coastal areas and expose their ignorance to the community and the Panglima Laot. The FAO/ARC Program staff visited the DKP offices at the four districts, holding discussions with the senior officers about the current thinking about fisheries management and the merits of co-management. This was one approach to creating awareness.

A small group of officers from the districts and the provincial level were selected for a study tour to Malaysia which was organized by the FAO/ARC Program in August 2008. The aim was to expose them to the fisheries management approach of that country. The choice of Malaysia for the study tour ensured that there were no inconveniences from the point of view of language, food habits, and religious practices. This ensured that the participants could focus their full attention to the lessons to be learnt. The seven day trip exposed the officers to management practices at coastal landing sites; monitoring and surveillance methods; conservation and research measures; and policy making processes. It was an eye-opener to the need for far greater management and conservation in Acehnese fisheries.

Later, in April 2009, specifically designed and shorter duration fisheries co-management courses were offered by the FAO/ARC Program. The focus was on the officers at the district level. The course was voluntary. Only travel costs and food during the training was provided. Moreover, only those who met some initial qualifications (assessed through a pre-selection questionnaire) were accepted as participants. This assessment helped the trainers to understand the 'realms of knowledge and ignorance' of the participants. It became very evident that many of the officers did not have a good understanding of many fishery issues. The pedagogy therefore focussed on a process of 'group discovery of realms of ignorance' to prevent any 'loss of face' by individuals officers. The use of role play, the case study method and games helped to make the process of overcoming one's ignorance and lack of knowledge an enjoyable endeavour. The training focused on understanding the marine ecosystem, the pattern of coastal resource configuration, the significance of small-scale fisheries and the four components of management – conservation, regulation, allocation and rejuvenation. The role and challenges of multi-stakeholder governance in the new Aceh context was also discussed.

Staff of DKP Discovering Realms of Ignorance

The three decades of political isolation had greatly restricted the possibilities for in-service learning. The pattern of political decentralisation in Indonesia also did not provide opportunities for officers from different districts to learn together or work together. The FAO/ARC Program training were intentionally devised to provide such possibilities of joint discussions. For example, the realisation that inter-district

coordination is more important for managing a fugitive resource like fish than it is for land-based activities became a matter of conviction through such processes. The personal rapport which developed between the officers was a significant factor towards fostering future cooperation. Also, the rapport which they developed with the FAO/ARC Program staff greatly helped to gain their confidence when undertaking the co-management initiatives.

B. Fisheries Co-management in Action

The first step to putting fisheries co-management into action was taken by an informally constituted co-management forum in each district. This program commenced in September 2008. The lead role in putting together this initiative was taken by the MMs. They focussed attention on the Panglima Laot members and DKP staff who were really enthusiastic about the potentials of co-management following the workshops and trainings. The forum then became a vehicle for getting on board the authorities involved with the general administration and governance of the district and villages.

One concrete outcome of the above awareness creation and capacity building process which was conducted between 2007 and 2008 and the discussions at the co-management forum was the setting up of fishery co-management entities in different parts of the west coast of Aceh. This was achieved between early 2009 and early 2010.

The locations and the respective initial programmatic focus of each entity were decided by the co-management forum of each district. The idea was to 'try-out' co-management without being burdened by the complexities of conventional organizational structures. Finally, five focal point centres were identified.

Tables 2 and 3 give in summary form some of the details of the entities. Table 2 gives their dates of incorporation by formal decrees; the focus of activities proposed at that time and the details of the key facilitators.

TABLE 2
Dates of incorporation; initially planned activities and key facilitators of the five co-management entities

Name of Entity	Commencement	Initially Planned Activities	Key Facilitators
KAWASAN BINA BAHARI, (KABARI) ACEH BESAR DISTRICT	August 2009	Leading the way to achieve multi-stakeholder interests in sea and coastal ecosystem in peri-urban setting: fishing; tourism; livestock rearing; coastal afforestation; industry	1 Panglima Laot; 3 community motivators; 2 DKP staff
KAWASAN PEUDHIET LAOT, (KPL) ACEH JAYA DISTRICT	November 2009	Mapping and protection of small islands; creating of fish sanctuary; replantation of corals; protection of small island ecosystem; planting mangroves	1 Panglima Laot; 7 community motivators; 2 DKP staff
KAWASAN RAMAH LINGKUNGAN, (KRL) ACEH JAYA DISTRICT	October 2008	Mapping and protection of the bay; creating of fish sanctuary; replantation of corals; planting mangroves; regulation of fishing; women's support activity	2 Panglima Laot; 5 community motivators; 2 DKP staff
KAWASAN PEUJROH LAOT, (KPeuL) ACEH BARAT DISTRICT	August 2009	Propagating merits of selective fishing; taking the political and moral initiative against mini-trawling; fostering more gender balance to support responsible fisheries	2 Panglima Laot; 4 community motivators; 4 DKP staff
KAWASAN BEUJROH LAOT, (KBL) NAGAN RAYA DISTRICT	July 2009	Active community surveillance against illegal fishing; moving towards small-scale selective fishing; coastal afforestation	5 Panglima Laot; 10 community motivators; 4 DKP staff

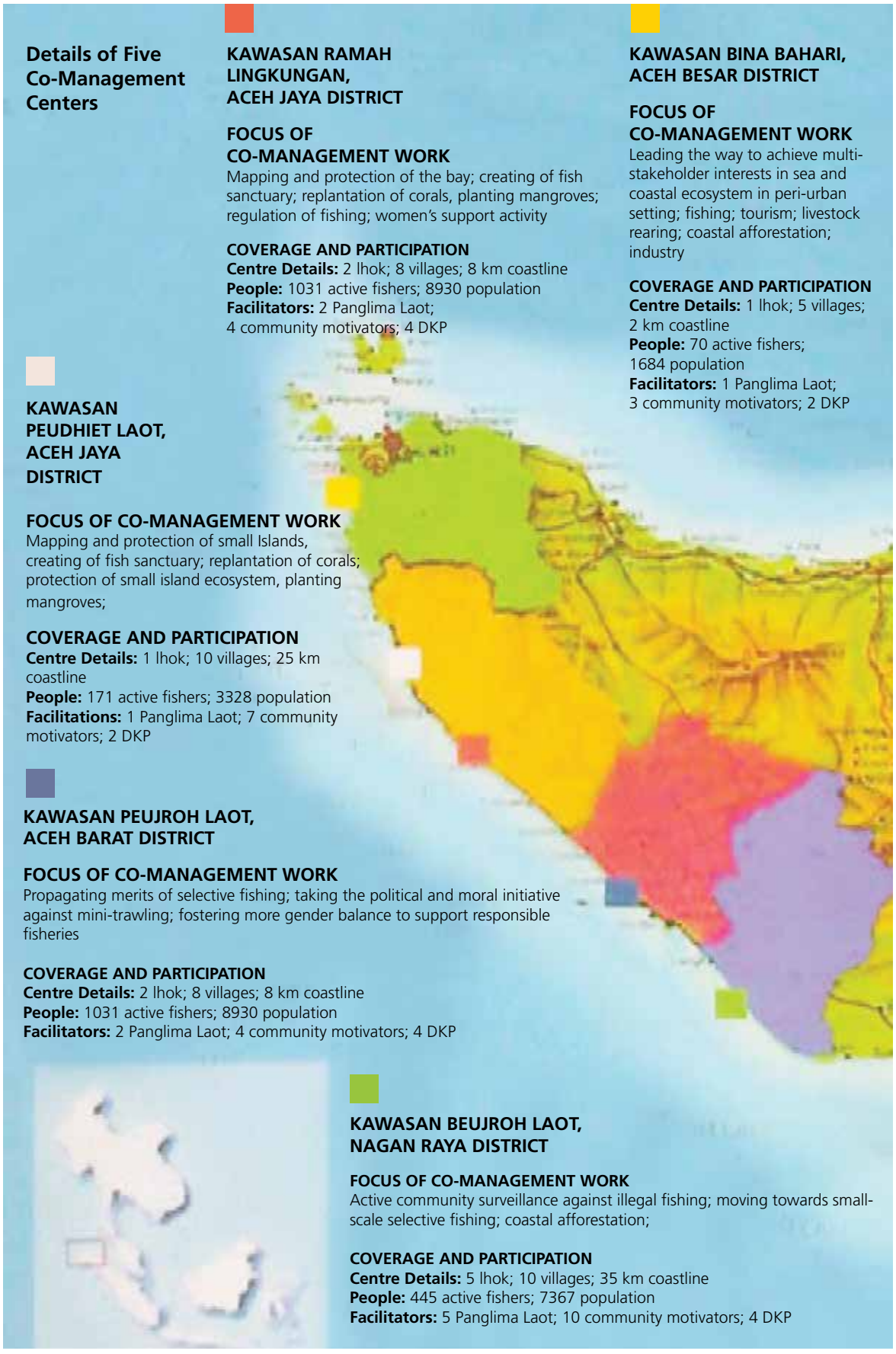
Table 3 provides more details about the spatial coverage of the entities. It must be noted that with respect to the different aspects mentioned, the five entities, comprising the West Aceh Fishers Co-management Organization, accounted for coverage of between 19 and 36 percent of the respective aspects in the four districts at the time of their incorporation (See last row of Table 3). This was no mean achievement for that time.

TABLE 3
Data on the five fisheries co-management entities along the West coast of Aceh province and their coverage (as on 2010)

1	2	3	4	5	6	7	8	9
Name of Co-Management centre	No. of Lhoks	No. of coastal villages within lhok	Total coastline of lhoks (Km)	Active fishers in the site [( ) = 5/7]	Fishing craft operating from the centre	Total population in coastal villages involved	Fisher per kilometer of coastline (5/4)	**Fishing craft per kilometer of coastline (6/4)**
Kawasan Bina Bahari, Aceh Besar	1	5	2	70 (4)	20	1 684	35	**10**
Kawasan Peudhiet Laot, Aceh Jaya	1	10	25	171 (5)	30	3 228	7	**1**
Kawasan Ramah Lingkungan, Aceh Jaya	2	5	9	378 (8)	150	4 690	42	**16**
Kawasan Peujroh Laot, Aceh Barat	2	8	8	1031 (10)	117	9 930	130	**14**
Kawasan Beujroh Laot, Nagan Raya	5	10	35	445 (6)	71	7 367	13	**2**
Total	**11**	**38**	**79**	**2 095**	**388**	**26 899**	**26**	**4**
Total for the four districts	**33**	**160**	**310**	**10 900**	**1 092**	**82 048**		
Coverage (%)	**33**	**24**	**25**	**19**	**36**	**33**		

Map 2 provides an idea of the approximate location of the entities and combines some of the information given in the Table 2 and Table 3.

MAP 2
WAFCO Entity Locations and Details of Activities



4. LEGAL FRAMEWORK AND OPERATIONAL DETAILS ABOUT EACH OF THE ENTITIES

The legal framework for constitution of the WAFCO entities is referred to in the Indonesian system of decentralized district governance as a *Surat Kepatusan* (SK). It is a decree of the Head of the District called the Bupati. However, in the hierarchy of legal instruments in Indonesia, the SK has a very lowly position. Be that as it may, the SK is both recognition and authorization by the local governance authorities for exercising rights and responsibilities over designated space by a defined group of persons for the good of the society.

The preamble to any SK indicates the collective hierarchy of legislations which are taken into consideration when the SK is decreed. In the case of the SK of the WAFCO, the suite of legislations span a very wide range from: the Republic of Indonesia's law ratifying the UNCLOS; the Republic of Indonesia's Law on Fisheries; the Republic of Indonesia's law creating the autonomous province of Aceh after the tsunami, called Law on Governance of Aceh (LOGA); and laws of the Province of Aceh (called *quanun*) relating to the development of indigenous customs and traditional institutions.

Though the SK pertaining to the WAFCO entities makes reference to this comprehensive list of legislations, its basic purpose is for the establishment of a co-management initiative which provides the sanction for the entity to carry out a specified set of activities in a defined spatial zone.

WAFCO Reps being sworn in by Bupati in accordance with SK

The considerations mentioned in the SK state the following in their preamble:

a. That the fishery resources are a gift of the grace of God Almighty and that they being limited, should be kept, maintained, developed and sustained
b. That the fisheries resources and marine ecosystems in (*location is defined*) have become a source of civic life and contributed to realizing the prosperity of the community while maintaining and preserving the traditional and customary laws of the sea
c. That the community felt the need to initiate the establishment of an area to develop the fisheries resources and marine ecosystems in a sustainable manner
d. That during a joint meeting (*date is mentioned*) on the initiative of the Panglima Laot (Sea Commander); the Motivator Masyarakat of the community; the Head of DKP (*district is mentioned*) and in the presence of the Head of the Village and the Chief *Mukim* and several other community leaders, it was decided that the spatial entity in (*location is mentioned*) called (*name of entity is mentioned*) be constituted.

The SK also spells out in detail its co-management governance structure, the activities which are considered harmful and the graded sanctions which may be pronounced on violators.

The Bupati of each District conducts a swearing in ceremony giving legal status to each of the WAFCO entities. (See Annex A for an English translation of the SKs of one of the entities).

In what follows we will provide more details of the origins and activities and challenges confronting each of the five entities. They are marked by a set of mixed results of successes and failures as they 'try-out' co-management of the fishery resources for reviving the livelihoods in the communities.

A. Aceh Besar District

Aceh Besar District is the northern most district of Aceh Province. It is at the upper tip of Sumatra Island giving it the special feature of having a western and eastern coastline (See Map 1). The district surrounds Banda Aceh, the capital city of Aceh Province. Aceh Besar is blessed with unspoilt and scenic beaches. The immediate inland areas are hilly. The western part of the district was more affected by the tsunami.

i. Kawasan Bina Bahari (KABARI), Lhok Lam Puuk

Background

The Kawasan Bina Bahari (KABARI), the co-management entity in Aceh Besar District is situated on the western side of the district in Lhok Lampuuk. The northern part of the lhok is an idyllic spot where the hills jut into the sea and the coastline curves to form a small sheltered bay. This is the most popular tourist beach close to the capital Banda Aceh Province. The southern boundary of the lhok lies in close proximity to the estuary of a river.

The coastline of KABARI – hills and bay

There is a small fish landing centre at the river mouth which provides safe anchorage for the fishing boats. During the tsunami as many as 120 active fishers and 70 fishing craft were lost to the waves. A boat repair centre, ice plant and fish cold storage were erected by a JICA project at this site as part of the post-tsunami efforts. Unfortunately the ice plant and cold storage has never been operational due to issues regarding proper electricity supply and inability to obtain spare parts.

Program Initiation and Main Activities

Co-management action in Lhok Lampuuk was initiated in 2008 by the keen interest shown by the Panglima Laot Pak Daud. He was also instrumental in making contact with the FAO for experimenting with some new boat designs in fibreglass. Subsequently, the fisher youth from the area sponsored for the Motivator Masyarakat (MM) training helped to create wider linkages with the community. It was also significant that some of the senior officers of the DPK of Aceh Besar had participated in the exposure trip to Malaysia and the fisheries co-management training. They were sincerely committed to experimenting with the idea of co-management of fisheries in their District.

This propitious combination of committed stakeholders, and the sustained work of the FAO/ARC District Coordinator for Aceh Besar in bringing them together on a common platform for sustained interactions, resulted in the formation of the formal

co-management legal entity called KABARI (Kawasan Bina Bahari). It was constituted with an SK of the Bupati of the Government of Aceh Besar in August 2009.

The aim of the KABARI was to promote safe, legal and responsible fishing practices; link up with the tourism industry to protect the coastal zone and its resources both on the land and sea and promote safe and responsible domestic tourism. Initially the linkages with the tourism industry of the area were not very strong. It was only a commercial linkage, with the fisher members of KABARI occasionally supplying fresh fish to the fish grilling enterprises which formed the mainstay of the food stalls on the beach. Issues such as clean beaches, protection of coral and care for marine animals such as turtles as part of the post-tsunami priorities could not be taken up with the tourism trade as they were in the mode of trying to re-establish their pre-tsunami enterprises with limited capital and no support from the state.

However, the persistent efforts by the Panglima Laot and other members of the Executive Body of the KABARI gradually paid dividends in bringing the tourist entrepreneurs to realize the benefits of collective regulation of their activities. In 2012, an association of the 39 '*ikan bakar*' (fish grill) stalls on the beach was formed. They constitute the backbone of the tourist food trade on the beach. The association and KABARI have been able to ensure that the cleanliness of the beach is maintained and that proper toilet and shower facilities are provided for the crowds that come for a dip in the sea. In fact, as many as 15 persons in Lhok Lampuuk have invested in pay-and-use shower and toilet kiosks on the beach.

The fishers of KABARI, now numbering 70, own 25 boats between themselves and sell most of their reef fishes directly to the fish grill stalls of the village at remunerative prices. Only what is not taken by the fish stalls is then taken to the Banda Aceh market. The fishers also continue to use the four FAO constructed fibreglass boats taking turns in using them. Despite the higher operational costs, the higher hold capacity and greater safety of the boats makes them attractive. When the boats are not used for fishing they are rented out as tug-boats to the four entrepreneurs who have started joy rides in the bay with inflatable banana-shaped boats. An arrangement has been made wherein one share of the earnings from the use of the boats is given to the Panglima Laot welfare fund.

The early pro-active involvement of the DKP of Aceh Besar with KABARI was a positive step. They provided IDR 60 Million (USD 6 300) in 2011 and IDR 132 million (USD 12 000) in 2013 for conservation initiatives on the coast for coral reef and turtle conservation. There was collaboration with the Department of Forestry for coastal afforestation. Assistance from them came in the form of saplings and training. The Department of Tourism also provided funds in 2012 for a stage on the beach where music performances could be held. They also trained 100 community members of the lhok, sponsored by KABARI, in the etiquette and practices of community-oriented tourism. This has provided a greater sense of participation of the whole community in tourism.

Fish grill stalls now properly organized

The linking up of KABARI with a local Acehnese NGO called KuALA (Kualisi Advokasi Laot Aceh) or Coalition for Advocacy of Aceh's Sea, gave a boost to their conservation activities. KuALA is spearheaded by a committed group of university students interested in marine conservation and coastal protection. In February 2012, KuALA in collaboration with KABARI took the initiative for turtle protection. They hatched 125 eggs and successfully released the young turtle into the sea. They linked up with the schools in the neighbourhood and got the teachers and students actively involved in the venture. With the support of the DKP of Aceh Besar, they also constructed a turtle "grow out" tank in which they have stocked a few Olive Ridley turtles. The Aceh Conservation Board undertook training for 45 persons on various aspects of coastal conservation.

The "grow-out" turtle tank managed by KABARI and KuALA

There is continued and committed involvement of the three-member Motivator Masyarakat team in KABARI. This is important because their prime occupation is fishing. They are hence active and personally involved in the conservation initiatives at sea and coast. They continue to be the key 'networkers' among the different stakeholders. One MM, who was trained in scuba diving during the FAO/ARC Program, has collaborated with ReefCheck, an INGO which monitors the status of coral reefs worldwide. He monitors the progress in the coral reef rejuvenation in the bay which was undertaken by KABARI under the initiative of the Ocean Diving Club of the University in Banda Aceh.

The continuity in the top leadership of DKP is an important factor in sustaining the state's executive interest in the initiative. This has happened despite the changes of the Bupati in the District. It also needs to be pointed out that due to the special geographic configuration of Aceh Besar, the office and staff of the DKP are located in the district capital of Jantho, which is located in the centre of the district and very far away from the coastal area. The keen interest of the DKP staff in the KABARI initiative despite this 'spatial alienation' is creditable.

The KABARI conduct three-monthly meetings of their Executive Board. But as the majority of the members live in close proximity and are engaged in the economic activities on a day-to-day basis, they do discuss management and governance issues more frequently and on an informal basis. One of the weaknesses of this informality is the lack of records and hence of institutional memory. This is a lacuna which they became aware of recently when requested to submit their official records for audit as a prelude to obtaining more direct state assistance.

Pak Daud, the Panglima Laot of the lhok, because of his involvement with agriculture in the nearby hills, was also elected as the Panglima Hutan (Commander of the Forest). He was thus able to observe and understand the close and concrete inter-linkages between forest conservation and the productivity of the sea. This is now one of his pet topics of concern. At the age of 74, his moral leadership in the initiative has been crucial in keeping and consolidating the spirit of the KABARI initiative and highlighting it as a concern which links eco-systems.

Pak Daud pointed out that "*co-management of the activities is crucial to foster a sense of belonging*." He was particular about the use of the Friday mosque sermon to make people aware of their responsibilities to nature as an essential part of one's spirituality. But he also says that "*true awareness could come only through 'routine behavior' -- that is when people do conservation as a matter of normal life practice*."

Government Signage Announcing Turtle Protection in Lhok Lampuuk

The Secretary of KABARI was invited to the Indonesian Presidential Palace in 2013 to represent the Aceh Besar District and KABARI for a national event on coastal conservation and people's involvement.

Assessment

The co-management initiative in Aceh Besar in its current location in Lam Puuk under the aegis of KABARI has consolidated itself well. Its proximity to the Province capital and hence its attraction to a wider population is undoubtedly a significant factor for success. It has also become a worthy example of how a small urban coastal population can be fully involved in gainful economic and ecologically appropriate and meaningful activities with the full participation of the state.

B. Aceh Jaya District

Aceh Jaya District lies south of Aceh Besar district (See Map 1 and 2). There are two co-management entities in Aceh Jaya District. One at its northern end and one further south near the District capital Calang.

The marine ecology of Aceh Jaya is marked by numerous small islands located just off the shoreline and a plethora of coral reefs in relatively shallow coastal waters. Such an ecosystem is ideal for passive and selective small-scale fishing methods because of the plenitude of reef fishes and crustaceans such as rock lobsters. While such a coastal ecosystem naturally inhibits destructive methods such as trawling (which can have negative environmental impacts on the fish resources and the benthos), it is prone to illegal fishing using poisons and explosives. The deeper waters of the coast are known for their straddling tuna stocks.

As one drives from Aceh Besar towards Aceh Jaya on the newly built USAID road, the final stretch at the border of Aceh Besar is akin to an airplane runway. The road hugs the coastline and leads up to a steep hill that marks the entry into Aceh Jaya. When you swerve up the steep incline, you are welcomed by a road sign of the Government of Aceh Jaya stating that you are entering a territory which cares for its marine resources and announces the existence of the co-management entity of Kawasan Peudhiet Laot (KPL) close by. One is likely to miss this road sign, but its existence is one indicator of the interest which the district government (its Fisheries and Tourism Departments) has evinced in the initiative which was facilitated by the FAO/ARC Program.

Government signage announcing the Kawasan Peudhiet Laot entity

ii. Kawasan Peudhiet Laot, Lhok Kuala Daya

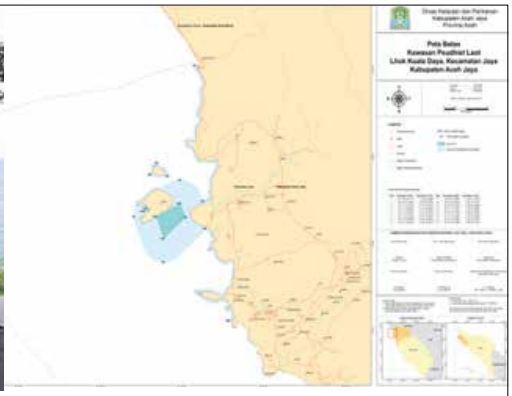
Background

Kawasan Peudhiet Laot (KPL) is the last of the five co-management entities selected by the FAO/ARC Program in 2010. It consists of a panoramic bay and islands in the Lhok Kuala Daya (See Table 1). One of the unresolvable problems faced by the fishers of the lhok was the illegal and destructive fishing undertaken by persons from other lhoks. The FAO/ARC trained MMs had urged their Panglima Laot to visit the first co-management entity of Lhok Rigah in their district called Kawasan Rumah Lingkungan (KRL) (see below) to observe for himself what could be done to prevent rampant illegal fishing (use of bombs) and ensure conservation. The Panglima Laot and the 7 MMs made a field visit to Lhok Rigah to get a first-hand 'feel' of the nature of activities – particularly the coral replantation, coastal afforestation and the resource mapping procedures. Having observed the changes effected in Lhok Rigah, the Panglima Laot resolved that taking pro-active action to conserve the resources of the small islands, and through such action asserting their rights over the neighbouring coastal waters, would be the answer to their dilemma.

Program Initiation and Main Activities

The community approached the FAO/ARC Program District Coordinator. He in turn got in touch with the DKP Team of Aceh Jaya which was assisting in Lhok Rigah. Given the experience of creating the co-management entity in Lhok Rigah, the formalities required for the issue of an SK for creation of the co-management institutional structure became easier. Support from the FAO/ARC Program, for the initial actions, was also forthcoming.

Panoramic view of Lhok Kuala Daya



Official Map of KPL of Lhok Kuala Daya

One initial drawback for KPL was the distance of the place from the headquarters of the DKP of Aceh Jaya. The road conditions were also poor. This made the physical presence of DKP officers at the lhok a rare occasion. However, given their commitment to the cause, even the rare appearance was adequate to give the community assurance of their cooperation. The Chief of the DKP himself made a visit to the site before the end of the FAO/ARC Program to assure the community of his support.

The KPL site is made up of many unique ecological features that warranted careful conservation. It was also well known to the community that the shallow water on the shoreward side of an island close to the coast was a large natural fish nursery and sanctuary. This area had been badly affected by the tsunami. But over the 4-5 years since the tsunami, it seemed to have naturally recovered to its earlier status as a nursery.

Another important feature is the presence of a major lobster breeding ground near another island which the fishers wished to protect from poachers. An NGO had erected a lobster storage house on land (as part of post-tsunami rehabilitation) where the fishers kept the lobsters which they had harvested while awaiting buyers.

Another feature of the area is the ingress of seawater into the estuary of a small rivulet. This made the ideal conditions for mangroves. The NGO Wetlands International had a project for mangrove replantation in the area which helped to slowly restore the mangroves to their pre-tsunami condition.

Lobster Storage House

Mangroves replanted

The completion of the FAO/ARC Program came rather soon after the preliminary conservation activities of the Kawasan Peudhiet Laot had commenced. With no facilitators available, the young co-management entity was left to survive on its on creativity and enthusiasm. The initial bad road access (this improved only in 2012)

and the distance from the district headquarters made face-to-face contact with DKP officials a difficult task. Isolation had its own merits and risks. It forces people to be more self-reliant and innovative. It can also sap enthusiasm. Given these challenges, the post-June 2010 initiatives of KPL were impressive.

The DKP attempted to compensate for its 'distance' by providing the KPL entity with an office building costing IDR 115 million (USD 10 500) and by ensuring the speedy mapping of the site, making official pronouncements of its existence and informing Ministry of Marine Affairs and Fisheries (MMAF) in Jakarta.

Offical Signage of the Government

Official Site Map in the KPL Office

The community took measures to form its own patrolling squad to keep away illegal fishers and those using bombs from entering the co-management area. They often faced the problem of being questioned by the illegal fishers (and also sometimes by the police to whom they report these matters) about their legitimacy and authority to take such conservation measures in the open access realm of the sea. This did not deter them. It made them more determined to get their conservation area further enhanced and recognized by the government. They are currently in the process of following this matter up with the DKP.

Collecting their own funds, the community, under the leadership of knowledgeable fishers, took measures to erect a 'gate' to enclose the natural nursery which was located on the shoreward side of the island near the coast. The 'gate' did not stand the power of waves and was destroyed. However, the conclusion of the community was that while the effort was a technical failure, it was a social success since it tested the strength of their cooperation! Finally the DKP quickly stepped in and provided IDR 90 million (USD 8,200) and technical assistance to solve the problem.

The completion of the USAID road to Banda Aceh in 2012 brought the urban market of Banda Aceh closer to them. This prompted the 170 fishers in the KPL to organize new measures to ensure that they were able to get the best price for their lobster catches. Prices increased on average from IDR 170 000/ kg in 2011 to IDR 220 000 per/kg in 2013 (about USD 15 to 20/kg) during the season between October and March. They have also set up a lobster "grow out" habitat in the estuary using their own understanding of the biology of the lobsters. Here they protect the gravid females and the under-sized lobsters which stray into their basket traps. Among the fishers there has also been a very conscious shift to using more species-specific and season-specific gillnets and driftnets. This trend was reinforced when the illegal and destructive fishing was considerably reduced following the activities of the KPL's monitoring and surveillance team. The pay-off for this transition has been significant. The fishers perceive that in terms of size, the fish caught now is bigger. In any case they get higher prices. No greater incentive was required to foster this trend towards selective fishing and women played a significant role in sustaining it. They share the burden of repairing and maintaining the delicate gillnets of their husbands.

Women assist to sustain selective fishing in KPL

Another trend in KPL has been the increase in the number of fishers from the original 170. It now stands at 200. This increase has been due to four important reasons mentioned by the KPL Chief – Pak Huzaima. The most important reason is the fact that there are no other jobs in the area, so going back to fishing (many stopped after the tsunami out of fear of the sea) seemed the most logical option. Secondly, the market for fish has improved following the completion of the road to Banda Aceh. Thirdly, there is now much more fish as a result of the conservation activities of the KPL, in particular the protection of juveniles. Finally, the fishers use non-motorised boats received as donations after the tsunami, as the fishing grounds are very close, resulting in hardly any operating (cash) cost associated with the work.

The entity, being close to Banda Aceh, has also received MMAF officials and fishery researchers from Jakarta who call on them to understand more about their functioning. The conservation activities have been of particular interest. These guests have provided an important morale booster. Recently researchers from the University of Lhoksamawe (in East Aceh) also came to study the co-management dimensions of their initiatives.

While the support of the DKP is physically visible in the area (e.g. the office, the maps, the fisher ID cards) and also appreciated by the KPL, the community members lament the fact that the support of DKP is not appropriate to their *real* needs. What they really need is fishing gear, more technical and infrastructure support for their efforts to conserve the natural nursery and for lobster growing. There is no source where financial and technical assistance for these can be had easily.

Another realm of serious concern from the institutional perspective has been the recent change in the Panglima Laot. A new person has taken charge and he is not a fisher or skipper but functions more as a political middleman for one of the provincial political parties of Aceh. This has resulted in a rejection of his role in the KPL by the members of the community – including the majority of the fishers.

Assessment

The KPL in Aceh Jaya represents an initiative, which in legal terms is a co-management entity, but in day-to-day operational terms functions more like a fisher and community-based management entity with absentee support from the state

iii. Kawasan Ramah Lingkungan (KRL), Lhok Rigah

Background

The Kawasan Ramah Lingkungan (KRL) of Aceh Jaya was the first co-management entity started during the time of the FAO/ARC Program in October 2008 (See Table 1).

The initial identification of a site for commencement of the initiative in Aceh Jaya was taken by a Motivator Masyakarat from Lhok Rigah near Calang, the capital of Aceh Jaya. He had shown exceptional leadership qualities during the training course for MMs. It was at his invitation that a team of the FAO/ARC Program staff visited the site in mid-2008. There was a large bay called Buya (crocodile) with a few small islands situated in the middle. It was surrounded by five villages in two lhoks. There was an MM in each of the villages. The bay was known to have rich coral grounds which were severely damaged during the devastating tsunami which had its epicenter just 60 kms from the bay. The Bupati of the District was a regular visitor to a *kadai kopi* situated on the fringe of the bay. His vocal admiration for its beauty was well-known to the citizens of Aceh Jaya. The DKP of the district was also keen to take up activities which would help to revive the bay to its pre-tsunami beauty and natural productive potential.

Arial view of Crocodile Bay with islands

Program Initiation and Main Activities

The FAO/ARC Program had engaged two of its co-management staff in Aceh Jaya – one person (a man) as District Coordinator and another (a woman) as Community Organizer. Once the decision was taken to choose Lhok Rigah as the first co-management entity, the Community Organizer was requested to reside there with the people. She was assigned the task of facilitating the initial processes of getting the stakeholders to work together.

Initially training for coral replantation and scuba diving was organized by the FAO/ARC Program. The Department of Tourism agreed to provide scuba diving gear to the MMs who underwent the training. This gave a big fillip to beginning concrete measures for conservation. There was huge community participation. The DKP staff also provided keen leadership. Exciting results were visible in three months. The Bupati came personally to Lhok Rigah and took a boat ride to the middle of the bay area to observe the very quick rejuvenation of biomass and growth of corals.

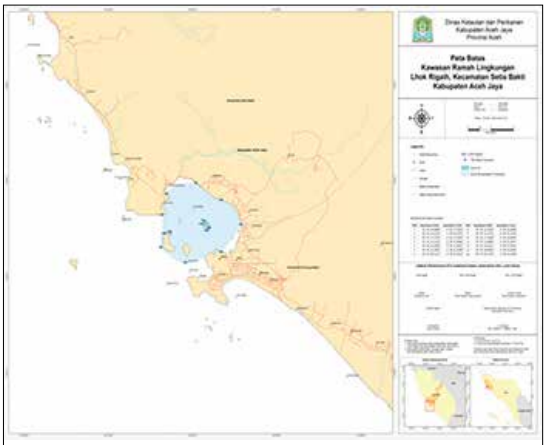
Coral Rejuvenation Scuba divers trained by FAO/ARC Bupati visits Lhok Rigah and KRL

When the FAO/ARC Program came to a close in June 2010, the co-management initiatives were fully taken over by the Kawasan Ramah Lingkungan, Aceh Jaya. The almost immediate "returns" from the coral replantation initiative was the clearly perceptible increase in the fish life in the bay. This was the single most important factor in giving the initiative strong support. It was said that in Lhok Rigah a Napolean fish -- *humphead wrasse*— was sighted by divers amid the rejuvenated corals in the bay!

Immediate returns from rejuvenation in Lhok Rigah

In the words of the Secretary of DKP Aceh Jaya: "*The greatest spin-off from the KRL activities has been the collective awareness of conservation and its direct link to sustainable livelihoods.*" It is crucial to note that the Secretary was involved in most of the FAO/ARC Program activities (exposure trip to Malaysia; co-management training; inter-district coordination meeting etc.) and was always committed to the idea of co-management. There were also two other officers who had been involved with the FAO/ARC Program, i.e. with taking the leadership in ensuring that co-management is fully integrated into the thinking, the policy making and the actual financial planning of the DKP. They were also proactive in getting the support of the Province DKP and also the MMAF in Jakarta in furthering the idea of co-management as a form of governance of fishery resources.

Financial support from DKP and the Aceh Jaya parliament (through the Aceh autonomy funds) has been considerable in the post-2010 period. A total of about IDR 950 million (about USD 86 000) from different budget heads has been invested directly in the two co-management entities (KPL and KRL) which includes, *inter alia*, construction of small office facilities; purchase of diving gear; site mapping (see map); funds for creation of a master plan for the district; funding of seminars and community awareness events to publicize the concept of collective conservation. The budget for 2013 included allocation for providing training for diving and purchase of a monitoring vessel. It is significant to note that this vessel will be of almost the same size as the fishing boats utilized by the fishers so that it can be managed cost-effectively by the co-management entity.



Official Map of KRL of Lhok Rigah

The Panglima Laot of Lhok Rigah at the start of the KRL initiative was a young man (former GAM fighter) who was elected following the death of the elder Panglima Laot in the tsunami. While he was very supportive of the co-management initiatives, he was too busy with his personal business activities and most often away from Aceh Jaya. The Lhok Rigah community therefore elected a new person who is a fisher and fully involved in the co-management work as the Panglima Laot.

Fishing in the KRL area has been strictly controlled and monitored. The use of selective fishing gear is mandatory. The number of fishers has not increased and remains at about 370 persons (the number assessed in 2010 was 378). It is reported that catches are higher than before in the bay area. No statistics are being maintained at the KRL.

The Department of Tourism of Aceh Jaya has also taken key measures to link up with the KRL of Lhok Rigah. They have completed the construction of a tourist and travelers rest and recreation centre on the fringes of the bay. The cost of construction is of the order of IDR 1 500 million (about USD 136 000). The idea has been to take advantage of the increased flow of domestic travelers who are likely to visit Aceh Jaya now that the USAID road linking the capital Banda Aceh to Calang (capital of Aceh Jaya) has been completed. There is discussion about getting a glass-bottom boat for observing the corals.

Travellers Rest and Recreation Centre overlooking the Bay in 2012 and 2013

In August 2009 a women's group was formed in Lhok Rigah as a result of the animation of the FAO/ARC Community Organizer and the two girl MMs of the area. The women (mainly wives of the fishers) were very enthusiastic and had availed of special training to manage their savings and credit union. They called their group KAUM – Kelompok Amal Usaha Mandiri – meaning Group for Undertaking Independent Business (See Section 5B).

The DKP of Aceh Jaya also established a link with the Fisheries Faculty of the local University. Though this link, students from the faculty spent a week or two in Lhok Rigah as part of their community-interaction curriculum. Some of them utilize this occasion to decide on term-paper topics which would be of mutual benefit to them and the KRL. Between June 2011 and June 2012, as many as 75 students participated in this program. The DKP has also availed of the services of the Head of the Faculty of Fisheries of the University of Syiah Kuala in Banda Aceh to advice the government on conservation issues. The presence of numerous small-islands off the coast of Aceh Jaya provides a sound basis for large-scale and planned participatory conservation efforts. There was also discussion about the interest shown by World Wildlife Fund, Aceh in marine protection activities.

In May 2012 a meeting was hosted by the Province DKP to discuss the issue of institutional arrangements for conservation areas. At this meeting, based on a presentation made by the Chief of DKP of Aceh Jaya, the co-management entity model was widely appreciated. The representatives from other provinces who attended this meeting expressed keen interest to study the Aceh Jaya experience in greater detail.

Government Signage about KRL, Aceh Jaya

In June 2012 the Province DKP invited MMAF to visit Aceh Jaya and study and evaluate the co-management and conservation achievements in Lhok Rigah. Based on this evaluation, the Bupati re-issued the SK incorporating more provisions which will strengthen the co-management and conservation procedures in the KRL area. The MMAF also allotted funds for further support to KRL activities. These actions of MMAF must also be viewed in the context of the Constitutional Court of Indonesia striking down in 2011 the federal law of Management of Coastal Areas and Small Islands Act (27 of 2007) because it favoured private interests over the coastal community. Perhaps, examples such as the KRL and KPL initiatives in Aceh Jaya will be important examples for MMAF to show that they have taken the Court's directive seriously.

The politics in Aceh Jaya has also been supportive of the conservation and co-management process. In the district elections the current Bupati won with a good majority. The coastal communities in the two co-management centres openly admitted to actively campaigning for his return. He is reported to have promised to do more to ensure district parliamentary support for spatial expansion of the co-management initiatives because he is convinced of the approach for its "sustainability, cost-effectivity and political payoff!"

However, in early 2013, governance issues within KRL began to create an unexpected set of problems.

The Chairperson of the Executive Body (EB) of the KRL is also the Village Chief of Rigah – also known as *Keucik* in Acehnese. This dual status never posed any problem, because he worked well with the MM who had taken the initiative to start the whole

venture. However, in mid-2012 the MM left the village stating that he had to find a job to support his family. Apparently, some conflict of working styles had developed. But the details were not clear to the other members of the EB.

The departure of the MM seems to have created a major problem of governance in the EB. The Chairperson took the oversight function all to himself. The other members of the EB turned a cold shoulder. To further complicate matters, the Chairperson, in his capacity as *Keuchik* was also planning to contest for the local parliament elections. He thus had little time for KRL activities. His wife added to the rift by demanding that the KAUM should provide her with funds for her business on the grounds that she was the *Keuchik's* wife.

At about the same time there was a change in the leadership of the DKP. This happened because the former chief, who was very active in promoting the KRL, decided to enter the political race against the current Bupati. He lost the election and also his job. The new Chief was not a person with a fisheries background. He came from the Planning Department. He had little interest in resource conservation or management. As part of his own reorganization process, he changed some of the staff (importantly the Secretary of DKP mentioned above) who were strong supporters of co-management and also the DKP representatives on the EB of KRL.

Perhaps taking full advantage of this state of flux, an absentee businessman (who is native of the area) set up a *kadai kopi* and stalls for people to relax on the bay-front after negotiating the matter with the Chair of KRL, but in his official capacity as *Keuchik*. The businessman was willing to make all the investments. He just wanted the village permission to do so. This seemingly innocent gesture has *ipso facto* become a privatization of the bay-front. Though the Chief of the village had the authority to grant this permission, he has violated the collective spirit of the co-management entity of KRL which he heads. This fact has not been lost on the people. However, they were not willing (at this juncture) to confront the Chief on the issue of his conflict of interests as a result of holding both posts.

The DKP officers also admitted that they did not have a complete picture of the happenings, part of the reason being the transfer of their own staff who had an abiding interest in the KRL. They were surprised to see that the KRL office, which was provided by the state, was suddenly bereft of any furniture, scuba diving equipment and even the officially approved KRL location map. Given that the DKP offices are just a few kilometers from the bay, it only proved how 'far away' the state could be despite physical proximity.

Assessment

The KRL entity is illustrative of a 'role model' becoming mired in the reality of the social and political compulsions of its context. With four years of solid experience, collective enthusiasm and innovative practices to fall back on, this current stalemate may only be a transitory nadir. In November 2013, the Chair of the KRL, on prompting from the new DKP Chief and other well-wishers of KRL from the other four entities of WAFCO (See Section 5), agreed that there would be a re-election of the KRL Executive Body after holding *mushawara* sessions in all the five villages surrounding the bay. This process would then ensure that the collective, co-management nature of the entity be re-asserted in the bay.

This initiative may ensure that the KRL rises again to its original status as the 'mother' of the co-management entities in west Aceh'!

C. Aceh Barat District

Aceh Barat District is situated south of Aceh Jaya. It was the biggest district in Aceh until it was bifurcated with its southwestern portion being named Nagan Raya District. The continental shelf of the district is marked by a sandy bottom and devoid of any

large coral reefs. The capital of Aceh Barat is the city of Meulaboh, the second largest in Aceh. It was a historically important town, known for its fine harbor and its maritime contacts with the Indian sub-continent. It was a major fishing port before the tsunami.

iv. Kawasan Peujroh Laot (KPeuL), Lhok Meurobo

Background

In September 2008, just a year into the FAO/ARC Program, a request was received from the DKP in Aceh Barat to attend a meeting to discuss the menace of mini-trawling and how this could be stopped in the district. The Chief of the DKP at that time was an officer who had participated in the exposure trip to Malaysia. The meeting left no doubt that the issue was highly contentious and politically sensitive as it involved high financial stakes and the interests of a strong fish trader lobby. The Bupati who attended the meeting was not in favour of an immediate ban without adequate time to study the situation. The Panglima Laot leaders in the district were also strongly divided on endorsing the 'Pukat trawl haram' policy ('no-trawl' policy) taken at their provincial convention held in December 2007.

Soon, political pressure (not related to the mini-trawl issue) led to the Chief of the DKP being transferred to another post. His replacement was a woman officer – Ibu Nasrita – from the agriculture department. She took charge in October 2008. She was very clear-headed about the need to push for a mini trawl-ban. She requested FAO/ARC assistance for her mission. All the FAO/ARC trained MMs in the district (about 60 of them) were ready to assist in making an assessment of the current situation since they had, as part of the MM training, received a very clear appreciation of the serious ecosystem damage wrought by trawls.

Program Initiation and Main Activities

The FAO/ARC Program had made contact with the fishing community in Ujong Drien village of Lhok Meurubo in early 2008 when the socialization process for recruiting youth candidates for the MM training had commenced. The unique feature of this community was that they had taken a collective decision not to adopt the mini-trawls which were spreading in their area. The leadership in this regard was being given by the Chief of the village Pak Husni. He and the Panglima Laot, Pak Bustami of Lhok Meurubo, had made several petitions to the district authorities and the DKP of Aceh Barat to ban mini-trawling with the help of the Water Police. They also held discussions with their colleagues in the contiguous villages to discuss strategies to curb the menace of mini-trawling which was undoubtedly having an adverse effect on the ecosystem of the coastal area. They also declared their village to be totally dedicated to using only selective fishing gear such as species specific gillnets and hook and line sets. Given this history they had taken the moral leadership for the fight against destructive and illegal fishing in the district.

By early 2009 many of the MMs from Aceh Barat, supported by the FAO/ARC Program staff had completed a survey of the mini-trawls in the district and made assessments about the investment which would be required to replace the mini-trawls with more selective fishing gear. The DKP staff in Aceh Barat, encouraged by their new Chief Ibu Nasrita, was also supporting the idea of forming a co-management entity and conservation area in their district. They were convinced that the initiative should be based in Ujong Drien in Lhok Meurobo. This was realized in August 2009 when the Bupati also enthusiastically supported the idea and proclaimed the SK authorizing its formation. It was named Kawasan Peujroh Laot (KPeuL).

As a consequence, when the DKP of Aceh Barat and the Bupati finally took a strong stand against mini-trawls, the communities such as Ujong Drien supported the official line. However, there was a delay in action being taken to stop the trawls due to lack of clarity on whether the DKP had powers of arrest. The wavering by DKP to take

action was interpreted by the communities to be a sign of retreat. This prompted the matter to be taken to the streets in early 2010, sending a clear message to the DKP, and more importantly to the district parliament and the Bupati as to where their future votes lie. The fishers of Ujong Drien were in the lead. They had the 'cover' of the co-management entity KPeuL to give legitimacy to their struggles.

Anti-trawl agitations in Meulaboh, capital of Aceh Barat

Partly in response to this popular sentiment, the parliament financially supported a gear-swap offer made by DKP on the advice of the FAO/ARC Program: those who turned in their mini-trawls would be given other legally permissible gear in exchange. A sum of IDR 850 million (USD 77 000) was allotted for the purpose.

The Bupati made a public display of his opposition to trawls by organizing a "mini-trawl burning" ceremony at his office premises with attendance of officials from MMAF, Jakarta; the Province Water Police and other relevant department heads in attendance with a large participation from the local coastal population. He also, at the suggestion of the FAO/ARC Program, took the initiative of calling the first inter-district fisheries meet to discuss coordination issues in fisheries management. It was jointly organized by the District Government, the DKP and the KPeuL. One of the outcomes of this meet was the Meulaboh Declaration which spelt out an approach for moving towards responsible fisheries in west Aceh.

Bupati leading the burning of mini-trawls

With popular support, strict enforcement, and a carrot and stick approach, mini-trawls disappeared in Aceh Barat district. Many of them initially moved to the neighbouring southern district of Nagan Raya, but there they were banned by the Panglima Laot from operating.

In the latter part of 2010, the success of the mini-trawl ban in Aceh Barat attracted the attention of the MMAF in Jakarta. The Chief of the DKP of Aceh Barat was invited to many workshops where she took pride in showing an amateur video presentation

which was produced by an FAO/ARC Community Facilitator who had documented the whole process – its twists and turns.

The DKP scheme for gear-exchange was in much demand, but the inability to provide additional funds brought an end to the initiative. Many mini-trawl owners, who did not take advantage of the first offer, could not get replacements. These mini-trawls remained elusive and hidden. The operators claimed that they were being victimized. The merchants who had financed most of the mini-trawl operations were keen to get back into business. They orchestrated a demand claiming that many fishers were suffering due to the incomplete transition program. They demanded that, either the gear exchange program be extended immediately to all the fishers who were initially left out, or areas where their mini-trawl can be operated be earmarked.

The KPeuL organized the coastal communities to resist these moves. In early 2011 they proposed that the zone from the shoreline extending out to 2 miles should be a "no fishing zone for all" and the zone from 2 miles to 4 miles should be a "no trawl zone". Unfortunately the Panglima Laot of the district could not unite on these demands. It became very clear that some of them the *hukom adat* (customary law) was becoming a hindrance to their deep economic interests in the mini-trawl which they could not give up.

Amidst this scenario of low-intensity conflict, in December 2011, the District of Aceh Barat received a Charter of Honour from the President of Indonesia. It was basically for the initiatives which were taken in the fisheries sector of the district (largely during the FAO/ARC Program period). The citation for the award mentions them:

> *For successfully developing and sustaining the marine waters by issuing a policy banning the use of mini-trawl gear. For creating a community co-management group called Kawasan Peujroh Laot among the fishing communities in order to improve the understanding of the importance of conserving marine resources. For being the initiator of the Declaration of Meulaboh towards responsible fisheries in Aceh Province which was a guide for eight local governments, community leaders and law enforcement officials to obtain a common perception for maintaining fisheries resources.*

While the award is stated to be for the people of the whole district, it was received by the Bupati, who at that time was in the thick of his campaign for re-election. He however did go to Jakarta to receive the award. But on his return he was too busy to thank the coastal communities who made this possible. There was a lot of cynicism among the coastal communities about this award. This was particularly evident when people noticed that the Bupati had gradually begun to make compromises with the mini-trawl operators and the merchants. He turned a blind eye to the creeping return of the mini-trawl to the Padang Sirahet harbour of Meulaboh – and indeed now with the backing of the district police force that also began to get a slice of the illegal pie.

In the elections for the post of Bupati held in July 2012 the current incumbent lost. His defeat was clearly the electoral handiwork of the vociferous coastal community who felt slighted by his betrayal of the struggle for sustainable fishing. This resentment was openly evident in all the coastal lhoks. The new Bupati has taken charge. His views on the issue are not yet openly known. However, there exists an informal memorandum which was signed between him and the KPeuL in Ujong Drien in which he promised to support the community's wishes in return for their votes. The community leaders were waiting for the right moment for confronting him with his promise.

The DKP of Aceh Jaya was also in a state of limbo with regard to its stand on the anti-mini-trawl issue. The funds which DKP was receiving from the different budget heads from the MMAF and the Aceh Autonomy Funds were earmarked exclusively for capital equipment and infrastructure. There was no fund for human capacity building.

The DKP of Aceh Jaya also received a 'reward' from the Federal Government (a follow-up on the Presidential Award) in 2012. It was in the form of a huge vessel for monitoring, control and surveillance (MCS). The vessel was brought to one of the anti-trawl villages and the coastal community was requested to contribute their time and labour to 'launch the vessel'. Given the size of the vessel (500 HP engine on a boat which was meant for luxury cruises converted to an enforcement vessel) it was amply evident that this would end up being a 'white elephant'. There was no assistance being provided for the maintenance and running of the vessel. The DKP was hoping that this would be allocated by the district parliament in 2013!

The MCS Gift for Aceh Barat

500 HP twin-OBM

The Chief of DKP who led the mini-trawl campaign had been in her job position for four years. With the coming of the new Bupati she was removed from her position. Another competent senior officer of the DKP was transferred to Aceh Jaya. He has become an asset to the co-management initiatives in that district.

The coastal community was also in a state of mild confusion. One important cause of this was the split in the ranks of the Panglima Laot in Aceh Barat on the issue of mini-trawls – some supporting it, some vehemently against it. Those against the trawl were the lhok level Panglima Laot. It was the district level and regional level representatives who were not real fishers that favored it. A class divide was emerging in the Panglima Laot. One lhok level Panglima Laot articulated the position currently obtaining in the whole Panglima Laot establishment this sarcastic manner:

"*We are currently witnessing solidarity of the poor lhok-level leaders who are spiritually rich. But in order to sustain our network we need to have echoes to our voices from the Panglima Laot representatives at the regional and provincial level. But we hear none!*"

What prevails is a rather demoralizing situation, where money power prevailed and the state and the fisher representatives having compromised on the principle of responsible fisheries. Faced with this scenario many of the MMs who were in the forefront of the anti-trawl movement became disillusioned. Happily, most of them were able to find small jobs which they attribute in large measure to the training and exposure which they received between 2008 and 2011 while campaigning to make Aceh Barat a 'trawl-free' district. A few of the MMs, who were fishers, continue to believe that a new future can be envisioned.

Assessment

The co-management entity in Aceh Barat – for a time the exemplar of success – was unable to face the combined onslaught of economic and political power of the trawl lobby. It could revert back to weak community-based management of resources in one or two villages which have pledged never to use the mini-trawl.

D. Naga Raya District

Nagan Raya is the southern most of the four districts where the FAO/ARC Program had undertaken co-management activities. It is a district focussing on plantation agriculture like oil palm. It has a long sandy coastline, marked by extensive lush coastal forests and with a sparse coastal population generally residing away from the shoreline. One distinctive feature of the district was the above-average quality of the MMs that participated in the FAO/ARC Program training for community organization and fisheries management.

Being a newly formed district (it was bifurcated from Aceh Barat) the bureaucracy did not consist of very experienced officers. Unlike in the other districts, the DKP of Nagan Raya was a part of the larger agriculture department. Most of the officers were new to the field of fisheries. Another important feature was that the departmental offices were situated in the newly constructed district capital which is far away from the coast. This made the contact with fishers and interest in marine fisheries slight.

Lush Coastal forests of Kawasan Beujorh Laot

There was no representation from among the fishery officers of Nagan Raya in the FAO/ARC Program exposure trip to Malaysia and only three officers attended the co-management training. Two of them (the seniors) did not attend all the sessions and hence forfeited their right to get course certificates.

v. Kawasan Beujorh Laot, Lhok Babah Lueng

Background

The motivation for taking up co-management activities in the district came from the active group of MMs. They wanted to match up with the initiatives of their MM colleagues in the other districts. There was also a relatively strong contingent of lhok level Panglima Laot – all genuine small-scale fishers – who had hitherto successfully administered the sea with strict customary norms. Together they approached the Bupati with the proposal for the co-management entity.

Program Initiation and Main Activities

The involvement of the DKP of Nagan Raya was initially obtained rather reluctantly despite the open approach of the Bupati. On the part of the DKP, the pressure to 'engage' came only after the banned mini-trawls from Aceh Barat began to move into the waters of Nagan Raya causing some outrage on the part of the local fishers. This was when the DKP supported the initiative to form the Kawasan Beujroh Laot (KBL) and have it registered through a decree of the Bupati.

Compared to the co-management entities in the other districts, the KBL had the largest coverage of coastline – 35 kms. (See Table 2 and 3 above). Their main focus of activities were to be community participation in surveillance of illegal fishing – primarily the mini-trawls; moving towards small-scale selective fishing and a major

program for coastal afforestation. Attempts to get the Nagan Raya parliament to allot funds for a gear exchange program, similar to what was done by Aceh Barat, were not successful. Good beginnings were made on a coastal afforestation scheme with the involvement of the Department of Forestry. The Panglima Laot at the lhok levels and the MMs took keen initiative for this.

There is little to report of KBL activities because of the disinterest, or inability, of the DKP to engage pro-actively with the Panglima Laot and the MMs. The only officer, of junior rank, who had shown some interest in the FAO/ARC Program activities was transferred to another department.

The community could not effectively block the mini-trawls from Aceh Barat operating in their waters without the support of the DKP and the Water Police. The latter in turn required funds for operations which had to be allotted from the fishery budgets. The co-management centre in Nagan Raya – Kawasan Beujroh Laot (KBL) – as an institutional structure remained an empty shell.

The revival of the mini-trawls in Aceh Barat in 2012 only added dismay to a situation which was already bad. The Panglima Laot also split with those pro and against the mini-trawl. Several of the MMs obtained jobs in government and in the local schools. Few of the girls among them got married and were preoccupied with raising their families. The few who were fishers were without any support.

Assessment

The co-management initiative in Nagan Raya did not take off.

5. ASSESSING FAILURE, DORMANCY AND SUCCESS

From the above extensive analysis of the five entities in the WAFCO in Section 4, it is clear that success, dormancy and failure cannot be viewed as one-time events. There has been a short timeline over which a multiplicity of factors has affected performance of each of the entities. Let us briefly recapitulate discussing each of the five entities, starting from the southernmost in Nagan Raya and moving up to the northern most in Aceh Besar.

A. Kawasan Beujorh Laot (KBL), Nagan Raya

The southern-most entity in Nagan Raya (KBL) was basically a non-starter. This was largely due to the total neglect by the district authorities and the fisheries department (DKP) after having instituted the KBL with great fanfare. This attitude of the state was accompanied by sharp disagreements between the Panglima Laot of different lhoks on the question of banning the mini-trawl operations in the district. The MMs in the district were fully involved in all the events leading to the instituting of the KBL. However with the two main partners in the co-management arrangement slowly withdrawing support to the KBL, the MMs were left confused. Within a year most of them, who were all very competent and committed youngsters, had also turned to looking for ways to find their own means of livelihood for which their training as MMs was useful. With the winding up of the FAO/ARC Program in June 2010, there was no follow-up possible. Mini-trawls had aggressively re-established themselves with no regulation being undertaken by the DKP or the Water Police. Sadly many Panglima Laot had also taken to this gear which was considered *'haram'* (sinful) by their own Provincial decision making body. At the WAFCO gathering in November 2013, at which three of the fisher representatives of KBL participated, it was clear that there was still the urge to revive the initiative despite the odds being stacked against them.

B. Kawasan Peujroh Laot (KPeuL), Aceh Barat

The entity in Aceh Besar (KPeuL) had initiated the most ambitious set of activities pertaining to banning the mini-trawl. This was the action with the most contested economic, ecological and political overtones. The combined actions of the Bupati, the police, the fisheries department and the community with the sustained support of as many as 10 MMs resulted in unprecedented measures in support of moving the district towards responsible fisheries. These actions reached a crescendo attracting national attention with the President of Indonesia's award to the Bupati. But when the Bupati lost the district elections in 2012 the KPL entity sank to the doldrums with the mini-trawl lobby rebounding to capture the coastal fishery. The element of continuity within the governance structure of the district and the fisheries department (DKP) was ruptured following the elections. This left the KPL rudder-less and it was soon grounded by the new social forces governing the district. This situation also brought to the open the hitherto concealed differences among the Panglima Laot in the district on the question of mini-trawls. For the first time some of them came out openly in its favour. This put the fishers, who were faithful followers of the *hukom adat laot* (customary law of the sea) that had in 2007 banned trawling, into unresolvable dilemmas. Here again, in the WAFCO gathering of November 2013, the representatives of the MMs, the Panglima Laot who oppose mini-trawls and small-scale fishers using selective fishing gear attended. There was not a dent in their commitment to responsible fisheries. But, they felt helpless and deeply betrayed by the events of the past 18 months. One realisation was very evident to them: the deeply intertwined nexus between illegal and destructive fishing, money and political power.

C. Kawasan Ramah Lingkungan (KRL), Aceh Jaya

Of the two entities in Aceh Jaya (KRL and KPL), the KRL was the pioneer entity and show-piece. This is where the FAO/ARC Program invested the most time and effort, undertook some innovative steps in resource rejuvenation (large-scale mangrove and coral replanting and coastal forest protection) and gave support for selective fishing methods with strong backing from women of the community. This was the 'learning centre' for co-management.

The KRL became the first entity to gazette the boundaries of their conservation zones through the SK. They linked up with the tourism department to promote investments for local tourism. They trained more village youth for resource conservation and skills like scuba diving. They held the first meeting of all the WAFCO entities in March 2010. After two years of successful development of activities and enthusiastic involvement of all sections of the community – particularly the women and youth – the recent political ambition of the Chairperson of KRL created disagreements within the Executive Board between key functionaries. The changes in the DKP at this crucial time also hastened the path to governance failure. This led to granting covert permission for private interests to piggy-back on the collective conservation investments of the co-management entity. Here again, at the WAFCO gathering in November 2013, the new Chief of the DKP, the women who manage the KAUM, and some young fishers, shamed by their failure, promised to do all they could to immediately revive the KRL to its initial glory. They have been assured the support of the KuALA network; the representatives of the local University; and the unstinted support from the representatives of the KABARI entity.

D. Kawasan Peudhiet Laot (KPL), Aceh Jaya

The other entity in Aceh Jaya (KPL) is located at an isolated end of the district far from the District headquarters making it largely out of regular reach by the DKP. It was also the last entity to be started just before the FAO/ARC Program wound up in 2010. The initiators felt 'orphaned' right from the start. Interestingly, it is this neglect which has been the prime motivational driver. It spurred the determination of the

coastal community and the fishers to be heard and recognised. They took concrete action, using the rights and responsibilities granted to them under the SK, to protect their coastal waters from destructive fishing (bombing and poisoning, by fishers from the neighbouring district of Aceh Besar). The help of the Water Police was also an important factor in achieving this. They put the financial assistance they received from the DKP to good use. The protection and conservation measures, combined with the newly created road access to the Banda Aceh market gave higher returns to the fishers and greater incentive to ensure that the KPL succeeds in its mission. The recent alienation which they experienced, with regard to the Panglima Laot emerging to be more a politician than a fisher, is bound to plague all customary institutions in Aceh into the future. This fact, together with a spatially distant state, puts to question the 'co-managed' status of the entity. However, with the number of fishers of KPL increasing as a result of the economic dividends of responsible fishing and pro-active conservation, the commitment to ensure success of the KPL experiment is high – even as just a fishers' community-based conservation and livelihood initiative. The promise by KABARI (located about 40 kms north) to assist in realms such as conservation of lobster breeding grounds and access to markets also augurs well to initiate a deliberate strategy of networking of the WAFCO entities into the future.

E. Kawasan Bina Bahari (KABARI), Aceh Besar

The northern-most entity in Aceh Besar (KABARI) has grown and flourished. The key elements have been good, sustained moral leadership, combined with a dynamic co-option of local entrepreneurial spirit towards collective action. This combination brought benefits to all. That the 70 fishers of the lhok found a steady and reliable market for their fish through local tourism provides a strong economic foundation to KABARI. The committed involvement of student and academic-led local NGOs resulted in a good overlap of interests with that of KABARI's own stake in conservation and gave it a scientific orientation. This in turn helped to link the KABARI to other INGOs, but on their own terms, because of the competence of the MMs who were real fishers and also trained in skills such as scuba diving and coral rejuvenation. The sustained interest of the DKP and a host of other departments (Forestry, Tourism, and Conservation etc.) as well as the functionaries of different levels of district governance, helped in no small measure to reinforce the true co-management dimension of KABARI. Undoubtedly, all the above is also inextricably linked to the positive externality of urbanisation which KABARI enjoys because of its spatial proximity to the Provincial Capital Banda Aceh.

6. A GENERAL ANALYSIS OF THE WAFCO AS A HYBRID NETWORK

The description in Section 4 provided brief details of the origins and the operational aspects of the five fisher co-management entities as they evolved largely between the mid-2009 and 2013. Section 5 made an assessment of the factors which contribute to failure, dormancy and success of each of the entities. These entities were created out of the the same conscious capacity building process undertaken by the FAO/ARC Program, they have all been given the same legal framework, but yet, each entity has had its own specific set of activities and involvements resulting in a unique institutional trajectory.

Coterminous with this case study, a gathering of the representatives of the five co-management entities of WAFCO was facilitated at the end of November 2013. Those who attended met on the bay-front of the Kawasan Ramah Lingkungan (KRL) in Aceh Jaya. This was the first time they were meeting together after the completion of the FAO/ARC Program in June 2010.

Despite being on the same coast and across a distance of about 300 kilometers, there was little formal contact between the five entities. The dimension of networking of the entities was one of the incomplete elements in the FAO/ARC Program. What little

news travelled across the five entities was facilited by the MMs who, through their 'alumni network' had created linkages and social groups of their own. This was largely with the use of SMS texting and social media like Facebook. Through these links, the mini-trawl fiasco in Aceh Barat and the failure of the KBL in Nagan Raya to take off were well known. The growth of the KABARI, the struggles of the KPL in Lhok Kuala Daya and the current dormancy of the KRL in Aceh Jaya was unknown. It was the latter which came as a rude shock to all.

Group Discussion WAFCO Reps in November 2013

Most of the representatives gathered had been to KRL, Lhok Rigah in 2010 to learn from the 'mother entity' – so to speak! Many of the conservation ideas and strategies undertaken by the other entities, as well as their measures for linking up with the state, were largely modeled after KRL. That initial enthusiasm and dynamism of the KRL members seemed to be clearly lacking now. And that their gathering was being held in the KRL bay-front posed a special existential challenge regarding the need to help each other in times of failure and success.

In the discussion which followed between the representatives two significant points emerged about their core objective and their organizational future.

Firstly, the five co-management entities are 'jelly-fish' like in that they have no rigid form. This has its numerous advantages (flexibility; not controlled by any authority above; etc.) and also its important disadvantages (can become low on accountability; less likely to have institutional memory; etc.). In this context, there could only be a generalized articulation of the core objective of each entity.

After some discussion this core objective it was spelt out as follows:

> ***The overarching core objective is to collectively create the enabling conditions in nature and society to facilitate peaceful and sustainable livelihoods for coastal communities.***

Secondly, the functioning of the entities as co-management initiatives (with community, fishers and state involved as equal partners) will be overtly and covertly influenced by the new politics of Aceh and Indonesia and also the form of governance of the districts under the decentralization policies of the federal government.

Both the above points echo the specific historical experience of the people of Aceh.

For instance, the specific mention of the word "peaceful" in the objective alludes, on the one hand, to the memories of the people regarding the long period of violence and conflict which they had experienced between 1980 and 2004. And yet, on the other hand, it also expresses the hope that their organizational initiatives will contribute to generating and sustaining peace which is a prerequisite for building sustainable livelihoods.

The fluidity of the new politics of Aceh has already begun to take its toll on institutions which the people have known as the bedrock of their earlier era of isolation. The happenings in the Panglima Laot point to this painful reality. While the local face-to-face communities had their strong moorings in custom *(adat)*; evolving new forms of governance involving new interest groups is a major learning process. The default option is therefore always to revert back to the comfort-zone of the immediate local community.

The general analysis of the WAFCO initiative needs to be situated in the above context and dual perspective.

A. Governance in hybrid organizations

From the description of the evolution and functioning of the five entities during this brief period of time (mostly from 2009-2013) it will be amply clear that the 'jelly-fish-like' nature of the entities make it difficult to identify and pin-down clear governance structures, characteristics and practices.

For example, membership is not rigidly or clearly specified in the official legal framework – the SK. All members of the community (Lhok) can become members. However, despite this openness, it is the fishers, led by the Panglima Laot, who are the core members – the backbone of the entity, so to speak. Their numbers may increase or decrease. The participation of youth and women (see below), was envisaged by the FAO/ARC Program as being crucial for successful functioning of the concept of co-management. However, the role which they have played varies across the five entities. The structured and successful role of women is evident only in the KRL in Aceh Jaya.

There has hitherto been no sharp class division in the coastal communities of Aceh. While class is indeed a socio-economic reality, it had not manifested itself in any brazen manner in the communities when the WAFCO entities were set up. However, over time, and particularly where action against mini-trawling was the main agenda of action (particularly in KPeuL, Aceh Barat), class contradictions have clearly arisen now. Yet, this has not led to formation of any new class organization (e.g. such as a fishers' trade union or a traders association) or polarization along clear class lines. It may be appropriate to add that class is a new 'identity' within Aceh and has articulated itself only gradually in the post-tsunami and post-autonomy years.

Given this amorphous membership and lack of any sharp class distinctions, the framework provided in the SK makes for 'interested parties' of state and community to be involved in different levels of governance – as in the Advisory Council; Consultative Council and Executive Body.

This broad orientation, while it provides scope for greater 'inclusiveness', also becomes the basis for lack of any formality of process. This latter fact is evident from the near total absence of any formal record keeping of meetings and decisions taken by any of the governance bodies – not even by the Executive Board. In the WAFCO meeting in November 2013 this was a point of discussion and the representatives agreed that while they did have a transparent and inclusive process of decision making, there was little documentation of this process. They were of the opinion that this may be a 'hang-over' of the strong practice of custom in the coastal communities where nothing was recorded in writing.

In this context, it was significant to note that the women's self-help initiatives (the KAUM) was an example of excellent financial record keeping and minutes of all decisions taken by their Committee (See B). It is a study of contrast with the WAFCO entities. The women pointed out that it was the training they received from facilitators and their regular follow-up which provided this orientation. Moreover, the women felt that since they were directly handling money, it was their moral and religious responsibility to be honest and to be accountable to their membership. That the rigor

of the women's activities had no demonstration effect on the co-management entities led by the men also points to the marginal role being played by women in the effective governance of the co-management entities, though there is specific representation for them in all the governance bodies.

One of the major lacunae of the legal framework of the SK is that it makes no reference to the period for which the governance bodies exercise a mandate. There is no reference to elections to the governance bodies. However, the SK does make the provision for adding any form of regulation by stating in the Article 13 titled 'Closing' that: *The things that have not been specifically regulated in this decision will be further regulated through the appropriate Council Meetings* (See Annex A).

Undoubtedly this Article will have to be the main legal peg on which to hang all near future efforts for improving the system of governance of the WAFCO entities. Instituting greater recorded decision-making processes needs to also be viewed as an important plank in the pursuit for institutional memory.

Governance is clearly not just about taking decisions. It is importantly about the process by which they are taken and the nature of outcomes they produce.

B. Youth and Gender issues

As explained earlier, youth were central to the initial creation and continuing motivation for the activities of the five co-management entities. It may even be fair to say that where the involvement of the youth continued, the co-management activity flourished and spread. At the start of the five co-management entities as many as 30 of the MMs were closely associated with the initiatives (See Table 2). Many of them were also formally inducted into the various governance bodies of the entities. The vision was that as the co-management initiatives spread, many more of them would get involved on a full-time or part-time basis with the action.

The short experience of 4 years shows that when the youth are also fishers, there is greater continuity of involvement with the WAFCO entities. When they have other interests and higher levels of education, while they fully support the initiatives, they are more often than not, forced to look away to the urban centres, and even avenues outside Aceh, for gainful employment. In one sense a 'brain drain' from the coastal communities.

As regards the structured involvement of women, this was only initiated in two of the five entities – the KPeuL in Aceh Barat and the KRL in Aceh Jaya. In both these locations the women – mainly wives of the fishers – were organised to form self-help credit groups for promoting local enterprises. These groups were named KAUM – Kelompok Amal Usaha Mandiri (Group for Undertaking Independent Business). They raised their own capital through a combination of members' savings, grants from individuals and loans from credit institutions and NGOs. There was a mix of purposes for which credit was extended to the members. A significant share was paid out to members who wished to use it to purchase fishing gear for their husbands. The women also decided that the gear purchased with these loans should be certified to be non-destructive of the ecosystem. As a result only selective gillnets and hook and line sets were financed.

The KAUM in KPeuL in Aceh Barat started well in Ujong Drien village in 2010 with 25 members. Initially the savings of the members was mobilised and they also received small grants from well-wishers. Most of the members were wives of the fishers of KPeuL and they were keen to help their husbands to purchase selective fishing gear. They decided to appoint the wife of a military man in the village as their President, given her higher level of education and public relations ability. These attributes were certainly useful to initiate the activities and maintain the records. The capital of the KAUM reached a modest IDR 35 million by 2012 (USD 3 200). At this juncture the President of the KAUM shifted residence from Ujong Drien. She took the capital of

the KAUM along with her! After a long series of negotiations the women in Ujong Drien finally managed to get it back in 2013 and hope to revive their efforts after the embarrassing setback.

The history and the data obtained from the KAUM in the KRL, Aceh Jaya is more impressive. The KAUM in the KRL started in August 2009 with 35 members. They had collected their own savings of IDR 30 Million (USD 2 700) and obtained a grant from an NGO of IDR 60 million (USD 5 500) in November 2011. By October 2013 it had enrolled 85 members. The objective of the group has been to facilitate the small-scale enterprise initiatives of their households. It is significant that a large share of the credit offered was to their husbands to buy fishing gear. As the KAUM members were fully behind the KRL initiative and an integral part of the discussions on conservation, sustainable fishing and the benefits of co-management, they were wholly aware of the credit crunch of their husbands who wished to purchase selective fishing gears required to fish in the KRL area. The women are also in full control of the loan repayment of their husbands. The KAUM's initial capital of IDR 90 million (USD 8 200) has been circulated to disburse 234 loans valued at IDR 663 million (USD 60 000) by the end of 2013. Of this, 112 loans valued at IDR 217 million (USD 19 700) (65 per cent) were intended for purchase of fishing equipment. The remainder was utiliZed for small enterprises such as setting up of retail stores; capital for cake making; capital for setting up coffee shops and also for educational purposes. In 2009, when they commenced their activities, the size of a loan was only IDR 1 million (USD 90). It has now been increased to IDR 5 million (USD 450). Members also pay a monthly fee of IDR 10 000 (about 1 USD) towards the administrative expenses of the KAUM.

KAUM in KRL – Self-help is the best help

The KAUM activities have provided significant economic and social empowerment to the women. The KAUM leadership has attended training programs conducted by an NGO called PINBUK which provides them technical support. This is primarily to ensure that they are able to keep proper accounts and books so that there is no let down in their financial propriety and accountability. In a province and country which is reeling under corruption scandals this willingness of the women to subject themselves to strict accounting and financial procedures is a great example for setting the highest ethical standards. The leaders are also confident that they can now demonstrate to other women in similar circumstances the way forward to self-reliance and true empowerment. They have also in 2013 taken their first step towards use of ICT with the purchase of a laptop and internet connection. They are actively assisted by two women MMs of the district in their efforts.

However, despite this significant role of KAUM they were not able to intervene in the downslide of the KRL in which they had so many stakes. Part of the reason seems to be pure self-preservation. They realised that intervention would cause conflict because of the role of the wife of the Chair of KRL who was perhaps jealous that she was not heading the activities of the KAUM. In this context they took the option of non-interference as a strategy for survival and continuance of their activities which they could perform autonomously.

An important deficit in the governance of the WAFCO entities has been the lack of mainstreaming of women's participation into it.

C. Networking and External Relations

Each of the co-management entities in the WAFCO is autonomous although each is gazetted in the Indonesian legal system by an SK. The members of the executive bodies of these entities met together on an informal basis in 2010 just prior to the completion of the FAO/ARC Program. Thereafter, the next meeting of the representatives of the five entities was only in November 2013 as part of the field work undertaken for this case study when they discussed their activities between 2009 and 2013 and the reasons for successes and failures. One of the important issues which surfaced during this discussion was the lack of serious internal discussions within the co-management entities due to the withdrawal of facilitation support of the FAO/ARC Program so soon after the formation of the entities. This led to isolation of the individual entities and the lack of communications between the entities. This resulted in each entity being hugely influenced by the socio-economic and political forces in the respective districts and without recourse to any form of 'neutral' facilitation and moral support or solidarity from the other entities.

The November 2013 meeting thus laid the foundation for the creation of an informal solidarity network of the entities. Given the advantages of using cell phones for easy, inexpensive and quick communications, such a 'virtual' solidarity network can function with ease.

The representatives of KABARI in Aceh Besar promised to assist the KPL of Aceh Jaya (these two locations are hardly 40 kilometres apart though in two different districts) in their efforts at creating an *in situ* lobster nursery protection. KABARI representatives also emphasised the need for the functionaries of the co-management entities to make wider links with academics, NGOs, and the media as a strategy to get expert assistance and also to make their work well known to the larger community of Aceh and Indonesia. They also introduced to the other representatives the functionary of the NGO called KuALA (Coalition for Action in the Sea of Aceh). This NGO was keen to act as facilitator for the co-management entities. However, their bias is towards conservation and not with any particular position on the importance of co-management.

D. Relationship with political process of province/country

One of the major issues facing the WAFCO is the new, different and evolving political situation in the Province of Aceh in the post-tsunami era. As we had described above, the impact of the twists and turns of politics in Aceh were an important factor in determining the course of events in the WAFCO entities. Their future will also be greatly conditioned by it.

One of the conditions in the Helsinki Agreement (August 2005) was the guarantee that elections would be held in Aceh with the possibility for participation of local Acehnese political parties which did not have any national presence. This was an exception made for Aceh. The first election for Governor of the province was held in December 2006. It was won by Pak Yusuf Irwandi, a former GAM commander,

running as an independent candidate. At that time the GAM did not have its own political party, nor were there other local parties in Aceh.

With Pak Irwandi in power, and Aceh getting provincial autonomy through the Law on the Governance of Aceh (LOGA) in 2006, there was considerable expectation on the part of the people of Aceh that their dreams of a peaceful and autonomous development process would come true.

The focus of Pak Irwandi was two-fold: (1) to get the post-tsunami rehabilitation work completed at the earliest and (2) to rehabilitate and reintegrate the GAM fighters into mainstream society by providing them with training and jobs or capital support to commence their own enterprises. He had considerable success with regard to the first and a mixed record with the second. Having been an environmental activist before he joined the GAM, Pak Irwandi was supportive of most initiatives which focused on sustainable development of the natural resources of Aceh. His concerns were more focussed on the forest wealth of Aceh, having spent a considerable amount of his time as a militant in that ecosystem.

Strange as it may seem, in a province with a significant coastal population which bore the brunt of the tsunami, the attention which Pak Irwandi gave to marine resources and the sea was grossly inadequate. In a province where the population cannot do without fish in every meal, this seems a contradiction. Consequently, the fisheries department – Dinas Kelautan dan Perikanan (DKP) and its programs had a much lower importance in the governance structure of the province.

Between 2009 and 2012 Aceh witnessed the slow but steady ground swell of party politics. The most important development was the formation of the Party Aceh (PA) by the GAM and the Saura Independen Rakyat Aceh (SIRA) by the Vice-Governor of the time. Other smaller parties representing various sub-regional interests and Islamic socio-religious persuasions also came into being.

One salient impact of this new politicisation process was the need for every party to have their point-persons in different parts of the province and representing different social groups. In the marine fisheries sector the most obvious choice for parties was the Panglima Laot at the lhok level and below. The implication of this was that a Panglima Laot, who till now was only a customary leader of fishers, also began to don another identity – that of a political party representative, with rather different expectations and demands. The basic function of the new identity was to mobilise people to become faithful followers of the respective political parties – particularly during the elections.

Many elections were held in Aceh between 2007 and 2012 to a wide variety of political institutions in the complex pantheon of Indonesia's democratic system. This created a new socio-political ethos in the polity of Aceh. The Acehnese moved from being a marginalised and suppressed population leaning hugely on *adat* (custom), to one having a plethora of representative electoral rights. The movement from the stability of *adat* to the shifting loyalties of democratic politics was a major U-turn perceived in all sections of the coastal community. It is evident that many individuals have been rather naively drawn into this process and then caught up with the promises of power and position, which is standard fare with political parties.

The five co-management entities of the WAFCO were formed at the commencement of this socio-political churning in Aceh. They were instituted as legal entities to collectively represent the overlapping socio-economic interests of different sections of the coastal community in managing coastal natural resources. These entities did not represent the interests of any particular political party of that time or place. However, to the extent that they were called to function in the fluid socio-political milieu of Aceh, these entities could hardly remain insulated from these influences.

These new political influences become prominent in two circumstances:

Firstly, when formal representatives of the five WAFCO entities change their own political affiliations – as in the case of the KRL Chairperson in Aceh Jaya who was also Chief of the Village and now became a member of a provincial party in order to contest for the district elections.

Secondly, when the overall political situation in the district is altered consequent to an election – as in the case of KPeuL, Aceh Barat where the defeat of the Bupati who instituted the mini-trawl ban lead to a cascading set of events which totally reversed the whole mission of moving the district to responsible fisheries.

These new political realities will only get stronger in 2014 as the long process of elections to the federal, provincial and district parliaments and the Presidential election unfold.

There is no way that the WAFCO can isolate itself from the pernicious socio-political influences unleashed. Only a determined leadership of the respective entities, who can perceive the interest of the coastal community being above 'party' politics, can ensure that while people legitimately involve in the political processes, it is not at the cost of ruining the institutions which they have collectively created for their long term welfare.

E. Relationships with the 'outside world'

The relationships of the WAFCO entities with the outside world were negligible. The main reason for this is the language barrier. At the local levels people in the WAFCO entities converse in Acehnese which is primarily a spoken language. The 'official' language is Bahasa Indonesia. Even at the higher levels of bureaucracy and academia in Aceh very few persons are able to converse or write well in English or any other international language. The result of this has been an isolation of the WAFCO initiative from the larger global fishery research and management community. This language barrier also prevents the more educated sections in Aceh from learning about political processes in other countries which can provide good lessons for Aceh. However, there has already been important media coverage and few academic publications in Bahasa of the meaning and significance of the WAFCO initiative for Aceh.

F. Relationship with NGOs

The initial contact of the WAFCO entities with an NGO was established immediately following the completion of the FAO/ARC Program. In fact, this NGO was initiated by staff of the FAO/ARC Program with the objective of providing continued support for the WAFCO initiative in the post-2010 period. It was appropriately named – Jaringan Pegiat Kommunitas Pesisir Aceh (JPKPA) – Network to Energise the Coastal Community of Aceh. Its founder members included some of the well-known social activists and academicians of Aceh. The expectations that the JPKPA could negotiate funds for a follow-up program to support the FAO/ARC co-management initiative after June 2010 did not materialize. This was primarily due to donor fatigue in supporting initiatives in Aceh after the huge relief and rehabilitation program between 2005 and 2010 had pumped in over USD 7 billion into the economy. The financial support finally obtained by JPKPA was very small, largely from individuals and a small family endowment fund in Europe. The JPKPA helped the WAFCO initiative between January 2011 and June 2012. Thereafter, with their small funds drying up, they could not continue the support. They remain dormant.

The KAUM members in KRL have an ongoing relationship with PINBUK which was the NGO that helped in training of the MMs. PINBUK helps to foster independent, small-scale enterprise.

The WAFCO entities did not make their own outreach to the academia. However, in three of the entities (KABARI, KPL and KRL), students and teachers in Universities

did make visits to study the functioning of the entities. In the case of the KABARI, its proximity to Banda Aceh resulted in establishing a longer term relationship with groups of students and teachers for conservation programs. The tie-up with KuALA has proved beneficial. The extension of the facilitation by KuALA to the other entities will also augur well.

G. Finance, infrastructure and marketing

The only sources of finance directed towards the WAFCO entities have been from the various district governments. These monies have not been made available directly. They have come in the form of office buildings and other infrastructure (KRL, KPL in Aceh Jaya, KABARI in Aceh Besar); conservation and rejuvenation efforts (KRL and KPL in Aceh Jaya, KABARI in Aceh Besar) fishing assets (KPeuL in Aceh Barat); in-kind assistance such as saplings for coastal afforestation (KABARI in Aceh Besar, KRL in Aceh Jaya, KBL in Nagan Raya) and assistance in the form of training and human capacity building (KABARI in Aceh Besar; KRL in Aceh Jaya).

Since there is no exclusive membership for the WAFCO entities (the SK defines all the residents in the participating lhoks to be members) the notion of a membership fee has not been considered. Also, there is currently no specific economic activity being conducted directly by the entities (as distinct from the economic activities of the individuals) and hence there is no notion of costs and profits for the entity as such. However, if the task of the entity is to "*collectively create the enabling conditions in nature and society*" (as they defined at the November 2013 meeting) it should be possible to come to a collective agreement about the value of this service and recover the same from the individuals who utilize the services.

For example, consider coral rejuvenation activity funded by the state, while the WAFCO entity organized the human efforts for this to materialise. In time, the corals grow and become a source of attraction for local tourists from outside and source of fish for the fishers of the entity. There rests a case for both groups can be charged – one for observing the corals and the other for the fish they catch from it. Such options may need to be explored.

H. Use of ICT

Indonesia is a country where the use of old and new forms of ICT and the latest social media networks have been growing at a very rapid rate. Cable TV, FM radio, cell phones and SMS were widely and effectively used in Aceh, after the tsunami by all sections of the population. Social media like Facebook was popular in the urban areas and with the youth.

The MMs have used the cell phone and SMS as their prime means of communication between themselves and the FAO/ARC Program in the process of setting up the WAFCO entities between 2008 and 2009. Many had also become familiar with Facebook. Fishers were greatly benefitted by the dissemination of fish prices, weather information and earthquake alarms through SMS and FM radio.

The TV and FM radio were also widely used by the FAO/ARC Program to disseminate information and knowledge about co-management in fisheries. The presence of TV sets in the main village institution, the kadai *kopi*, was also used to play informational CDs and documentaries. The CDs of the film on dispute resolution was disseminated in this manner as there are no movie theatres in Aceh.

7. WHAT ARE WAFCO'S MAIN ACHIEVEMENTS?

Indonesia, as a true parliamentary democracy, is only just 15 years old. The Province of Aceh as an experiment in autonomy within the federal context of Indonesia is not even a decade old. And the initiative at co-management of fisheries along the west coast

of Aceh (which we have termed the WAFCO initiative) has been functioning for less than 5 years.

It is important to highlight that instituting the co-management initiative would not have been possible without the autonomy of Aceh and that in turn would not have materialized without Indonesia having turned democratic.

For the proper functioning of democracy, autonomy and co-management there must be in place a system of rights and responsibilities, exercised with transparency and accountability, by the various interest groups who constitute the institutions. This process takes more time than has currently been available for the country, province or entity. The WAFCO initiative being at the lowest end of this hierarchy, assessing achievements against this background can only be indicative and will not be a guide to future turn of possibilities.

There has been no formal assessment for the material changes which have been achieved as a result of the WAFCO initiative. It will therefore be inappropriate to make any strong statements about the outcomes and impacts it has made on improving incomes or food and nutrition security. It will be in order to note from the recent articulation of the overall core objective that the emphasis so far was to: *collectively create the enabling conditions in nature and society to facilitate peaceful and sustainable livelihoods for coastal communities*.

The WAFCO entities, at the times when they functioned effectively, therefore remained as 'facilitators' creating the enabling conditions for any member of the community – youth, women, and men, particularly fishers – to take up actions which assisted them to pursue livelihood options of their choice. Such actions could be individual or collective. From our analysis of the initiatives, it is clear that such facilitation was possible only because of their 'legal entity' status combined with the active or tacit support of the state.

The WAFCO entities have, in varying degrees, asserted their legal rights over space and resources and ensured that sustainable and responsible fisheries were undertaken. These actions have led to, even if only temporarily in some locations, better income possibilities. However, the impact of their actions on conservation of coastal resources (coastal forests, mangroves, coral reefs, coastal waters) has been more pervasive, and more importantly, has led to the community *believing* that protecting and rejuvenating nature is possible by collective efforts with the participation of different interest groups. This has been a small but important step towards the community 'doing conservation as a matter of routine', rather than as a special action.

The WAFCO initiative has also shown that 'hybrid' and less rigidly structured organizations can foster collective action between different interest groups to achieve common goals provided there is, *inter alia*, appropriate moral leadership and some degree of continuity in the political and executive arms of the state.

Since the WAFCO initiative was a product of the FAO/ARC Program some of the innovative measures taken by the Program for capacity building during development of the WAFCO entities merit mention. These include *inter alia,* the youth training programs on the subject of community organization and fisheries management; the participatory film production with the focus on reviving the customary forms of conflict resolution; the non-didactic pedagogy for training government officers; the exposure cum learning visit to Malaysia and the linkages with the local universities.

8. WHAT IS THE STRATEGY TO STRENGTHEN THE ORGANIZATION AND OVERCOME CHALLENGES?

There are many desirable measures and strategies which can be taken to strengthen the WAFCO initiative in Aceh.

The most urgent measure is to ensure that the enthusiasm of the people of the coastal community, who took the first steps to create the respective hybrid co-management

entities, is not lost in the current context where the structured participation of the state, and to a lesser extent the customary fisher organization (Panglima Laot), is on the wane.

Three actions should be adopted to energize the entities:

- **Firstly**, greater networking between the current representatives of the five entities. This can be facilitated by ICT and related social media channels so that the weak and despondent can be enthused by the stronger and successful ones.
- **Secondly**, there is need for an external 'facilitator' that can spend quality time with the community members (in particular the MMs who remain in the areas); the customary fisher organization (Panglima Laot) and also link up with the representatives of the state. The purpose of this mediation is to examine what measures can be taken within the current socio-political and economic context to re-institute the element of co-management back into the entities.
- **Thirdly**, there is need for providing greater organizational formality and administrative coherence and transparency to the functioning of the entities.

In order to concretize these actions with regard to the first and second strategies there is need for a small infusion of funding to an NGO like JPKPA which was constituted for the purpose of 'energizing the coastal community'. They can then travel down the coast to meet with the people. They can provide a modicum of small financial support to MMs who can be the local focal points to ensure that there is proper and continuing follow-up on the facilitation process.

Since participatory resource conservation was the foundational basis for all the entities, there is need for greater scientific support for their efforts. The willingness of KuALA to link up with the entities provides for a meaningful opportunity for more scientific intervention and follow-up of the community involvement and enthusiasm for livelihood oriented conservation.

Greater organizational accountability is a pre-requisite for stable functioning. The Aceh Parliament in 2011 passed the Aceh Fisheries Act. The ground work for the creation of this Act, in the form of public hearings all over Aceh Province, was facilitated by the FAO/ARC Program. This Fisheries Act gives emphasis to co-management. There is need to spread greater awareness about this Act to the coastal areas and to utilize its contents to give a fillip to the WAFCO entities. Obtaining formal recognition under the Act will give greater legitimacy and also provide the administrative compulsions to ensure greater formality of operations. This will give the impetus for more transparency, accountability and democratic functioning which is currently in deficit even in the well-functioning entities.

9. LESSONS, PROSPECTS AND DILEMMAS

The WAFCO entities provided a new and fresh set of institutional initiatives within the context of the new and emerging socio-political situation in Aceh after the Province attained autonomy. Moreover, against the background of the tsunami event, collective action by communities and the state to rejuvenate resources and revive livelihoods attained importance by giving people confidence and reviving hopes for a better and sustainable future.

The decision of the FAO/ARC Program to go for a non-conventional, hybrid organizational form, involving multi-stakeholder interests, was consciously taken in order to set out the possibilities for traversing different paths towards organizational innovation in a free and autonomous Aceh. Efforts were made to build up the initial human capacity to make the detour from older forms of single stakeholder organizations such as associations and cooperatives.

The above review and analysis of this organizational experiment reveals both the prospects and the dilemmas at the present and into the future for hybrid organizations.

Firstly, in a human context, for communities which survived the political isolation and the huge natural disaster, the WAFCO entities did provide the material basis to work together enthusiastically to revive their relationship with the sea and its resources. The therapeutic effect of this collective action on traumatized coastal societies, using a non-conventional hybrid organizational structure, must not be underestimated.

Secondly, the preparatory human capacity building actions – for the youth, the fishers, the government officers – need to be viewed as a major investment in human capital for which dividends did not accrue entirely within the scope and activities of the WAFCO entities. However, taking a broader and longer term perspective, the capital must be seen as yielding returns at least directly to the individuals, which in itself is a social desirable result. How this capacity, built for a specific purpose, can be used in a more focused way for the stated purpose, is the challenge to be addressed by the coastal communities that benefited.

Thirdly, a system of networking between the WAFCO entities should have been made an integral part of the hybrid organizational design. Given the low cost ICT possibilities available, this would not have been difficult to design or implement. Networking of new, hybrid organizational initiatives must be made part of the initial design and formation process. It must not be left as the final act after the individual entities are put in place.

Fourthly, from the review of the experience of the WAFCO entities it is amply clear that the sudden termination of the 'facilitation process' (due to the closure of the FAO/ARC Program) was an important element in the faltering of some of the entities. Clearly, exit policies of such international assistance programs must envision and provide support for some minimal, follow-up, post-exit activities.

Fifthly, the amorphous nature of hybrid organizations makes informality and familiarity take precedence over the need for structure and institutional memory. Striking the right balance is imperative. This total overriding of the former over the latter in the WAFCO entities does not augur well for sustainability of the organization.

Sixthly, the mainstreaming of women into the governance of the WAFCO entities did not take the priority it deemed. Though youth – men and women – from the communities were credibly engaged, this could not substitute the essential involvement of the wives of fishers into the core of the co-management activities. Wives of fishers need to play more than a support role if hybrid organizations are to bring stable benefits for fishing communities.

Seventhly, in the WAFCO entities where the product market (for fish) was vibrant and expanding, the enthusiasm for conservation was 'part of routine behaviour' and laid the basis for conservation friendly-markets. This link also became the bedrock on which co-management, particularly the involvement of the state, became sought after.

Eighthly, involvement of state in co-management can only be ensured if officers will adopt a mind-set allowing people to be creatively involved in the decisions which affect their lives. There is also a need for a modicum of long term tenure for officers. The permanence of community and the total temporariness of the state functionaries can never wield together to form co-management.

Ninthly, moral leadership is a *sine quo non* for hybrid organizations. For an initiative which is marked with informality and initial lack of form, there must be an amalgam of personal and social characteristics to ensure success. Among these the key is leadership which can enthuse, create trust and goad people to collectively achieve goals.

Finally, hybrid organizations can be more easily prone to disbanding following failure. Success and failures must never be viewed as events of finality. These must be viewed as part of an institution building trajectory with lessons to be learnt and internalized.

CONCLUSION

The prime purpose of this diachronic analysis and reflective narrative about the West Aceh Fishers' Co-management Organization (WAFCO) was to provide an insight into the prospects and dilemmas of establishing new forms of organizational structures in the small-scale marine fisheries sector. The post-disaster and post-conflict situation in Aceh, into which this intervention was initiated, made its circumstance very special.

Between 2004 and 2014 however, there have been numerous events around the world where similar circumstances, individually or in combination, have struck coastal fishing communities – Chile, Sri Lanka, Myanmar, Haiti, Japan, Philippines – to name but a few of the more prominent examples. In all these countries, one of the significant challenges with regard to coastal community rehabilitation has related to the post-event choice of institutional and organizational design. There has been increasing recognition that sustainability of relief and rehabilitation efforts finally rest on the success of the organizational structures which are created to move the coastal communities towards re-establishing their normal livelihoods with dignity and self-reliance.

It is in such contexts that hybrid organizational initiatives, which draw upon the lessons of the past, but create a more participatory and multi-interest group future, come to have increasing relevance. Working together to create such endeavours is an important collective therapy for coastal communities recovering from the trauma of disaster and/or conflict. These post-event scenarios also provide the possibilities for establishing new relationships between people and the resources of the sea.

The crucial ingredients for initiating such organizational experiments include identifying good leadership among the people; en-skilling youth with appropriate capacity; orienting the state machinery and personnel towards more openness for involving communities in decision making; ensuring some element of long-term tenure of positions for state officials; setting up a minimal 'process facilitation'; getting wives of fishers to take a central role in the governance of these organizations; making resource rejuvenation and conservation as a central element of livelihood pursuits; finding new markets for fishery products and opportunities for new avocations which base themselves on the 'existence' rather than the 'use' values of the coastal resources.

The study also illustrates how the initial and evolving socio-cultural and political nexus of the context in which an organization is situated greatly conditions its sustainability. This is particularly true for new hybrid organizations, which are yet to be bounded by a welter of socially acceptable recognition. For this very reason, multilateral development agencies, development donors, and the state apparatus should be willing to take risks and provide support to those who experiment with such new forms of organizational options for coastal communities and small-scale fishers. They need to learn from the few examples such as the one in this case study. Notwithstanding such support, in the final analysis, it is the sustained enthusiasm, responsibility and determined self-reliance of the different interest groups that join together to form such new organizations which provide the bedrock for sustainability.

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ANNEX A

Kawasan Bina Bahari
Lhok Lampuuk-Aceh Besar
Secretariat: Beach Lampuuk, Lhoknga district, Aceh Besar District
Email: kabarilampuuk@yahoo.co.id,
Hp: 085260383947, 085277860030

Joint Regulations of Lhok Lampuuk,
Lhoknga Sub District, Aceh Besar
about
Kawasan Bina Bahari (KABARI)

Considering:

1. That the fishery resources are a gift of the grace of God Almighty and that they being limited, should be kept, maintained, developed and sustained
2. That the fisheries resources and marine ecosystems in Lhok Lampuuk have become a source of civic life and contributed to realizing the prosperity of the Lhok Lampuuk community while maintaining and preserving the traditional and customary laws of the sea
3. That the Lhok Lampuuk community felt the need to initiate the establishment of an area to develop the fisheries resources and marine ecosystems in a sustainable manner
4. That during a joint meeting on 13 November 2009 on the initiative of the Panglima Laot (Sea Commander); the Motivator Masyarakat of Lhok Lampuuk community; the Head of DKP Aceh Besar and in the presence of the Head of the Village and the Chief Mukim and several other community leaders, it was decided that the spatial entity in Lhok Lampuuk be called Kawasan Bina Bahari (KABARI)
5. That based on the considerations referred to in the above Sections (a, b, c, and d) there is need to promulgate a decree (Surat Kepatusan) for the Kawasan Bina Bahari (KABARI)

Considering:

1. Law No. 17 of 1985 on the Ratification of the United Nations Convention on the Law of the Sea (State Gazette of the Republic of Indonesia of 1985 No. 76, additional to the Republic of Indonesia Number 3319);
2. Law No. 6 of 1996 on the waters of Indonesia (State Gazette of the Republic of Indonesia of 1996 No. 73, Additional State Gazette No. Republic Indonesia 3647);
3. Law number 31 of 2004 on Fisheries (State Gazette of the Republic of Indonesia Year 2004 No. 118, Supplement to the Republic of Indonesia Number 4433);
4. Law number 32 of 2004 regarding Regional Government, as amended twice, last by Act No. 12 of 2008 regarding Second Amendment Act No. 32 of 2004 on Regional Government (State Gazette of the Republic of Indonesia of 2008 No. 59, State Gazette of the Republic of Indonesia Number 4844);
5 Law No. 11 of 2006 on the Governing of Aceh (Indonesia State Gazette of 2006 No. 62, additional to the Republic of Indonesia number 4724);
6. Law number 27 of 2007 on Management of Coastal Areas and Small Islands (State Gazette of the Republic of Indonesia of 2007 No. 84, additional to the Republic of Indonesia Number 739)
7. Government Regulation number 60 on the Resource Conservation of Fish (State Gazette of the Republic of Indonesia in 2007 number 134, additional to State Gazette of the Republic of Indonesia Number 4779);

8. Qanun Aceh No. 9 of 2008 About the Development of Indigenous Laws and Customs (Gazette of Nanggroe Aceh Darussalam in 2008 No. 9, additional sheet of Nanggroe Aceh Darussalam number 19)
9. Qanun Aceh No. 10 About Traditional Institutions (Gazette of Nanggroe Aceh Darussalam in 2008 number 10, Additional sheets of Nanggroe Aceh Darussalam No. 20);
10. Qanun Aceh No. 3 of 2009 on the Procedure for Election and Dismissal of Imuem Mukim in Aceh

Based on the above legal considerations our community in Lhok Lampuuk represented by the Panglima Laot of Lampuuk Lhok, the Lampuuk Mukim, and the Chiefs of Village Meunasah Mosque, Village Meunasah Cut, Village Meunasah Lambaro, Village Meunasah and Village Meunasah Blang Balee who together agreed and set up:
KAWASAN BINA BAHARI, LHOK LAMPUUK, LHOKNGA SUB DISTRICT, ACEH BESAR THAT IS INSTITUTED WITH THE FOLLOWING CONDITIONS

CHAPTER I
GENERAL PROVISIONS

Article 1
In this agreement the following definitions are considered:
1. Lhok Lampuuk society refers to all residents who live in the region of Lhok Lampuuk
2. Fishermen are the citizens who work at sea and go fishing from Lhok Lampuuk
3. The Panglima Laot (Sea Commanders) are people who lead and manage the customary practices of the coastal and marine sector
4. Kawasan Bina Bahari (KABARI) is the area where the mentioned stakeholders --people involved in fishing, others of the larger coastal community, and the government -- will share responsibility and authority in managing the marine environment together (co-management) for sustainable fisheries

CHAPTER II
COVERAGE AREAS BINA BAHARI

Article 2
1. Kawasan Bina Bahari consisting of 1 (one) Lhok which is Lhok Lampuuk and the 5 (five) villages in it consisting of Meunasah Mesjid village, Meunasah Cut village, Meunasah Lambaro Village, Village Meunasah and Village Meunasah Blang Balee.
2. Limit Maritime Development Area locations are:
   a. Border point I Lam Karieng
   b. Border point II Simpang Tuha
   c. Border point III Krueng Broek

CHAPTER III
JOINT CO-MANAGEMENT AGENCY (BPB) = Badan Pengalolaan Bersama
KAWASAN BINA BAHARI (BPB KABARI) consists of:

Article 3
The Joint Co-Management Agency (abbreviated as BPB) consists of:
a. Patrons: Bupati (Regent) of Aceh Besar
b. Advisory Council:

Head of Maritime Affairs and Fisheries Office (DKP) in Aceh Besar
Head of Environment Department
Head of Culture, Tourism and Youth and Sports Department
Head Lhoknga Village
Head of Police Lhoknga
Head Post Lhoknga Navy
Head of Mukim Lampuuk

c. Consultative Council of Deliberation
Panglima Laot, Lhok Lampuuk
The Head of Village
Youth Representatives (The Motivator Masyarakat)
Women Representatives from each village
Two Fishermen of each village
Representatives of Maritime Affairs and Fisheries Office
Representatives of the Tourism Office
Representatives of the Environment Agency

d. Executive Body
Chairman: Pak David M. Cut
Secretary: Pak Bob Hamid
Treasurer: Pak Amri
Field of Tourism: Pak Faisal Yahya
Economy: Ibu Novianti
Environments and Hygiene: Ibu Peace
Field Liaison: Pak Fitri Wahyudi

Article 4
Chairman of the Consultative Council are elected by the Members of the Council

Article 5
The task of the Consultative Council are:
1. Create, improve, equip, rules, regulations, of Kawasan Bina Bahari
2. Solve the problems that occur in the management of Kawasan Bina Bahari
3. Creating, revising, adding the rules, the provisions relating to activities associated with Kawasan Bina Bahari.
4. Choosing members of the Executive Body

Article 6
1. Members of the Executive Board consisting of 7 persons are elected by the Consultative Council of Deliberation
2. Consultative Council members may concurrently also function as a member of the Executive Board
3. Executive Board members consist of:
   a. 3 people involved in fisheries
   b. 1 person of the women's activities
   c. 1 person from the tourism activities
   d. 1 person from the youth activities
   e. 1 person from among the Motivator Masyarakat
4. Executive Board composition is:
   a. 1 chairmen
   b. 1 treasurer
   c. 1 secretary
   d. 4 members

CHAPTER IV
DUTIES AND RESPONSIBILITIES EXECUTIVE BOARD

Article 7

1. To make the management plan of Kawasan Bina Bahari.
2. Be responsible for environmental planning of the rejuvenated areas of the marine regions within the Kawasan Bina Bahari.
3. Ensure that Kawasan Bina Bahari is used and preserved for the benefit of society
4. Has the right to determine the customary sanctions against perpetrators who violate the provisions of its decision.
5. Is responsible for the security for goods and / or equipment used in the Kawasan Bina Bahari in accordance with rules applicable for the same.

CHAPTER V
LIABILITIES AND THINGS ARE PERMITTED

Article 8

1. Each area of Lhok Lampuuk residents shall maintain, supervise, and ensure the sustainability of coastal areas and the Kawasan Bina Bahari.
2. Any resident or group in Lhok Lampuuk area has the right and responsibility to participate in environmental management planning at Kawasan Bina Bahari
3. Any person or group who wish to perform any activity or activities in the Kawasan Bina Bahari, must first report to and obtain permission from the BPB-KABARI

CHAPTER VI
PROHIBITIONS

Article 9

All forms of activity that can lead to destruction of the environment and marine ecosystem are prohibited on coastal and marine areas that have been agreed and set to become Kawasan Bina Bahari.

Article 10

The following activities are forbidden in Kawasan Bina Bahari:

1. Using bombs and other chemicals that can damage the ecosystem and marine biota (including marine animals)
2. Drugging or poisoning marine biota (all types of fish, all kinds of shrimps, and other animals that live in marine ecosystems)
3. Using compressors for catching marine biota
4. Catching fish in certain locations which are being restored in the area marked as such by Kawasan Bina Bahari.
5. Taking or catching marine animals and plants that are alive and catching lobster, shrimp, and crabs that are spawning
6. Damaging or taking of coral reefs and the like
7. Throwing garbage and waste around Kawasan Bina Bahari
8. Mining in the Kawasan Bina Bahari Area.
9. Engaging in fishing activities on Fridays

CHAPTER VII
SANCTIONS

Article 11

1. Anyone who acts in violation of the provisions of Article 9 and 10 above, the first level of sanctions imposed will be in the form of an apology by the offender; returning of any products obtained from the region or the secured environment, and signing of an affidavit promising not to repeat the offense committed. This will be done before the Commander of the Sea, Village Officials and the Implementing agencies and community
2. If a person commits a second offense as defined in Articles 9 and 10, the second level of sanctions imposed will be fines in the form of a sum of money which will be determined later by the management body of Kawasn Bina Bahari and confiscation of any equipment used in the violation of the rules.
3. If someone commits a third offense as defined in Articles 9 and 10, the third-level sanction is a fine of an amount of money that will be determined later by the management body; confiscation of all the equipment used in violation of the posted rules and be sanctioned under the Customary Law rules found in Qanun of Aceh Number 9 Year 2008
4. If anyone still commits violation as defined in Article 9 and 10 for more than three times, sanctions as stated in Article 10 paragraph 3 according to Qanun of Aceh Number 9 of year 2008 and other provisions of customary law in Aceh and provisions of other legislation will be enforced

CHAPTER VIII
SUPERVISION

Article 12

1. The area that has now became Kawasan Bina Bahari is a coastal and marine area that have been selected and approved jointly by the fishermen, other coastal community representatives and governmental bodies in the area of Lhok Lampuuk
2. The area that became Kawasan Bina Bahari should be preserved for the benefit of fishermen and the larger coastal community
3. Every member of society is obliged to report to the Joint Management Board (Co-Management) of Kawasan Bina Bahari (BPB-KABARI) and the Panglima Laot, or the Village government if they know of any actions of environmental destruction and other things done by individuals or groups which adversely affect the conservation area in relation to Kawasan Bina Bahari

CHAPTER IX
CLOSING

Article 13

1. The things that have not been specifically regulated in this decision will be further regulated through the appropriate Council Meetings
2. All decisions are effective from the date specified

This Decision shall take effect from the date stipulated by the provisions. In the future, if any error is found it will be corrected as appropriate.
Defined in: Lampuuk
On the date: 13 November 2009

7. The fishers' constitution: Turning the table for small-scale fisheries in Norway

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1. INTRODUCTION

By the turn of the nineteenth century Norway was among the poorest European nations. Only Greece and Portugal had a lower income level than Norway (Cappelen and Røed Larsen 2005). During the first two decades of the nineteenth century, however, a process of economic and industrial modernisation took place, spurred on also by the First World War. For the coastal economy, the war meant an increased demand for Norwegian fish products by the main parties to the War, Great Britain and Germany, resulting in a significant price rise as a result. In the beginning of the 1920s the cycles turned again. The situation worsened due to the financial meltdown on Wall Street in 1928, hitting the export industries hard including that of fish products, the country's most important export industry. As 90 percent of Norway's fish products were exported, fishing communities felt the impact heavily (Christensen and Hallenstvedt 1990; Bull 1979).

Although fish resources were abundant, easily available and open access, fishers still had problems earning a decent income – even when export markets improved. Their poverty was exacerbated by lack of bargaining power; buyers easily exploited them by transferring their market losses to the fishers who, as the weaker party, had to accept the terms offered to them. When prices dropped, which could happen in the course of a day, fishers had to work even harder and bring more fish ashore to compensate for the loss. Ironically, this further depressed prices. The situation reached a point where fishers, with their backs to the wall, finally responded. They organized collectively to break free of bondage (Hallenstvedt 1982: Grytås 2013a).

The government supported the fisher initiative in several ways. Most importantly, the government passed the Raw Fish Act (RFA) in Parliament in 1938. The Act granted the fishers' cooperative sales-organizations the exclusive right to decide the raw fish price. The Norwegian Fishers' Sales Organization (NFSO) established the same year as the passing of the RFA, together with a number of other similar organizations throughout the country, has come to play a crucial role in Norwegian fisheries and society. In fact, one cannot understand the social and economic dynamics of the fisheries industry and its governance without a thorough analysis of the Raw Fish Act and the sales-organizations. They helped empower the fishing population by prioritizing their needs, enabling them to exit a discriminatory bargaining situation and overcome the hardships that the international financial crisis had brought upon them.

In this paper we tell the story about how the RFA came into being; who initiated its drafting and why. In order to understand the significance of this law we start by discussing some key issues regarding cooperative organizations and collective action as they appear in small-scale fisheries globally. If organizations are the solution to marginalization and disempowerment, what are the hurdles to their realization? Cooperatives like the sales-organizations in Norwegian fisheries do not emerge spontaneously in a social and political vacuum. Their origin and sustenance require some form of collective action, either by way of a grassroots or external initiative, namely from within civil society or government supported, or perhaps preferably through concerted action involving both.

Organizing fishers is no easy challenge for reasons that may have to do with their need for independence or lack of time and organizational skills.

How was this challenge overcome in the case of Norwegian fisheries? Who saw the need for legal and institutional reform? Norway's fishing industry looks very different today in comparison to when the Raw Fish Act was passed and the NFSO established more than 75 years ago. The Act and NFSO's survival has depended on their ability to stay relevant to the changing circumstances of the industry by adapting accordingly. What the future holds, therefore, depends on them staying relevant.

In this paper, we argue that although institutional designs must be fishery and country specific, the RFA and the cooperative sales-organization offer institutional solutions more generally to small-scale fisheries in other parts of the world too. The governance principles that are embedded in the Raw Fish Act and the NFSO are, in other words, valid beyond Norway. We argue that even if the particular organizational designs of the Norwegian case cannot be easily emulated, the broader governance principles certainly can be.

2. COUNTERFINALITY: ORGANIZATION AND COLLECTIVE ACTION

The theory underpinning fisheries resource use and management is essentially expressed as a Prisoner's Dilemma game. In this game, participants cannot avoid what Sartre (2006) called "counterfinality"; when they act in their individual interest, they underperform as a group. Individual and collective rationality collides. People could accomplish more for themselves and for each other if they agree to put their own private ambitions aside and work together for their common interest. However, in the case of collective goods (i.e. those goods that once they are provided cannot be reserved for anyone in particular) are concerned, it is always more profitable for individuals to free ride.

This, however, is only possible if others are willing to carry the burden by contributing and covering the costs. In such situations, there will be an undersupply of collective goods unless an external authority as a "deus ex machina" is willing to step in and impose a solution.

The Prisoner's Dilemma game is at the heart of the Tragedy of the Commons, the parable famously coined by Garrett Hardin (1968) (see Ostrom 1990). In fisheries, this tragedy is overexploitation, ruin of the resource, and the destitution of the resource users. This outcome is inevitable because users do what is rational from their individual perspective. As Hardin observed (p. 1244), "Ruin is the destination towards which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons."

Mancur Olson (1977) employed the same model for organizational formation and performance. While highlighting the advantages of having organizations for the realization of a collective good, he recognised that such organizations also faced collective action problems and hence were subject to the Prisoner's Dilemma. This is a "second-order collective action problem, which needs to be resolved first, before one can effectively address the problem at first order, like sustaining the common resource (Holm 1995; Heckathorn 1989). For a member, an organization provides benefits but also involves sacrifices, such as the willingness to contribute and comply. Staying outside the organization or remaining passive within it does not exclude one from enjoying the goods that it provides, such as healthier resources or higher prices.

Free riding pays. Therefore, Olson argues that an external authority would help in the realization of a collective organization that can shoulder the burden of forming the organization. That authority may or may not be the state. But whatever authority it is, the benefits it accrues would outweigh the costs of taking the initiative and responsibility.

Notably, the participants in the Prisoner's Dilemma game do not communicate or cooperate; rather they make their decisions in isolation. In the real world, this is not necessarily the case. For instance, within small groups or local communities, people know each other, share history and identity and hence often collectively make decisions. In such settings, people also have the means to sanction penalties for deviating behaviour like free riding. Counterfinality is, therefore, not inevitable; self-organization is possible unless there is "community failure"; internal conflict, normlessness – or "anomie" as Durkheim phrased it (McCay and Jentoft 1998).

Counterfinality is closely related to scale: The larger the group, the less the incentive for individuals to self-organize, and less the capacity for informal sanctioning as social relations are less intimate. People who do not know each other are less likely to trust each other and less inclined to communicate and cooperate. In large groups that are not committed to agreements will be considered as cheating; in small groups the same act will be considered as "betrayal." A common political ideology may make up for some of the deficit, as for example within the labour and cooperative movements, but it may still be insufficient to avoid free riding. Fisher-members may find it profitable to sell their catch outside their cooperative (Davis and Jentoft 1989).

These general considerations about organization, collective action and the governability of social systems inform the organizational formation and structure of Norwegian fisheries. For a full account we need a "thicker" description of the contextual and causal mechanisms that were active at a given point of time (Vayda 1996).

We also need insight into the events that propelled people into collective action. That description follows in subsequent sections. For now it is sufficient to point out that the co-governance system of Norwegian fisheries emerged in a crisis situation that called for reform. This reform took years and finally resulted in a nationwide, coherent governance structure that involved fishers in partnership with a proactive state that was willing to delegate important management functions to cooperative sales-organizations of fishers, one of them being NFSO. The free rider problem was solved by giving NFSO and other fishers' sales-organizations a monopoly status; selling fish outside these organizations was deemed illegal. This could only happen because of the RFA and the general legitimacy that the law enjoyed amongst Norwegian fishers.

3. THE RAW FISH ACT – A SHORT HISTORY

To tell the story about the Raw Fish Act, we start by giving a short historical account of the geographical, social, and economic structures of Norwegian fisheries with special emphasis on the northern region. In this part of Norway, due to the Arctic climate, the conditions for agriculture are rather poor whereas fisheries resources are rich and available close to the coast. In the three northern counties, Nordland, Troms and Finnmark, the cod fisheries have always dominated. The seasonal Lofoten fishery of spawning cod that migrates from the Barents Sea is the most important source of income.

These fisheries were always crucial for northern coastal settlements. The total population in Norway in 1900 was 2.2 million, of whom only 35 percent lived in densely populated areas (Statistics Norway, www.ssb.no). Fishing and smallholding – or a combination of both – was still the main occupation for the majority of the adult population in the coastal regions despite the fact that the industrialisation process had already started. In 1990, 82 000 people and 19 000 inshore and mid-shore vessels, mostly powered by oars and sails, were involved in the cod fisheries in the north (NOS Norges Fiskerier 1900). With very few exceptions, the Norwegian fisheries were a rural industry. Fishers lived in small villages in the fjords and along the coast, the household being the most important economic unit (Wadel 1980; Solhaug 1983). Coastal households fished partly for subsistence, partly for cash.

Although fishers owned their vessels and gears themselves, they were locked into relations of dependence with fish buyers. Buyers had power for a number of reasons. First, they bought fisher catch and could dictate the terms of the transaction. Often, there were no other fish buyers in the local community; hence existing buyers had monopsony status. Moreover, fishers had no option, given the non-availability of other sources of supply, but to purchase essential goods and services such as flour, salt, sugar, gears, bait, etc. from buyers. Second, buyers were creditors and often land owners as well.

It was easy for them to control and exploit the poor and often illiterate fishing population. One known method of deceiving the fishers was to miscount the number of fish while purchasing. The concept storhundra (i. e. great hundred) refers to the common practice among fish buyers to pay the fishers for a hundred fish when in reality they took one hundred and twenty. The extra twenty were simply not counted. Between 1900 and 1920, a technological revolution took place in the Norwegian coastal fisheries with the arrival of the combustion engine (Johansen 2014). This new technology spread rapidly, after some initial scepticism amongst fishers, and by the end of the 1920s most of the fleet was motorised. The successful installation of engines in small-scale boats stands in striking contrast to the non-adoption of steam trawler technology within, Norwegian fisheries.

The outcome, therefore, of the modernisation process was a fisher-owned fleet consisting of thousands of small and medium-sized vessels. Better economic returns and public funded technological innovation were the main drivers of this change. Historians characterise the motorisation of the coastal fleet as the "industrial revolution" of the Norwegian fishery sector. A motorised fleet led to increased mobility and productivity. The vessels could now reach new, more distant, fishing grounds, and consequently became less dependent on the vagaries of the weather. Another result of mobility was increased competition among buyers and consequently less dependence of fishers on particular buyers. On the other hand, motorisation created more debt for fishers, and hence vulnerability.

Stagnation of the international economy after the First World War and the financial collapse on Wall Street hit the Norwegian fishery sector hard because of its dependence on export markets. All those involved in fisheries lost out significantly because of price collapses within the most important stock fish (dried fish) and salted fish markets. Fishers tended to have to carry the heaviest burden because losses were simply transferred to them. Moreover, there was a tendency towards protectionism in international fish trade with the introduction of customs and import quotas.

This was the case because several nations increased their own catching capability in order to become self-sufficient as opposed to buying fish from outside. German and British trawl fishing grew significantly in the 1920s and 1930s. Both countries started targeting the same Barents Sea cod. Trawl boats from both these countries often damaged the long-lines and nets set by Norwegian fishers which triggered strong opposition amongst Norwegian fishers towards foreign trawlers (Christensen 1991).

The situation worsened for the small-scale fishers of the northernmost counties when the Russian Revolution put an end to the traditional, so called Pomor trade (Niemi 1992; Finstad and Lajus 2012). Russian ships, during spring, used to sail from the northwestern region of Russia to the coast of northern Norway. The Russians brought rye, sugar, hemp rope, and other goods, which they bartered for fresh fish that was cured directly on board. This seasonal trade was very important because during summer the conditions for production of stock-fish were bad. The Pomor ships offered the fishing households an alternative trade channel to the local fish merchants. When this trade ceased, they lost one of their most important livelihood sources.

The crisis in the Norwegian post-WWI economy was not limited to the fishing communities. The country witnessed a high unemployment rate amongst industrial workers who when they lost their jobs often started to fish. No regulations prevented industrial workers from entering fisheries, and the entrance costs were low. Hiring open row-boats was possible for almost everyone; so too buying bait and a hand-line. In the early 1930s, there were more than 30,000 people involved in the seasonal Lofoten fishery, which was a record high (Jentoft and Kristoffersen 1989).

Such a situation of an overpopulated fishery with simple catch technology is known as the "primitivisation process" in Norwegian fishery history (Bull 1991:160-168). The

many newcomers caused falling raw fish prices that now had to be distributed amongst a larger number of people. Buyers and exporters were thus able to lower prices. Fishers often returned home from the Lofoten fishery at the end of the season poorer than before.

Lower prices meant that fishers had to work longer hours and take more risks during bad weather to maintain the same income level. They simply had to catch more. However, increased fishing aggravated the crisis as more fish in the market further depressed prices. A better strategy in the long run to maintain income levels was collective organization. In 1926, fishers established the Norwegian Fishers' Association (NFA) (Hallenstvedt and Dynna 1976; Hallenstvedt 1982; Christensen and Hallenstvedt 2005). This was the first nationwide organization for professional fishers, almost three decades after Norwegian farmers and industrial workers had taken similar action three decades before. The miserable economic situation of Norwegian fisheries was from the start the priority issue.

Another early example of collective action was the formation in 1927 by herring fishers in western Norway of a sales-organization called *Storsildlaget* (Christensen and Hallenstvedt 1990:29-36). This organization attempted to create a fishers' cartel so as to control prices vis-à-vis buyers in this particular fishery. The organization received legal protection in 1930 with the passing of the Herring Act.

The Act stated that sale of herring from fishers to processors was prohibited outside the mandated sales-organization and that the terms of sale were to be set by the same organization. This arrangement was to become the legislative and organizational benchmark for the fisheries sector as a whole including that of the cod fisheries.

The cod fishers of northern Norway bore the heaviest burden of the market crisis within fisheries. Prior to the Lofoten season in 1930, attempts were made by the government to reach a voluntary agreement with buyers for a fixed minimum price level "in first hand" (Christensen and Hallenstvedt 1990:38-42), but the effort failed. A turning point came in 1936, when the Parliament adopted an arrangement for a guaranteed minimum support price for fishers including state subsidies so as to cover any losses incurred (Christensen and Hallenstvedt 1990:55). The immediate reason for the government's intervention in fish sales was the closure of the stock-fish export to Italy, one of the most important markets. A total breakdown in this market put pressure on the Norwegian authorities to act.

The arrangement was a breakthrough for fishers. For the first time, they could prepare for a season knowing what raw fish prices would be. However, the fishers also knew very well that this was only a temporary measure dependent on Parliament's continued approval of subsidies. One weakness of the agreement was that it was limited to sales of cod for stock-fish and salt-/clip-fish production.

In some fishing villages, export of iced fresh fish made a small but significant economic contribution to both fishers and buyers; there was however no government support for this. Other important species such as haddock, halibut, and coalfish, were also not part of the scheme.

In 1937, a strike broke out amongst the fishers of Vardø in Finnmark County. The fishers claimed that the minimum support price system should be sanctioned by law. That a strike broke out here was no coincidence. Vardø was then one of the most important fishing towns in northern Norway, located strategically close to rich fishing grounds. The town housed a number of fish buyers and export firms and was the centre of an important spring seasonal fishery, based on cod (that fed on capelin). In addition to Vardø fishers, every year many visitors took part in this fishery.

In the period 1935 to 1939, the participation varied between 9 000 and 21 000 (Finstad 1993:59). The strike made an impression on the government. Consequently, the government accelerated its effort to find a solution to the fishers' poor economic situation.

Finally, in 1938, after many years of struggle to find a solution to the price issue, the Raw Fish Act was adopted (Hallenstvedt 1982; Christensen and Hallenstvedt 1990; Grytås 2013). However, before the draft law was presented to the Parliament, the government required a referendum amongst fishers. All active fishers from the county of Sogn og Fjordane and north of it were asked whether or not they approved of a mandated organization selling all raw fish (Christensen and Hallenstvedt 1990:87-88).

The response was overwhelming. About 22 000 fishers casted their vote and between 91 and 96 percent of fishers in the four northernmost counties welcomed such an organization playing the role of seller as mandated by the RFA (Christensen and Hallenstvedt 1990:105). The legislator, in other words, had a solid mandate from the group that the law was meant to serve. Simultaneously, with the completion of the formal legislative process, the NFSO was founded in November, 1938, by representatives from the regional departments of the NFA.

The RFA would never have seen the light of day without coordinated action by fishers and active support of the government. Counterfinality was avoided by concerted effort. From a broader perspective, however, the new act was in line with contemporary trends. The 1930s represented a farewell to orthodox economic market principles in many countries. First, Keynesian corporatism with elements of protectionism replaced liberal private capitalism in western economies. The state became a more active participant in the economy both through planning and direct intervention.

In Norway, the RFA turned the tables in the fishing industry as it shifted the bargaining power from the buyers to the fishers. No wonder, therefore, that buyers and exporters contested the law from the very beginning through condemnation and resistance. This, however, had no impact although opposition to the RFA is still very much alive. Notwithstanding opposition to the RFA, the law has undoubtedly had positive effects not only for fishers but also for other participants in the value chain, contributing to stable conditions for processors and exporters. No less important was the fact that the law was an incentive for exporters to become more proactive and efficient in the final market, which resulted in larger revenues for the entire industry and the country as a whole (Hallenstvedt 1982).

4. THE RAW FISH ACT – CONTENT AND MANDATE

The Norwegian Parliament made the 1938 Act permanent in December 1951. The Act has since then undergone some changes. This includes removing the provision that gives sales-organizations the authority to license buyers. The main principles, however, have survived until this day. Thus fishers' power in terms of their transactions with buyers has been maintained. Section 2 of the Act highlights the continued power of sales-organizations:

> The King may decide that the processing, sale or export of raw fish … or products thereof shall be prohibited regardless of where the fish is caught if first-sale of the raw fish has not taken place through or with the approval of a fishermen's sales-organization whose statues have been approved by the Ministry concerned. Sale by an approved sales-organization is regarded as first-sale. Purchase of and settlement for raw fish fished on a share or per centage basis by owners of vessels, owners of gear or other co-partners is also regarded as first sale.

This principle gives a fisher sales-organization both a monopoly right and a clear mandate. By giving the sales-organization an exclusive right to trade raw marine fish, the Act makes it illegal for fishers to sell the catch outside the organization directly to a private buyer and for a buyer to purchase a catch from other than the sales-organization. Free riding is therefore banned.

The "freedom" that Garret Hardin talks about (see above) is ruled out. Without this legal provision, it is likely that the sales-organization would have disintegrated, as the parties would have opted out if opportune, a possibility that would have severely weakened the organization's ability to fulfil its role, i.e. to stabilise prices.

Furthermore, in section 3, the relationship between fishers, the sales-organization and the state is outlined:

> The Ministry concerned may under section 2 of this Act approve statutes for sales-organizations of fishermen when the fishermen or owners of vessels or gear can become members through direct membership, or when membership can be obtained through fishing boat crew, local sales-organization or through the fishermen's trade organization, and the sales-organization is formed with limited liability and with an indefinite number of fishermen.

The sales-organizations are owned by the fishers who automatically become members through their regional interest organizations (subsidiaries of the NFA) or directly as personal members. The former is by far most common. According to the law, only fishers or organizations of fishers can be members. Regardless of their membership status, and whether fishers are members at all, fishers still have to sell their fish through the sales-organization and on their terms.

Members have to be active fishers residing within the geographical district covered by the particular sales-organization. The governing board is elected amongst the fisher members at the annual meeting. The state has one delegate who participates at meetings and whose role it is to ensure that the sales organizations are operating within the law, for instance to make sure that they are handling the delegated responsibilities regarding resource control properly.

The NFSO's annual meeting can have up to fifty delegates, who for the most part represent various fisher organizations in the districts that NFSO covers.

"The herring sales-organization" (*Noregs Sildesalgslag)*, which covers the whole country, specialises in pelagic fish (herring, mackerel and capelin). There are five other sales-organizations for all other wild fish species. In 1980 there were more than twice as many sales organizations.

However, since then some of these sales-organizations have merged both in the cod and the pelagic sector across the breadth of the country (see table 1). In 2012, the NFSO processed 160 000 catches from 4430 vessels to 190 fishing industries, most of the latter being exporters. Table 1 reveals considerable differences in the scale of operations between sales-organizations in terms of sales volumes and staff numbers.

TABLE 1
Fishing Sales-Organizations in Norway (2013)

Organizations	Established	Staff	Sales volume tonnes	Sales value 1000 NOK	Web address
Norwegian Herring Sales- Organisations	1936	45	538 231	1 884 574	www.sildelaget.no/en
Norwegian Fishers' Sales-Organisation	1938	60	711 574	5 744 341	http://www.rafisklaget.no/
Skagerakfish	1947	5	8 294	301 686	http://www.skagerakfisk.no/
Rogaland Fishing Sales- Organisation	1946	2	5 752	138 638	http://www.rogfisk.no/
West-Norway's Fishing Sales-Organisation	1988	5	32 612	40 000	http://www.vnf.no/
Sunnmøre and Romsdal Fishing Sales-Organisations	1945	13	188 000	1 700 000	http://www.surofi.no

The law further states that the organization shall be entitled to levy a fee on the first-sale of all fish and products in order to cover the costs incurred by running the organization and administering sales operations, something that is subject to approval by the Ministry. Section 4 grants the sales-organization the authority to determine the terms of trade with the buyer, including the minimum prize of the raw fish, which shall be fixed at a level that takes the price at the end market into consideration.

This authority would be undermined if the fishers are allowed to circumvent the organization and sell directly to the buyer. The parties hold negotiations several times a year. Should they not agree, the sales-organization can unilaterally set the minimum price which both the seller and buyer are obliged to respect. The parties, however, are free to negotiate a higher price than that determined by the sales-organization. When there is competition and the market price is high, it is not uncommon that the actual raw fish price is considerably higher than the minimum price.

Section 5 also grants the sales-organization the authority "to impose a temporary prohibition on or order restrictions on fishing" when "required by market conditions, or to achieve an appropriate utilization of catches." This rule ensures that the sales-organization is delegated regulatory authority beyond simply the raw fish price issue to include concerns such as the extent of catches that can be sold to specific buyers outside a particular community or region when there is a glut in the local market and local capacity to buy were too low.

The organization can even mandate that fishing stops. Notably, this regulatory function is not for resource management but to ensure that fishers can find a ready buyer nearby and thus continue to fish. It can of course be argued that this management function has an indirect effect on the harvest. The sales-organization can also impose quotas on their members, even if they rarely do.

However, with the introduction of quota regimes in the 1990s, alongside resource management (Hersoug 2006), sales-organizations have acquired a broader mandate to be part of fisheries management that previously was the preserve of the government.

Sales organizations have complete data needed to calculate harvest quotas since they are in charge of trading. The organizations register the time and place of all species caught and delivered, as well as their quantities. This management function is not something the sales-organizations took on themselves, but a function that they were ready and capable of doing. Hence, the government saw in the sales-organizations a means by which to ensure that both total and individual quotas are not exceeded.

This important function needed to be stated in the RFA. A new section was incorporated in the law. The provision to include this new function was stated as follows in the representation to Parliament (Ot. Prp. no. 20, 2007- 2008, p.134): "The sales-organizations have good knowledge of the challenges facing the government and fishers in the daily management of the fisheries resources and the control of the harvest."

This new management function helped create a co-management system in which sales-organizations were given a broader mandate than the 1951 Raw Fish Act originally instituted. This change was first codified in the 2008 Ocean Resources Act and reiterated most recently in the revised Raw Fish Act of 2013, where paragraph 17 reads: "The government can instruct the sales-organizations to control the accuracy of the catch information even if the catch does not relate to the sales-right of the sales-organization (our translation)." The ministry can describe and regulate how this task should be carried out.

5. DISCUSSION

It is a general lesson to be noted (Stinchcombe 1990; Holm 1995) that although the circumstances that exist at the time of the formation of an organization may have changed, the initial organizational design often remains largely unaltered. To understand how the organization looks and operates today, one must therefore go back to the time of its establishment and how those who created it were thinking as we have done in this paper. Given this observation, it is likely that over time a gap may appear between what the organization can offer and what the environment has reason to expect from it.

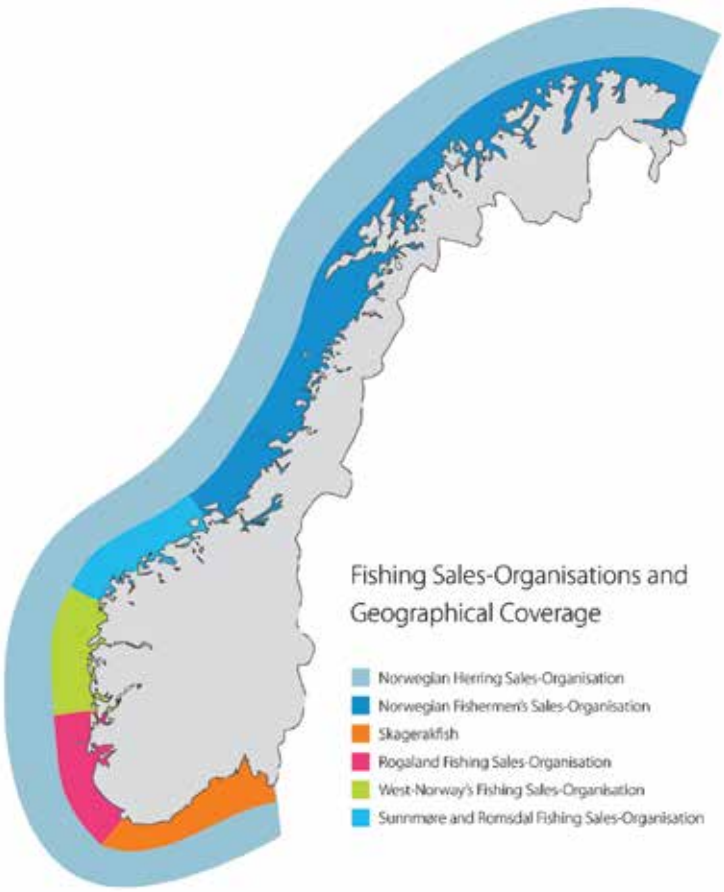
As this gap unfolds, the organization then becomes increasingly irrelevant and obsolete in spite of the fact it has been able to survive. The organization may have solved the problem it was created to solve and hence has outlived itself. Nonetheless the organization remains. In some instances, vested interests may be sufficient to ensure that the organization persists even if the original reason for its establishment is no longer valid. Organizations may persist but the legitimation for it changes, as when secondary effects become the primary ones or latent functions manifest themselves. The organization may survive because of resistance to change by powerful individuals who are reluctant to give up their power or see benefits distributed in different ways. Such a scenario often unfolds with collective goods.

However, organizations are not necessarily stuck in the past and unable to change, i.e. they may indeed adapt and modernise. What remains of the old organization may over time disappear while a new, reinvented organization emerges. New goals and new functions may be added to the organization's original portfolio. The constellation of members may change, bringing in new ideas and concerns. Organizations are typically "political coalitions" where members and other stakeholders constantly negotiate ends and means (March 1962). Thus the ability of an organization to adapt and survive is a function of internal as well as external factors.

Organizations may remain unchallenged as long as its environment is stable, but become flexible and adaptive if the environment is volatile. Organizations with a collective mandate such as the Norwegian fishers' sales-organizations will be challenged from the outside, by the public at large. Such organizations are not a private matter for members only. They are not totally autonomous but rather a part of the overall Norwegian fisheries governing system within which the state also has a crucial role. The legally mandated functions of the sales-organizations have therefore from time to time been scrutinised by the Fisheries Ministry and discussed by Parliament. The push to change sales-organizations has often been initiated from this level.

The number of fishers' sales-organization has been reduced over the years, but through a process of merging that has not created a vacuum. Organizations are now fewer but larger and more professional. They still cover the whole country (see Figure 1).

FIGURE 1
Fishing Sales-Organisations in Norway: Geographical Coverage



It is nevertheless quite remarkable that the Raw Fish Act and the sales-organizational *system* have remained intact until this day, despite constant pressure from groups (processors and exporters) within the industry to undermine them because they saw their interests threatened. These attempts to undermine them have to some extent made sales-organization redefine their purpose and acquire new functions to defend their base. Fishers in Norway have been able to keep control of first hand raw fish sales because of sales-organizations.

In the age of neoliberalism and resource management, these organizations continue to play a crucial role in the overall governance system. This is explained by the general support the RFA enjoys amongst the fishing population but also by the fact that the sales-organizations are powerful and wealthy organizations. Finally, there is a perception amongst fishers that the problem that these organizations were established to address in the first place may well resurface again if they are not there.

Norwegian fishers have become fewer and wealthier, and the industry is no longer the backbone of coastal communities that it used to be. Thus, the RFA has lost some of its social and political significance. It was instituted to deal with a situation where fishers were many and poor. Still, the law retains its symbolic force as the "constitution" of small-scale fisheries. It is taken as given and an "objective reality" of Norwegian fisheries (Berger and Luckmann 1967). One does not needlessly alter such laws without considerable political costs.

Although representatives of the processing industry have frequently voiced harsh criticism against the RFA and the monopoly power it grants the sales-organizations in setting the raw fish price, only one political party in Norway, the Progress Party

("Fremskrittspartiet"), has ever suggested that the Act should be abolished. Certain reforms have occurred, such as removing the authority of the sales-organizations to license buyers, but the law by and large remains intact, and thus continues to empower the primary producers, i.e. the fishers, in their transactions with buyers.

This arrangement is quite unique in the world of small-scale fisheries and may provide a more 'global' lesson. If a fish buyer in Norway wants to increase his profit, he cannot do it on the back of another fisher; instead he would have to pursue it at the end-market with the retailer, exporter, or consumer. In that way the RFA was meant to vitalise the entire value chain and discourage "lazy monopolies" in the processing and export chain (Hallenstvedt 1982). In other words, the RFA was not just meant to serve fishers, but was intended to improve the profitability of the entire fisheries industry and the Norwegian economy as a whole.

Notably, the Norwegian fisheries value distribution chain is a layered system of horizontal integration. The sales-organizations have a mandate and a function in the value distribution chain that stops at the dock-side (Holm 1995). Processors and exporters have similar organizations with whom sales-organizations negotiate, but if a settlement is not agreed to, the sales-organization can dictate the price.

Fishers may be competitors in the fishing grounds, but they share an interest in a high product price in transactions that are externalised (Williamson 1975). Collective action is therefore in their interest, and the fact that fishers have a similar background culturally and economically helps facilitate coordinated action. Although owned by fishers and managed in line with the classic cooperative principles of one member-one vote, the sales-organizations are not producer cooperatives that also engage in processing and marketing operations, thus making the transaction of raw fish at the dock side an internal affair within the same company.

Still, some of these organizations have subsidiaries that are involved in other activities, such as fish processing. However, in recent years several of the sales-organizations have terminated such additional activities and concentrated solely on first-hand sales, which was always their core activity anyway.

Fishers were in need of landing facilities after the Second World War because the War had led to much destruction. Initiatives to form producer cooperatives were taken with support from sales-organisations but few of them stayed operative for long (Otnes 1980; Revold 1980). The reasons for their failure are several and complex, but there is little doubt that the horizontal integration instituted by the NRA and the sales organizations conflicted with the vertical integration of producer cooperatives.

When fishers, by means of the NFA controlled the price in a way that secured their income, it did not make much sense to pursue a vertical integration for the same purpose, i.e. move into processing. One problem was that processing and export would require a kind of expertise that fishers did not have. The other problem was that such a move would mean that fishers would be at both sides of the table when prices were negotiated and fixed.

A high raw fish price, which was in the interest of the fishers, would not have been in the interest of the processing cooperative, as it would reduce its financial capacity. The fisher members found themselves in a double bind; whose interest should they serve; fishers as fishers or fishers as cooperative owners?

The layered system represented a "cleaner" model than a mixed horizontal and vertical system; it also did not challenge the already well-established and powerful buyer/export interests more than necessary, who with the Salt-fish Act of 1932 already had their collective organization (Holm 1995). Buyers/exporters were struggling to accept the role of taker. In the cod fisheries, exporters were collectively organized prior to the fishers – in contrast to the herring fisheries where vertical integration was more advanced (Hallenstvedt 1982).

The origin of the RFA and the fishers' sales-organizations is important. They came about as part of a broad-based grassroot labour movement combined with a proactive and enabling state government. It all started with the establishment of the Norwegian Fishers Association in 1926, followed by a series of initiatives aimed at strengthening the livelihoods of small-scale fishers and their communities. The RFA and the sales-organizations emerged from below and within; they were not imposed upon fishers.

They were organizations *of* rather than *for* small-scale fishers with government playing a supportive role. The government no doubt saw the need for a less chaotic and ad-hoc organization as the fishing industry was after all the most important exporter. What happened in the fishery was therefore of national significance. The state did not take a paternalistic position but rather listened to the voice of the fishers. The same labour movement that had brought forth the RFA also had a strong representation in the Parliament and from 1935 onwards actually was the base of the government.

After the Second World War, the government supported the fisheries financially. The system was formalised in 1964 when the Norwegian Fishers Association (NFA) and the Ministry of Fisheries signed an agreement. It gave the NFA the right to represent the entire industry in negotiations with the government in an attempt to secure fishers an income comparable with other groups in society such as industrial workers. The government ended up giving subsidies mostly to enhance raw fish prices (Jentoft and Mikalsen 1987). When the market could not adequately provide for the fishers' economy, the state compensated.

In the beginning of the 1990s, however, due to a stronger market orientation, fisheries subsidies were questioned, more so because of the overcapacity problem within the fisheries. The European Union, with which Norway had an extended agreement, banned distortion of competition. As a result, government support was reduced and then removed (Hernes 1999).

The state even today enjoys overall legitimacy within the fishing population and the population at large for these historical reasons (Skirbekk and Grimen 2012). The government is not seen as the "enemy"; but rather as part of the solution. When government is perceived as a constructive force, the governability of the fisheries sector is enhanced because it makes it possible to introduce rules and regulations that otherwise would have been difficult to implement and enforce. Thus, when the government introduced the new quota system in 1990, which effectively did away with the open access nature of small-scale fisheries, and launched strict measures to combat illegal and unreported fishing, it received reluctant support as opposed to fierce opposition from within the fishing population. The government could also mobilise the sales-organization for this purpose.

On the other hand, when the government launched policies that led to a less proactive role for the state in fisheries, they met strong opposition. It is largely for this reason that the introduction of market-based fisheries management measures such as ITQs has been rather slow in Norway as compared to other Nordic countries such as Iceland and Denmark. It has simply not been politically possible to undertake full-scale privatization of common pool resources, at least not as yet (Hannesson 2013).

6. CONCLUSION

Norway is one of the world's major exporters of fish. The home market consumes just a minimal volume of fish caught and farmed. With exports being crucial to the fisheries, transactions must be smooth and speedy. Fishers' sales organizations surely helped. But exporting fish is less complicated than exporting institutions; institutions cannot be easily copied and implemented in other settings which Norway in fact tried to do in Kerala, India, in the 1950s, but without much success. As Kurien (1985) argues in a study of the Kerala experience, there is an important difference between

the organization *of* and *for* fishers. The former was the case as a result of the RFA and fishers' sales organizations in Norway in the 1930s and beyond, whereas the latter was the case of the Norwegian experiment in Kerala (Pharo 2000).

The social and political context within which new organizations such as fishers' sales organizations emerge is always particular to time and place. Details differ and they matter, even when the core challenge, namely counterfinality and second-order collective action problems, are a common challenge. They must therefore be taken into account when explaining why and how such organizations evolve and what shape they assume. General models, like counterfinality, give intuitive meaning but they do not tell the whole story. For that "thick description" (Geertz 1971) is needed.

It is important to ask how likely it is that the RFA and the sales-organizations that it legalises would have been established in the current situation in Norwegian fisheries given the importance of context and situation. The answer to this question is most probably 'highly unlikely'.

This model of organization is not in line with the neoliberal trend that is currently sweeping Norwegian fisheries and those of the rest of the Western world. Now, transactions are supposed to be left to the free market with government playing a less proactive role. In a competitive market, fishers do not see themselves as "comrades in arms", as they did to a greater extent in the 1930s. The RFA and the system of mandated fishers' sales-organizations have survived until this day, but their existence was never that solid and their future is uncertain (Grytås 2013b).

There are strong forces inside and outside Norway's fishing industry that want to take away the legal right from the sales-organizations to determine the minimum prices and the exclusive ownership that fishers have of the organizations. There are also those who disagree with the right sales-organizations have to regulate and direct vessels. Some of the sales-organizations have also expressed that they are uncomfortable being asked to report on members who do not follow the quota regulations (Grytås 2013b).

The RFA and the sales-organizations are also vulnerable to political regime shifts, particularly from the right. And they are also dependent on support from within the industry which might evaporate with changing circumstances. The combination of these factors may well be devastating.

As of now symbolism has trumped real-politics. The RFA and the sales-organizations have been under pressure from the very beginning despite the almost unanimous support they have from the rank and file fisher members. Those in favour of abolishing the Act and sales-organizations have not presented a sufficiently convincing alternative system. The law has therefore changed little since 1938.

It stills enjoys support amongst most fishers, particularly amongst small-scale fishers in the north. These fishers' sales-organizations are powerful institutions with a strong voice in Norwegian fisheries politics, and they are therefore not easily toppled. Whether the RFA and the sales-organizations are sustainable within an ITQ system is not at all clear. One possibility is that the law would allow these organizations themselves to become quota owners. But as yet that is not on the cards. The RFA and the sales-organizations are also under pressure because processors are integrating "upstream", i.e. into fishing operations.

Thus far such upstream integration is limited as the legal principle has been that only active fishers can own vessels. This rule, however, is now under threat from the same interests that are critical of the RFA. Sales-organizations were started to serve an independent, small-scale, owner-operated and open-access fishery with the aim to secure the livelihoods of economically and politically disadvantaged fishers who due to their high number counted politically. Their voice had to be reckoned with. Since 1990, the number of fishers in Norway has drastically reduced for several reasons, one of them being the quota system that has encouraged by-outs.

These institutions made a huge difference when they were formed and remained a key stone of Norwegian fisheries in the decades that followed. But the gap between their initial and present relevance has increased with a declining fishing population and a more privatised property rights-based system.

Although unique in context and institutional design, the RFA and the sales-organizations addressed a problem that small-scale fishers are still experiencing all over the world; one of poverty, marginalisation and exploitation (Jentoft and Eide 2011).

As the weakest party of the fisheries value distribution chain, small-scale fishers are typically price-takers in transactions with middlemen. The NFA and the sales-organizations radically altered their predicament; they empowered fishers and moved them out of poverty. But the RFA was not only meant as a mechanism for income distribution. It was also introduced as incentive for the whole industry to work harder in export markets so as to bring in larger revenues for the entire industry and for the country as a whole whose economy relied on the fishery.

It could be argued that the relevance of these institutions is not restricted to Norway. Cooperative principles are valid regardless of circumstances and have been implemented in fisheries in many countries. Collective action is always essential to overcome problems within a fragmented industry. Organizations of fishers, backed by law and a proactive state, with a mission and a mandate to determine the basic conditions under which transactions take place, is applicable to other countries as well if the politics are conducive.

The poverty and marginalisation that characterised Norwegian fishing in the 1920 and 1930s, and which the RFA and the sales-organizations were meant to alleviate is a reality in many parts of the world today. Such institutions, if they were to be introduced in other parts of the world would, require a break with the neoliberal ideology now inspiring fisheries reform all over the world. The future ofNorwegian fishers' sales-organizations and their legal pillar involves an ideological and political battle. They are offsprings of social democracy, grassroot power, and the ability of producers to see the need for working together for a common good. But their survival requires that they are able to move with the tide. They must be responsive to new challenges.

The RFA and the sales-organizations were initiated at a time when resources were not considered to be a limited resource. Rather, the situation was much the opposite. Fishers had more to sell at times than buyers could absorb. Today, a key challenge is to make sure that the resource base is not overexploited, which means that fishing effort must be kept in check. Interestingly, the sales-organizations are well positioned to play an important role in such a governing system, assuming necessary regulatory functions in a co-governance system. At the end of the day, the RFA and the sales-organizations depend on their ability to remain relevant as part of a governing system that has a social responsibility that extends beyond value chain transactions.

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8. A Case Study of Beach Management Units (BMUs) in Lake Victoria, Tanzania

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ABBREVIATIONS

BMU	Beach Management Unit
COFI	Committee on Fisheries
DED	District Executive Director
DFsO	District Fisheries Officer
FAO	Food and Agricultural Organization of the United Nations
FGD	Focus Group Discussion
FPE	Fish Processing Plant
ICT	Information Communication and Technology
IFMP	Implementation of a Fisheries Management Plan
LEU	Local Enforcement Unit
NGO	Non-governmental Organization
RFO	Regional Fisheries Officer
SEDAWOG	Socio-economic Data Working Group
SSF	Small-Scale Fisheries
TAFIRI	Tanzania Fisheries Research Institute
ToR	Terms of Reference
VEO	Village Executive Officer
VG-SSF	Voluntary Guidelines for Securing Small-scale Fisheries in the Context of Food Security and Poverty Eradication

1. INTRODUCTION

Co-management has provided an alternative management avenue in the wake of a failure of top-down management regime which has been the traditional management in fisheries. The involvement of fishers in the management, due to economic, social and cultural importance of fisheries (Onyango, 2011 and FAO, 2005) has implied that low long-run management costs can be achieved. Moreover, it has provided a chance to incorporate in management resource users' wider knowledge and experience in dealing with the resource. It has equally provided a better conflict resolution mechanism among fishers, as well as a sense of ownership in the management process. The government has also benefited from a reduced challenge to its authority, and a greater user involvement in designing and implementing management policies will help to obtain economic efficiency in exploiting fishing resources (see Jentoft, 1989, 2003; Pomeroy and Viswanathan, 2003; Geheb, 1997, 1999; Riedmiller, 1994; Pinkerton, 1989 and Hersoug and Rånes, 1997).

The benefits of co-management were embraced by the fisheries authorities of the states bordering Lake Victoria. These authorities subsequently operationalised the co-management regime through forming beach management units (BMUs). A BMU is a group of stakeholders in a fisheries community whose main functions are fisheries planning, management, conservation and development in their locality, in collaboration with the local and national governments (Fisheries Division, 2005: Ogwang *et al.*, 2005). BMUs were formed as a means of addressing the increase in the use of illegal fishing techniques including banned fishing methods. This was compounded by the fact that the implementation of the fisheries Act included very little effort to involve fishing communities in the management of the lake's resources. To the Fisheries Development Division (FD), the non-involvement of the fishing communities created a temporary weakness in enforcing the existing fisheries laws and regulations. They therefore noted that the benefits accruing from the fishing sector in terms of food, income, and employment required a management strategy that incorporated fishers.

The study reported here involved examining the Lake Victoria BMUs in Tanzania. This was undertaken through literature review and primary and secondary data collection. BMU guidelines and documents related to them were reviewed. Fisheries regulations, Tanzanian constitution and by-laws produced for the BMU were also reviewed.

Three visits (two of seven days each and one of three days) were made to the selected Nyakasenge BMU in Chabula fishing village, Magu District (Figure 1). The BMU executive committee was interviewed through a focus group discussion (FGD). Discussions were made through a participatory nature where questions asked enabled the BMU executive to evaluate themselves. The discussions with the BMU executive committee focused not only on what they do but also how they assess what they do and what lessons they draw from how they have been performing their duties.

Data collection sessions were organized in the afternoons when the committee members had time to sit and discuss the questions that were posed. At least each session took about two and half hours although at times the members were so excited to continue up to three hours.

FIGURE 1
Map of Lake Victoria and its basin showing location of Nyakasenge, in Chabula fishing village

Data was analysed together with the BMU executive committee while in the field to agree on exactly what they reported from the discussions.

Understanding an individual BMU requires a broad knowledge of BMU setup and operation in Tanzania. This is the approach taken for this case study.

2. GENERAL OVERVIEW OF BEACH MANAGEMENT UNITS AND COLLECTIVE ACTION IN FISHERIES IN TANZANIA

2.1 History of Beach Management Units in Tanzania

The fisheries of Lake Victoria are as timeless and important as the lake itself. The riparian communities have always depended on this fishery for their subsistence activities, employment and generating food for consumption. The lake, therefore, has been part and parcel of the riparian community's lives for millennia. Some communities, such as the Sukuma, claim that the lake found them when it was formed (SEDAWOG, 2000). This implies that local communities have taken guardianship of the lake resources.

However, this traditional guardianship ended in 1947 with the creation of the Lake Victoria Fisheries Service, creating a central authority to manage the lake and its resources on behalf of the riparian states. This responsibility was later taken over by the riparian countries' national fisheries departments (Witte and van Densen, 1995), who adopted a top-down management regime in which the Fisheries Departments singlehandedly implemented national fisheries policy. In 1972, however, the Tanzanian state realized that this centralized system was increasingly unable to cope with local-level problems. Power was divested from the centre to District Fisheries Officers who

were answerable to their District Development Committees. In Tanzania, Districts are administrative units grouped together to form regions, of which five (Kagera, Geita, Mwanza, Simiyu and Mara regions) border Lake Victoria (Figure 2). Each region used to have a Regional Fisheries Officer (RFO) who was an advisor to the Regional Commissioner. However since around 2005 onwards, there were changes in fisheries management at the regional level. The former Regional Fisheries Officers were faced out. Currently there are Officers in-charge of Monitoring, Control and Surveillance at the regions. In this way, horizontal linkages were created within the Tanzanian fisheries management hierarchy.

The above strategy did not, however, relocate power to local people but only enabled decisions to be made at much lower (districts) level than previously. In 1997, a further articulation of this strategy occurred with the creation of BMUs. In part, this latter strategy has occurred because of the government's recognition that there are a number of positive benefits associated with community participation in fisheries management. These perceived benefits include recognition of the vital role that the private sector, the community, non-governmental organizations and other non-state actors play in the development, management and sustainable utilization of the fisheries resource base. Implicitly, the state has also recognized that top-down management regimes are problematic, and hope that the desire to promote the sustainable utilization of the fisheries resources base for present and future generations may in some measure be met by including fishing communities in the management of the resource.

FIGURE 2
Map of Tanzania showing administrative regions (Source: yahoo images retrieved on 30th March 2014)

2.2 Existing legal framework for organizations and support role of government and policies and programmes in Tanzania

Establishment of BMUs is grounded on the decentralization laws of Tanzania. Starting from the country's constitution chapter 8 sub-sections 145 and 146 (URT, 1998) (Box 1), which provides for establishment of local government authorities in each region, district, urban area and village in the United Republic. Under this provision, Local District Authorities were established across the country. These authorities are comprised of a District Council, with a legislative and an administrative arm. They are charged with responsibility to perform the functions of local government within its area; to ensure the enforcement of law and public safety of the people; and to consolidate democracy within its area and to apply it to accelerate the development of the people.

BOX 1

Section in the 1997 Tanzanian Constitution on Local Government Authorities

145 - (1). There shall be established local government authorities in each region, district, urban area and village in the United Republic, which shall be of the type and designation prescribed by law to be enacted by Parliament or by the House of Representatives.

146 - (1). The purpose of having local government authorities is to transfer authority to the people. Local government authorities shall have the right and power to participate, and to involve the people, in the planning and implementation of development programmes within their respective areas and generally throughout the country.

Source: 1997 Tanzanian Constitution

The District Council works closely with village government which is the lowest level in the local government structure. The village government consists of a village assembly, i.e. all permanent residents in the village, an elected village council comprising of hamlet chairmen, the village chairperson, and a representative of the District Council called Village Executive Officer. The latter is not elected but an employee of the District council (Figure 3).

The BMUs were however formed under the Fisheries Act of 2003 (URT, 2003). Part III of this Act sub-section 22 3-5, gives an opportunity to every fishing community in collaboration with the village government to form BMU for the purpose of conserving fishery resources and the environment. The BMU therefore operates within this legal framework. At their formation, a BMU National guideline (Fisheries Division, 2005) outlining the nature of the BMUs, how they can be formed and their functions was produced to provide direction for the BMUs.

In total there are 758 BMUs in Tanzania fishing communities (Table 1). These BMUs are not all connected i.e. there is no one network which brings them together, at a national level, although the plan is to do exactly this. In the lake regions, there is a network of BMUs from the village to a lake-wide level at the national level. Similarly, in the marine districts in Tanzania a few BMUs have formed Collaborative Fisheries Management Areas (CFMA), which comprise a few BMUs managing a clearly defined fishing area. These BMUs nonetheless have access to their fellow BMUs across the country; they share information, experiences through the Fisheries Division and

or projects with a focus on co-management which enables them to meet during workshops, training sessions and or conferences. On average BMU membership stands at about 300 members.

TABLE 1
Number and distribution of BMUs in Tanzania by March 2014

S/N	Water Body	Number of BMUs
1.	Indian Ocean	201
2.	Lake Victoria	433
3.	Lake Tanganyika	23
4.	Lake Nyasa	40
5.	Inland water bodies (Mtera Dam, Nyumba ya Mungu Dam and Lake Rukwa	61
TOTAL		**758**

Source: Fisheries Development Division, 2013

Legal system where associations and collective actions are embedded

In Tanzania collective action is legally recognized in the constitution Part III on basic rights sub-section 20 (1) which clearly stipulates that "Every person is entitled to freedom, subject to the laws of the land, to freely and peaceably assemble, associate and cooperate with other persons, express views publicly, and more specially to form or join associations or organisations formed for the purposes of preserving or furthering his beliefs or interests or any other interest" (URT, 1998:24). For this reason every person in the country is free to form or join an association of his/her choice or interest. BMUs have in this sense been accepted as fisheries associations registered with the Ministry of Livestock and Fisheries Development (MFLD). Other associations have sprung up after formation of BMUs such as the Tanzania Fishers Association whose membership is so far limited to a few fishers in Mwanza. There are also boat and gear owners associations in some landing sites whose focus is more on welfare of members especially joining efforts when one of its members is bereaved.

Collective action can historically be traced from the pre-independent tribal kingdoms that existed at that time. These kingdoms were seen as a cause of the failure of the resistance to the Germans that occurred before the First World War. Thus in order to build unity and tackle poverty prior to independence, unity among the various communities was paramount. To bring this unity about, the late Mwalimu Nyerere (first president of Tanzania), visited the chiefs and talked them into supporting a national struggle for independence. In this way he was also able to reduce the powers of the chiefs and eventually centralize power in the famous *Ujamaa* (the Swahili for 'familyhood') which was the social and economic policy developed by Julius Kambarage Nyerere, president of Tanzania from 1964 to 1985. Centered on collective agriculture, under a process called villagization, ujamaa also called for nationalization of banks and industry, and an increased level of self-reliance at both an individual and a national level.

However after independence sometime in the mid and late 1960s, the government realized that centralization and the Ujamaa system was not achieving much in addressing the poverty, illiteracy and unity, which were the major priority issues. The government therefore aggressively decentralized its system of governance to village level. This however did not fully remove the authority of the chiefs. It nevertheless generated a reorganization which created the smallest jurisdiction known as a *Luguyo* but was scrapped and replaced by a hamlet (locally called in Kiswahili Kitongoji). A hamlet comprises several homes living together within a specific geographical area. An elected chairperson (Mwenyekiti wa Kitongoji – mwenyekiti is a kiswahili word for

chairperson) leads each hamlet. Working with the chairperson is a committee of five persons including a secretary. Several hamlets make up a village i.e. village government which was discussed earlier. BMUs are formed and work within the village government area of jurisdiction. They operate and report directly to the Village Chair.

3. REVIEW OF ORGANIZATION'S DOCUMENTS AND EXISTING DATA

3.1. Constitution and by-laws

The legal framework for fisheries management under which co-management regime was established can be traced back to the period before 1885. This is the pre-colonial era when Tanzania was under the German rule. There is no record of a formal management; however fishing communities around the lake had their own regulations which included territorial use rights. These regulations enabled families/clans living closer to a particular lake area to fish from those areas without any interference from any quarters. Until 1970 (after independence) fishing was not adequately regulated. There was a Trout Protection Ordinance Cap. 160 of 1929 which protected the Trout fish in the cold streams of the Northern and Southern highlands for sport fishing (Trout Ordinance Cap. 160 of 1929). In 1950 the Fisheries Ordinance Cap. 36 provided for the establishment of Boards for specified waterbodies some of which were private properties. Such Boards were empowered to make their own management regulations including sustaining own administrations financed from licences and levies. The fisheries administration was therefore fragmented.

Until 1970 when the Fisheries Act was enacted, Fishing continued to be managed by administrative orders issued by the government. It was until 1970 when The Fisheries Act No. 6 of 1970 was enacted. This Act recognized underdevelopment of the fisheries and subsequently provided for the enactment of the Principal Fisheries regulations to regulate the industry in order to contain threats to the sustainability of the resource. After the Act, the first Principal Fisheries regulations were put in place in 1973 and subsequently replaced in 1978, 1982, and 1989. Since 1989 several important amendments have been made on some of the Principal Regulations through a Government Notice (GN) to contain situations posing threats to the Lake fisheries resources. The following amendments were made (see Mahatane *et al*., 2005):

i. Government Notice No. 5 of 22 January 1982 – proclaiming 24 areas as closed fishing areas from 1 January – 30 June of every month. The aim is to protect the brooder fish and the fingerlings.
ii. Government Notice No. 369 of 10 March 1994, prohibition of use of beach seines, under mesh sized gillnets (less than 5") and Dagaa nets (less than 10 mm). The main aim is to protect the immature fish of the respective fish species from being caught.
iii. Government Notice No. 370 of 7 October 1994 banning trawlers from fishing on Lake Victoria. The purpose is as for Government Notice No. 369 of 10 March 1994.
iv. Government Notice No. 189 of 6 June 1997 – by this Government Notice no one is allowed to possess a beach seine. This Government Notice also increased the levels of fines to be meted to offenders from twenty Tanzanian shillings to not more than one hundred thousand.
v. Government Notice No. 624 of 9 October 1998 made the fine stiffer to not less than three hundred thousand shillings or a jail term of three years imprisonment to first offenders or both. For second offenders the fine is not less than five hundred thousand shillings or a jail term of five years or both.
vi. Government Notice No. 193 of 1 August 2003 which prohibits fishing and possessing or processing or exporting or trading a Nile perch fish of less than 50 cm total length. By the same Government Notice Nile perch fish of more than 85 cm total length are covered with similar restrictions.

These amendments were so dynamic so much so that a new Act had to be enacted. Thus in 2003 a "participatory" new Fisheries Act No. 22 of 2003 was enacted. This new Act empowers the Director of fisheries to enter into a management agreement with a beach management unit (BMU). The stakeholders who can take part in the management are identified as: the Fisheries Division, Local Government, non-governmental organizations, private sector and fishers (fishermen, traders, processors, net and boat menders and crew members).

BMUs are therefore established specifically under the Fisheries Act No. 22 of 2003, Section 18, and the Fisheries Regulations of 2005, Regulation 104, which has been replaced by the 2009 fisheries regulation. BMUs are also operating within the Local Government Acts No. 7 and No. 8 of 1982 formulated from the relevant Tanzania constitution (Box 1).

In addition to the above legislations, a BMU National guideline has also been prepared. The guideline cuts across all the BMUs in Tanzania. There are slight differences in the guidelines for the marine side, Kenya's and Uganda's part of the Lake. For Lake Victoria, there is a harmonized regional guideline upon which each of the riparian countries has used to produce their national guidelines. The guideline gives details on BMU objectives including reasons for forming them, their benefits and risks in fisheries management, structure, procedures for their formation, how to operate them, linkages with other stakeholders, roles and responsibilities of other stakeholders, BMU monitoring and finally how to review the guidelines. The emphasis of the guideline is to provide information on how BMUs are structured, how to form them and where in the laws of the country they operate. It also outlines how to become a member or office bearer including the roles of each (Fisheries Division, 2005).

BMUs are expected to formulate their own by-laws and management plans which are discussed at the Village Assembly and then taken to the District Council for approval. The Nyakasenge BMU had already gone through all these procedures and has an approved set of by-laws. Their by-laws focus on a number of issues including the roles of the BMU in ensuring compliance to them. The by-law gives the BMU some level of power to execute their responsibilities at the beach level. It clearly explains the activities of the BMU, identifies laws that fishers are expected to adhere to as well as the corresponding punishments. The by-laws also outlines unacceptable behaviors at the beach, how to run BMU meetings, and subscription fees for BMU members (Halmashauri ya Wilaya ya Magu, 2008).

4. THE NYAKASENGE BMU

4.1. Origins, initiators, motivations, of Nyakasenge BMU

Nyakasenge BMU was established in 1999, just after a successful establishment of similar BMUs in the fishing communities of Mwanza gulf (see figure 1) through a World Bank-supported project – Lake Victoria Environment Management Project (LVEMP). This was preceded by a realization that the centralized system in managing fisheries was not achieving the intended results. It was noted in addition that the centralized system experienced inadequate resources to employ fisheries staff and management operations. This problem was compounded by retrenchment of a substantial number of staff in 1996 under the Government streamlining policy. Moreover, resource users were not participating in the formulation of the fisheries management policies and objectives and measures for the sustainable utilization of the fishery resources, conservation of biodiversity and environmental protection. They did not take part in the evaluation of these policies, objectives and measures. The central and local governments did not consider resource users views' and opinions on resource management. Management by the central government system created a perception among community members that

they were not owners of the fishery resources. Consequently the communities were relaxed in conserving the resources and more often than not depended entirely on the government for the overall management of the resources.

At its formation, a one-day awareness campaign was undertaken, in Chabula village where Nyakasenge is located, by fisheries officers from the ministry and the local government personnel where advantages and disadvantages of co-management, conventional fisheries problems, i.e. excess effort, use of illegal fishing gears and techniques, among others, were discussed. The one-day meeting comprised some selected village representatives who met within the village and discussed these issues. At the end of the day these representatives were asked to spread the message and then elections were planned and conducted to install the first BMU executive committee. The name Beach Management Unit succeeded Local Enforcement Units (LEU). LEU was originally how BMUs was called (see Mahatane *et al*., 2005).

The government was motivated by the need to involve local communities in the management of the fisheries and the expectation that such a strategy would reduce management costs. The main driving reasons for co-management (Mahatane *et al*., 2005) included but not limited to:

a) The fishers acquire more control over the fisheries as a community, and that there was a greater trust between them and the government. The collaboration between the two had the following benefits:
   i. Fishers should be motivated to take a longer term management perspective (sustainability) and enforcement of the regulations more effectively because the regulations have a high level of acceptance and so compliance and self-enforcement are high; therefore, transaction costs of institutions for fisheries management are reduced (efficiency benefit).
   ii. It guarantees a rapid recovery of fish species that are otherwise in the danger of extinction.
   iii. Fishing communities are empowered to decide on wise use of resources.
   iv. Fishing communities have the sense of ownership over the resources.
b) Fishers cooperate with government in planning, development, protection and conservation of the fishery resource and environment.
c) Fishers share the costs and benefits of improved management and hence reduce costs to the government.
d) Conflicts between fisher groups are efficiently resolved by themselves.
e) Fishers and government authorities are willing to share data and fishers' understanding of fishery (indigenous knowledge) is taken advantage of in the management of the resource.
f) The fishers usually organize themselves to maintain and enhance their position among other stakeholders e.g. water users, fish traders in the community.

When the idea of community participation was floated to the residents of Nyakasenge, they became delighted and accepted it because to them it provided an opportunity to build their communities, opportunity to speak with one voice, address some of their problems such as insecurity, pooling their resources together to address problems such as access to health services, receiving visitors when the latter visited their communities and fishing sustainably. In Nyakasenge, one major reason that brought community members together was to address frequent crocodile attacks that continued to be experienced in their village. At the time of BMU formation the community had lost about five members because of crocodile attacks.

At formation BMU membership consisted of a committee of 15 people drawn from the fishing village. Membership was not restricted to fishers but was open to residents of the fishing village in which they were elected. However, this was reviewed in 2006

when BMUs were re-established under the Implementation of a Fisheries Management Plan (IFMP) project. The IFMP project was implemented in the lake between 2003 and 2008. During this period all members with a stake and residing in a fishing village, regardless of numbers from one household, had a right as an individual to become a BMU member. In Nyakasenge, BMU membership has grown from the original 15 in 2006 to over 400 in 2013 i.e. the time of the survey. Members derive their livelihoods from fishing and agriculture. There are however a few teachers and retired officers who are also BMU members.

4.2 BMU Location

As required by the BMU guideline Nyakasenge BMU is a designated fish-landing site. It is within Chabula village of Magu district. They are in-charge of an area measuring 5 km radius from the centre of their beach. They meet the requirement of having at least 30 boats to form a BMU. The numbers of boats in the fishing village have been fluctuating but have never gone below the requirement. At the time of the study there were 200 boats. This number normally fluctuates between 50 and 240 depending on availability of fish and agricultural season. During agricultural season which coincides with the long rains, fishing reduces as most fishers spend their time in their farms.

4.3 Function and purpose of Nyakasenge BMU

Nyakasenge BMU is involved in enforcement of the Fisheries Act and Fisheries Regulations. This is achieved through undertaking patrols where BMU executive members go round the beach and in the fishing area under their jurisdiction to ensure that all fishers adhere to the fisheries regulations; if they apprehend a fisher fishing through a means not prescribed in the fisheries regulations they hand him/her over to the local government Fisheries Staff for further action. The BMU also participates in identifying fishers for registration and issuance of licences by the district fisheries officers, maintains records of fishers (their nets, boats and registration status) in their beaches, ensuring that fishers use the right legal gears. Other responsibilities include:

a) Prepare by-laws to facilitate the implementation of the national laws. Nyakasenge BMU through their assembly have formulated these by-laws and forwarded them to the District Council for approval. This approval has been given and they are implementing the by-law.
b) Ensure that their beach is clean and is in good healthy environment. This is achieved though frequent beach cleaning activities, ensuring that sanitary facilities are present and are used.
c) Record and keep fisher's records i.e. names, license details, their gears and boats, and landings. They were also issuing introductory letters to fishers who are migrating to other beaches, and receive those coming to Nyakasenge.
d) Educate stakeholders on the negative impacts of illegal fishing practices and other environmental issues that affect the fishery resources and the general environment.
e) Prepare and implement income generating projects for the BMU.
f) Ensure security of the fishers in the village and their property.
g) Any other responsibilities which are relevant to the roles of BMUs.

4.4 Governance Structures

4.4.1 Nature, scale and criteria for membership

Nyakasenge BMU is a membership organization made up of an Assembly, which is the highest decision making organ, and a BMU Committee, which is elected to implement decisions made by the assembly. To be a member, a person has to register him/herself

and be vetted by the Local Authority or fisheries officer. The vetting checks whether he/she is a fisheries stakeholder in the village. The stakeholder requirement is that such a person must be engaged in fisheries activities, whether full or part time, at beach level and register him or herself with Nyakasenge in order to gain legal access to fisheries activities in Tanzania. This implies that BMU membership is constituted by boat owners, crew members, managers/supervisors, artisanal fish processors and traders, fishing gear and equipment dealers/repairers, boat makers, and agents of industrial fish processors operating at the beach. Crew members, gear repairers and some local fish traders are the most vulnerable fisher groups. Persons of foreign nationality shall be in possession of a valid work permit provided by the Immigration Department and shall comply with requirements for foreign nationals in the Fisheries Act before they apply for membership of a BMU.

BMU members are mandated (Fisheries Division, 2005), among others, to:

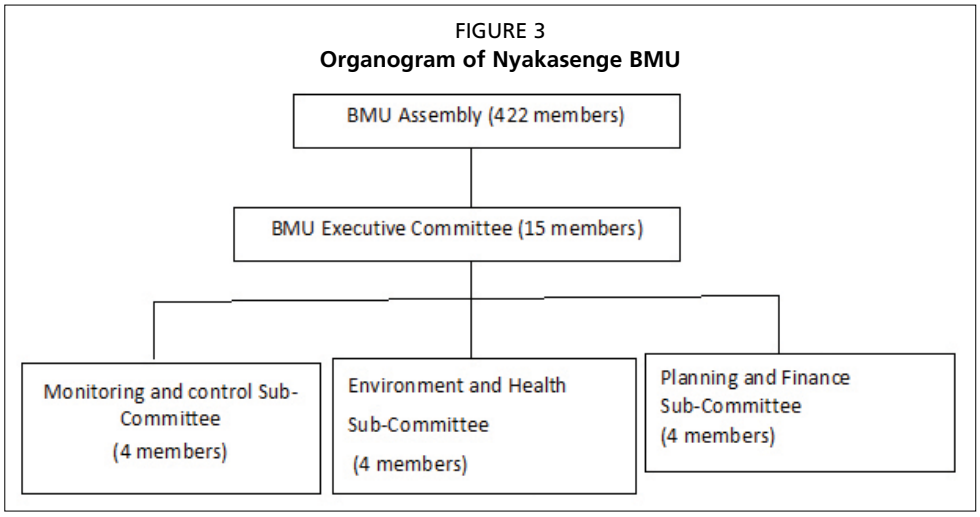
a. Participate, elect or be elected, in a free and fair election of the BMU committee which has to be done every three years.
b. Attend BMU assembly meetings every quarter. It was reported during our visit to Nyakasenge that members are always reluctant to attend meetings. Whereas the meetings are called as required, the quorum is normally low; however, meetings are still held.
c. Abide by the fisheries regulations and laws that are now formulated with their involvement. BMU members, as stakeholders in the fisheries, are expected to be consulted when drafting the said law. The laws are then passed in the parliament before the president gives assent.
d. Report illegal fishing activities. This has been one of the areas in which there have been several conflicts. It was observed that beach seining, an outlawed fishing method, is still rampant in the fishing area. However, fishers never report these beach seiners. Reporting beach seiners is met with community wrath and vengeance.
e. Provide data on fish catch and other information
f. Participate in formulation and abide by the BMU by-laws
g. Participate in fisheries management and beach development planning
h. Participate, and share benefits from, training and other capacity building activities
i. Participate in community fisheries self-help programmes
j. Participate in identification of fish breeding areas

4.4.2 Leadership, succession and democratic elections

Nyakasenge BMU has had five elections since formation (in 1999, 2002, 2005, 2009 and 2012) the last was held in 2012. Elections are held every three years for the executive committee as required by the BMU Guideline. At every election, BMU members elect between 9-15 members to an executive committee comprising of a chairperson, vice chairperson, secretary, treasurer, store keeper and 10 other committee members representing different categories of fishers at the beach (Fisheries Division, 2005). The composition of executive committee in Nyakasenge met the threshold as recommended in the BMU Guideline which was formulated during the BMU formation process by the Ministry of Livestock and Fisheries Development. There are at least three women in the BMU executive committee. This number is about the threshold required according to the BMU guideline. In addition there are three representatives of boat owners, four from crew, three from traders group and two from boat and gear repairers. This is to say that representation to the BMU committee is close to the recommended levels (Fisheries Division, 2005) i.e. 30 percent boat owners; 30 percent crew (fishing labourers who do not own boats); 30 percent other stakeholder groups (including fish

processors, boat makers, local gear makers or repairers, fishing equipment dealers and managers); and 10 percent fish mongers/traders. Moreover in Nyakasenge at least three women are included as BMU Committee members: two are from the fish traders and one from the boat owners groups. The Nyakasenge BMU organization structure is as shown in Figure 3. This structure resembles that of all BMUs in the country.

FIGURE 3
Organogram of Nyakasenge BMU



At the time of the study Nyakasenge BMU Assembly had 422 members whose roles include:

a. Elect, approve and remove the BMU Committee members. Nyakasenge BMU Assembly have had two elections since formation but have not removed any elected officials;
b. Approve BMU management and development plans and budgets, audited accounts and by-laws;
c. Discuss and approve BMU Rules of Procedure;
d. Consider and approve fees and charges to be levied by the BMU;
e. Consider and approve plans for the formation of BMU sub-committees; and
f. The quorum of a BMU Assembly shall be when at least half of its members are present at a meeting.

During the study, it was also observed that the Nyakasenge BMU Executive Committee was performing the following roles:

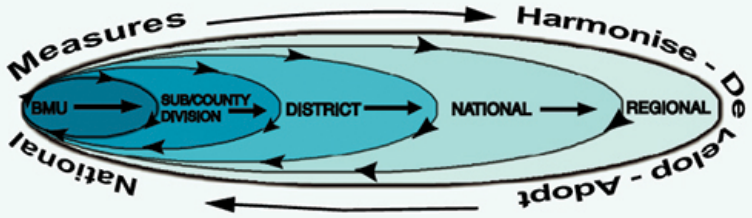
a. Maintaining and keeping a register of all boat owners and their fishing equipment, fishers and BMU members operating from the beach in collaboration with central government or local government. The committee noted that they needed to update this register;
b. They vet boat owners and fishers then forward the names to the district fisheries office for licensing and, in collaboration with the latter, ensure licences are granted to those registered with their BMU. The only weakness of this role is that BMU executive committee, just like other BMU committees, have not restricted anybody with legal gears and licence to fish. This has led to increase in the number of fishers and have affected fish stocks.
c. They have prepared by-laws, sent it to their District Council for endorsement, and now they are enforcing them;
d. They are undertaking monitoring, control and surveillance in collaboration with the relevant authorities;
e. They are in the process of starting data collection for frame surveys, catch monitoring and socio-economic investigations, using agreed formats;

f. They are inspecting and recording visiting boats and providing permission to land in their village and for those leaving for other places;
g. Networking with other neighbour BMUs to ensure members' security and providing information on marketing and pricing of fish and fish products;
h. The BMU committee has been integrated into the village government and is playing a developmental role in their village. In fact during the study the chairperson of the village government attended some of the focus group discussions. He was very enthusiastic about the contribution of the BMU to the village government.
i. Preparation of annual workplans, budgets and present them to the BMU Assembly for approval;
j. Formulate funding proposals, make financial reports and present them to the BMU Assembly for approval;
k. Ensure that the beach, together with any structures or buildings situated thereon, is kept in a safe, clean and hygienic condition;
l. Ensure compliance with applicable hygiene standards in connection with the landing, storage and sale of fish and fish products;
m. Ensure compliance with regulations on the safety of fishing vessels at its beach and promote the establishment of local search and rescue services on water. Search groups organized by the committee were observed looking out for lost boats during the study;
n. Promote the improved handling and marketing of fish including construction of associated infrastructure and improved access to market information. It was reported that the BMU has been involved in construction of a fish weighing place, sanitary facility and a shallow well at their village;
o. In collaboration with the fisheries staff, village government and district fisheries office as well as the Monitoring, Control and Surveillance Unit ensure that harmful and illegal fish trading practices are eliminated from within their village;
p. Raising awareness of fishers on HIV/AIDS among BMU members and their families and attract interventions to reduce its impacts. Every year there is voluntary testing of all the willing fishers in the village. Those who have tested positive are already on an intervention mechanism where they are given treatment at the local district hospital and assisted with some foodstuffs.

4.4.3 Nature, scope and details of the governance framework

BMUs operate within a governance structure that brings the government, private sector and civil society under one table i.e. the Lake Victoria Fisheries Organization. BMUs have their own system of governance in which they form networks from the beach level to the entire lake level. They are represented in the LVFO meetings by their elected regional chairperson. The fisheries programs are implemented within and between different levels of governance from the village Beach Management Unit (BMU) level through different national levels (Ward/Division, District and National structures) to the regional East African level (Figure 4).

FIGURE 4
Governance framework of fisheries activities in Lake Victoria

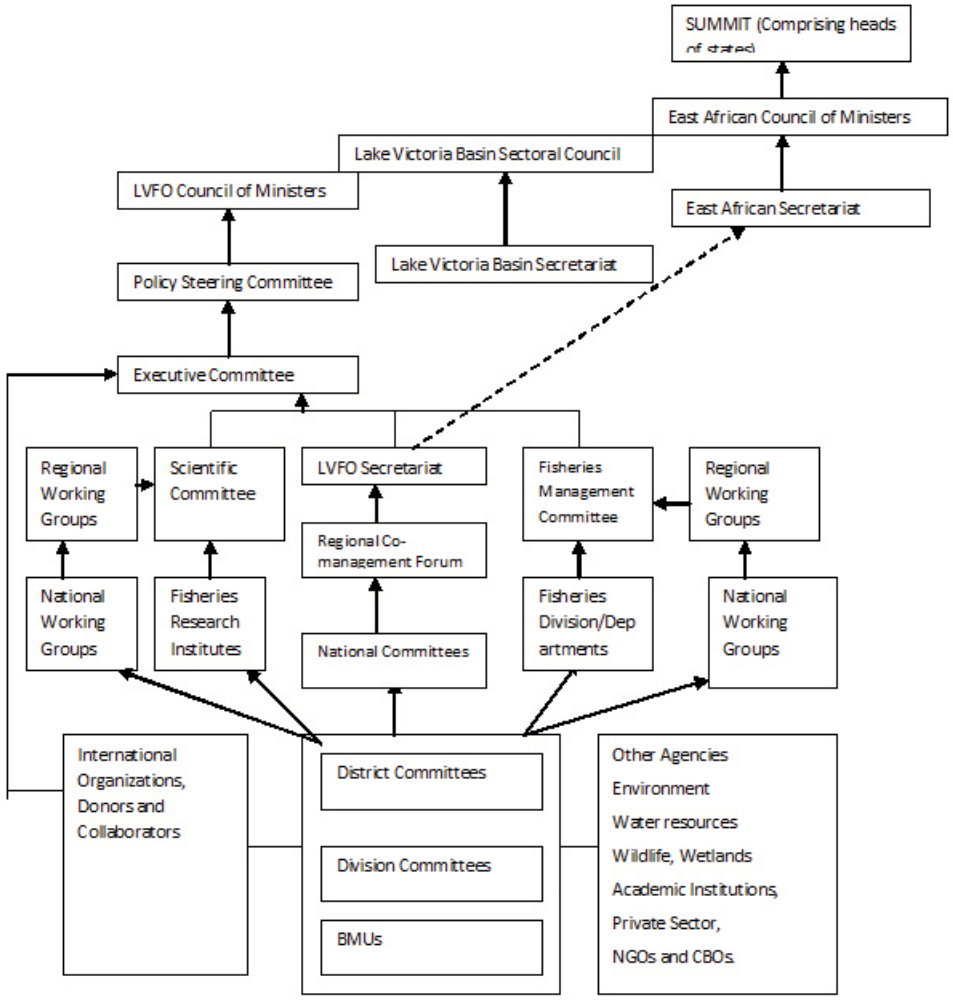


Source: LVFO, 2005

Autonomy and independence: BMUs are not completely independent given the nature of the fisheries resources that bring them together; however BMUs make their own independent decisions in as much as these decisions are within their areas of jurisdiction and roles and responsibilities. For example Nyakasenge BMU decisions are shared among BMUs close to their village. It was reported that in one instance Nyakasenge BMU had arrested two fishermen who had small-mesh size nets. These fishermen came from the nearby Shoka BMU. They confiscated these nets and communicated the same to the Shoka BMU where they handed them the nets for further action. Shoka is the closest BMU to Nyakasenge and both BMUs have formed a network. Shoka BMU handed the nets to the fisheries staff in their area.

As the BMU implement their roles they have to interact and recognize other stakeholders such as the Fisheries Development Division, local authorities, regional bodies, and NGOs among others (Figure 5). The BMU decisions are communicated to other stakeholders as shown in the organogram in Figure 3. Some of these decisions require approval from the highest echelons of power in the country, for instance, decisions regarding closure of fishing areas which requires approval of the minister responsible for fisheries. Another case is when fishers in Ukerewe Island reported to their member of parliament that they had spotted security personnel from a

FIGURE 5
Communication structure in the Tanzanian Lake Victoria fisheries management



Source: LVFO 2005.

neighbouring country. This incident had to be confirmed and addressed by the head of state. It later turned out that no foreign security personnel were in the island at that time. What happened was that the Monitoring, Control and Surveillance Unit of the Ministry of Livestock and Fisheries were doing their normal patrols and so fishermen have mistaken them for foreign security. Figure 5 gives a structure that is more regional because Lake Victoria is managed jointly by the three riparian countries.

The roles of these other stakeholders as identified in the BMU Guideline are described below. The roles of the various government departments and institutions (Fisheries Division, District Authorities, Village authorities, village council and Tanzania Fisheries Research Institute) are as defined by the Tanzanian parliament.

Fisheries Division

The Fisheries Division is vested with overall responsibility for fisheries administration. However, with regard to co-management the Fisheries Division's roles include:

1. Policy formulation and issuance of policy guidelines, formulation of fisheries legislation and enforcement at national level;
2. Guide the development of District and BMU fisheries management plans;
3. Provide technical assistance for fisheries development to various stakeholders;
4. Set standards and prepare guidelines to ensure fish quality and safety;
5. Design fisheries information collection systems for implementation by relevant local authorities/government departments and BMUs;
6. Monitor BMU performance;
7. Develop training courses and train fisheries officers and BMUs;
8. Solicit donor support for development projects; and
9. Enhance international cooperation.

District Authorities

1. Implementation of national fisheries policies and ensure enforcement of fisheries laws and regulations in partnership with resource users;
2. Production of development plans and access to central government grants to support, among others, capture fisheries and post-harvest fisheries sector;
3. Assist in resolving of conflicts between resource users and within lower level co-management institutions;
4. Support the development of BMUs through awareness raising and training programmes;
5. In collaboration with BMUs, develop and implement fisheries management plans;
6. Approval of fisheries ordinances and by-laws and assist in implementing ordinances and by-laws; and
7. Monitor and evaluate the performance of the BMUs in accordance with prescribed performance criteria issued by Fisheries Division.

Village Authorities

The Village Executive Officer (VEO) as the BMU Election Official

a. Preside over BMU elections;
b. Convene meetings for disqualification of BMU and BMU committee members upon receiving signed proposal from two-thirds of the BMU members;
c. Write letters of disqualification to members who are disqualified;
d. Compile BMU reports and submit them to higher levels of Local Authority; and
e. Maintain records of BMU members.

The Village Council

1. Receive quarterly and annual budgeted progress reports and plans from the BMU;
2. Assess BMU performance at annual intervals according to guidance provided by the Director of Fisheries on performance monitoring (Section 11), or more frequently if required;
3. Review and approve BMU proposals for Village Development interventions funded by the BMU;
4. Integrate BMU plans into Village Development Plans and submit them to higher Local Authorities.

Fisheries Research Institute

1. Disseminate research results to guide development of fisheries management strategies;
2. Develop appropriate technologies for sustainable fisheries management e.g. curbing post-harvest losses, improved aquaculture and acceptable fishing methods;
3. Develop appropriate control measures for invasive aquatic weeds; and,
4. Provide information to guide co-management and socio-economic development of the fishing communities.

NGOs

1. Train BMUs and local government, based on training needs assessment;
2. Participate in co-management institutions at all levels;
3. Disseminate information on co-management and fisheries technologies;
4. Provide credit support on appropriate gears, fishing methods, boat designs,
5. propulsion and processing technologies;
6. Assist fishing communities in developing their savings capacity;
7. Assist with the development of alternative income generating activities within fishing communities;
8. Provide some rural development services e.g. schools, dispensaries, etc.;
9. Advocate for fisheries stakeholders' rights and positively influence national policies and laws;
10. Advocate for control of HIV /AIDS and other STDs within fishing communities and advocate against child labour.

Development Partners

1. Advise governments and BMUs on long-term development strategies;
2. Assist governments to build capacity of BMUs through fisheries research management;
3. Support and strengthen NGOs in fisheries management and development;
4. Support in strengthening relationships among border fishing communities; and
5. Provide resources to assist in the implementation of plans and programmes.

Internal operating mechanisms of the organizations

According to the BMU guideline, BMU assembly are supposed to meet once every three months. The Executive Committee should meet once every month. The BMU visited for this study indicated that they have been calling for BMU assembly meeting as per requirement. In fact the last meeting was held in June 2013 and another was scheduled in November 2013. The Executive Committee however has been meeting more regularly than once a month. There have been several consultative meetings among themselves besides the normal monthly meeting.

Once a meeting is held the executive committee makes decisions with regards to issues that require immediate action and cannot wait for the assembly decisions. The BMU guideline clearly stipulates that the final decision affecting the BMU has to be made by the Assembly. For this reason any decisions that the executive committee makes are normally reported to the Assembly during the latter's meetings. Assembly meetings are also reported to the District Fisheries officer and the village government through the Village Executive Officer.

It was observed however that BMUs do not have a formal self-evaluation mechanism. What happens is that any evaluation is carried out only if an activity was not done to the expectation of the Executive Committee or when there is a complaint. When there is none then no action is taken. They do not have any mechanism of evaluating their own proposed activities nor do they have a system of generating lessons learned from previous activities. The BMU members are however very flexible and adaptable to new issues, ideas and routines. For example in Nyakasenge, taking a bath in the lake has been something that is historically a norm, however when they were informed about the dangers of doing this, for example the chemical contents of a soap and its effect on the fish habitats, the possibility of being caught by a crocodile, they started to change this behaviour by taking water and bathing at home. Although at the time of the study, some were still bathing in the lake, the number has reduced and the BMU has even now made it a by-law by prohibiting bathing in the lake. Another case is when the BMU mobilised the village residents to build a common toilet. Each home has agreed to contribute. Among these community members, they have a practice where the bush provided a good toilet but now they have adapted to using a pit latrine. They have low innovative power but a strong monitoring/control system of their fisheries and are very quick in sanctions because this is one way through which they generate funds to the BMU.

Existence of code of conduct

Nyakasenge BMU has an elaborate code of conduct enshrined in their by-laws (Magu District Council 2008). This is also where they have their statutes and procedures. As already mentioned, the by-law provides for a detailed operation system of the BMU. It also highlights their communication pattern. The by-law is operated within the framework of the BMU Guideline.

The by-law is subdivided into four sub-sections focused on name and geographical area where the BMU operates, its aims and objectives, and definition of concepts. This section also provides the legal basis for the by-law and its relations to other related national and district regulations. It also identifies offences for which the BMU can employ penalties. Such area includes:

1. Polluting the environment and water through washing and bathing in unspecified areas and using the wrong places as toilet.
2. Environmental degradation by cutting down trees
3. Fishing in fish spawning areas
4. Fishing in conserved areas
5. Interfering with provision of social services
6. Interfering with collection of fisheries statistics
7. Migrating to different fishing areas without following procedure
8. Interfering with implementation of fisheries regulations

Section two is focused on resource conservation and security in fisheries. In this section, the by-law outlines responsibilities of fishers when they are out fishing, responsibility regarding prohibiting theft and destruction of other fishers' fishing gears, providing information regarding the types and number of gears fishers have,

any destruction of the same or fishing grounds and migrant fishers, prohibition on unnecessary conflicts, fishers participation in monitoring, control and surveillance and living in fishing camps without an activity.

The third section talks about beach hygiene and environmental conservation. This section prohibits careless deposition of unwanted waste, washing clothes, taking a bath and washing dishes in the lake, prohibition on the use of poisonous pesticides in fishing activities, beach development or infrastructure improvement, prohibits cutting down of trees.

The last section talks about relationship among fishing village residents. It focuses on respect for women, prohibition of employing children less than 18 years. It also identifies unacceptable behaviour. This section also finally provides penalty to be charged on the offenders.

4.5 Gender issues

Nyakasenge BMU comprises 422 members. Out of these 220 are women and 202 are men. There is unequal participation in the fishing activities according to gender. For example in the 15 member BMU executive committee, only three are women and the rest are men. Among the boat owners only two women own boats while the rest are men. Among the fish traders at Nyakasenge two thirds of all traders are women while one third are men. The women in Nyakasenge are mainly involved in activities such as trade, smoking, salting and sun drying of fish while others are cooking in the fishing camps.

In the BMU women participate in elections, they vote and provide information to the BMU executive committee on events taking place within the beach. Such information ranges from conflicts among fishers, illegal fishing gears, unbecoming behaviour and harassment of any sort among others. A case in point is when a woman BMU member reported having seen a dead python. In Nyakasenge, pythons are cherished snakes because locals use them to bewitch others. So when the python was spotted by a fisher and killed it, the woman provided information to the BMU who in turn informed the Village Executive Officer (VEO). The VEO then called the district wildlife officer who took the python away. This indicates that women's voices count in this community. They are listened to and their suggestions and ideas are taken up for action. Secondly it is a sign that women in this village have space within their community. In the past similar cases were handled by men and now women. If a woman was the first to a dead python then she was expected to report the same to her husband who would take up the case with the administration. However now women have space to freely discuss and handle similar case.

Fishing in Nyakasenge, as is the case across the fishing communities of the lake, is generally a male-dominated activity as has been reported by Geheb et al. (2008). This was the case in Nyakasenge where ownership of fishing boats is dominated by men. However, women are involved in trading of fish in the local and district market (Medard *et al*., undated). During the study we met women who had gone to the fishing village to buy fish. There are also several women living in the village who earn their living from fish trade. Most of these women trade in the small sardine *Rastrineobola argentae*. The gender issues at Nyakasenge follow a pattern of other fishing villages in the lake where women are involved in almost all roles except as crew members—going into the lake to fish. This is an activity in which men dominate. Women own boats, they own fishing gears, and they trade in fish products just like men do.

Elsewhere in the fisheries of the lake, women's involvement has been very instrumental (Onyango and Jentoft 2011). Women have been change agents both in economic and social sense in their communities. They have participated in economic

activities such as operating water transport in the lake, joined their resources together in savings and credit schemes which have enabled them to accumulate substantial financial resources and have also been able to participate in infrastructural provision in their schools. Examples of infrastructure that have been put up by them include but not limited to schools, roads, health facilities. Moreover women have been supportive of one another especially when one of them is bereaved, or do not have enough money to send children to school (Onyango and Jentoft 2011).

On the other hand, the role of the youth is not clearly defined in Nyakasenge BMU just as it is not in the BMU guideline. It is assumed that because the youth comprise the highest number among the fishing crew they are therefore the core members of a BMU. For this reason no special emphasis has been placed on their roles.

4.6. Networking and external relations

Nyakasenge BMU is part of a larger group of stakeholders involved in managing the fisheries of the lake (see Figure 5). At the fishing village level Nyakasenge BMU networks with other BMUs within the ward, district, national and regional levels. They have their own elected leaders and their areas of jurisdiction. Such areas follow the ward, district and national boundaries. At the ward level, besides the elected officials, there is a representative for each BMU in the main committee. Their role is mainly to coordinate fishers' activities at this level and to represent them in ward meetings where their inputs are required. There is no Assembly at the ward, district, national and regional levels. They only speak through their representatives at all these levels.

Furthermore, at the beach level, they have a direct relationship with the village government where they also belong. They are a major constituency at the village level given that fishing is among the leading activities in the riparian communities. They participate in village government meetings, activities and decisions. They nonetheless congregate as BMU on their own.

Given their numbers they have found favour with politicians who are interested in numbers especially during elections. Some of the former leaders of the BMUs have ventured into politics and sailed through. Indeed this was the case even in Nyakasenge where one of the former BMU executive members was elected into the village government as head of a sub-village local called *Kitongoji*.

With the emerging ICT world, BMUs are at the centre not only enabling the growth of ICT but also are beneficiaries of the same. For example, the mobile technology has penetrated through their villages. To them the use of mobile phone technology is vital for relaying price and security information. Insecurity that they sometimes confront while out in the lake when robbers attack them to take away their fishing engines, gears and even fish are easily reported to the marine police or their own security system for assistance. In addition the use of mobile phone technology is convenient for the recent certification program which has been introduced in some part of the lake because they can simply inquire about factory prices while in their landing site. Recently, Naturland of Germany has allowed some Fish Processing Establishments to use its logo in packing Nile perch fish for the German market.

4.7 Finance, infrastructure and marketing

According to the BMU guideline, there is no single means through which BMUs are required to source for funding to be able to, among others, carry out their own patrols, buy patrol equipment, provide incentives to the members who participate in BMU activities and initiate income generating activities. They need to be as creative as possible so as to be able to generate money. Nyakasenge BMU has been generating funds from various sources, including: letters of introduction that they write to migrating members, beach access fees, and penalty fees paid by offenders. Other

potential areas which they have not explored include, BMU created and operated businesses like fishing, rent of assets for example hiring out of BMU fishing boats and outboard engines owned by the BMU and fishing licences (i.e. part of the money that fishers pay for their fisheries licences are paid back to the BMUs), members' contribution in the form of fish, that is, members decide to give out fish instead of money to the BMU if there was an activity in which members are required to make contribution and cash, membership registration fees although this has not been very effective for reasons that could not be established during the study period.

Although Nyakasenge BMU does not have any barriers to access loan facilities, in reality this has not been very effective. At their formation, the World Bank project, Lake Victoria Environmental Management Project (LVEMP) funded a number of incentives to enable BMUs to become active. LVEMP provided cash rewards to BMUs which were observed to be undertaking their responsibilities. In addition, some BMUs managed to win tenders that were floated by the District Councils on revenue collection at the beaches. Such tenders provide great opportunity for the BMU to save part of the funds which they collect. Nyakasenge BMU did not attempt to win any tender nor explore any of the mentioned avenues. They have also not tried to form a cooperative society or initiated savings and credit schemes. One major reason for this is because they lack adequate knowledge on how to go about tendering, what kind of information they need to provide or the kind of preparations they need to make before tendering. They also do not have information on the advantages of cooperatives to the marketing of their fish products.

4.8 Decent employment and working conditions

Status and trends on employment opportunities

The fisheries of the lake have continued to be a source of employment to a substantial population. The fisheries have created employment to fishermen, fish processors and fish traders. Kulindwa (2005) reported that between 1993 and 2 000 employment had been increasing i.e. an increase of 54 percent from 35,291 to 77 997 people in the entire Tanzanian side of the lake. In Nyakasenge there has been growth in the number of fishers. For instance, in 2002 there were only 86 fishers, in 2005 the number grew to 210, in 2009 the number further grew to 310 and now it stands at 422. Later estimations in terms of numbers indicated that the lake's fisheries provided employment to about 500 000 people in Tanzania (Odongkara *et al*., 2005) comprising fishers, fish traders, and fish processors and net menders. This however seems to be a gross underestimation of employment because one kilogram of fish as of 2008-2010 was handled by between 8-13 people (Box 2) between the beach and the fish processing factory door and/or final consumer for the fish that is processed locally. This has not changed even as at the period of the study. Based on this estimate, the fishery on the Tanzania part could be employing about 2.6 million people. This is a strong case for employment creation.

Working conditions

In Nyakasenge, the crew live in camps. These camps are organized by the fishing gear or boat owner. The owner can provide rooms for accommodation or the crew themselves get their own rooms. In a number of camps in Nyakasenge, there were a few crews who got their own rooms where they have their family with them. A number of them however did not have any room of their own but share that which has been provided by the gear and or boat owner. We were not able to see any of the crew with a life jacket although this is a requirement that each boat must have a life jacket.

BOX 2
Estimation of employment in the fishery

It is estimated that a kilo of fish is handled by between 8-13 people most of them being young people. The breakdown of these people is as follows. On average there are 4 (four) fishermen per boat. When they land the fish, there is a (1) carrier who takes the fish from the boat to the waiting trucks. At the truck, there are 3 (three) people, the person who weighs the fish and takes records, there is another 1 (one) person who loads the truck with the already weighed fish and then there is 1 (one) truck driver. These excludes those who offload the truck at the factory door, clean the fish Banda at the beaches where fish is weighed, net menders, boat repairers, bait suppliers for Nile perch among others. This makes a total of 10 (ten) people. For fish that is processed locally, there are women at the beaches who purchase the fish from fishermen, they either sell the fish to a processor or process it themselves and then the traders who purchase the fish either transports it to the market places or use bicycle or vehicle transporters. All this excludes persons involved in research and management.

Source: Author's own estimation

When we inquired, we found out that indeed some boats have lifejackets while others have less. Moreover, fishermen feel that they are skilled swimmers to carry lifejackets especially when they go fishing. The crew are provided with food everyday although this is deducted from their incomes after landing fish and selling the same. There is neither a formal contract nor professionalism required to be a crew. Wages are paid on a sharing basis where the boat owner, gear owner, and the crew share incomes either in the form of cash after sales or fishing days. In Nyakasenge a number of fishing camps prefer payment through fishing days. This is a situation where fishers fish every day and each day is allocated either the fishing gear or boat (the owner/s who get that pay for the gear and boat). There is therefore a fishing gear day, a boat day, the owners' day and the crew day. Regardless of who the pay should go to on a particular day, all costs are subtracted first. The costs would include, fuel, boat and net repairs and crew members' food for that day. A crew member can walk out of the camp at will. Similarly the camp owner can also fire any crew at will. There are no other formal benefits in the fishing besides the fish that fishers get and sell to get an income.

There is however an informal security system where, upon the death of one of the members of one fishing camp, each will contribute to ensure that the member gets a decent burial. Residents in the village also give contributions. On social protection schemes, these are simply more traditional than formal. The formal schemes which exist in Tanzania but have not ventured into the fisheries sector are insurance, health and death schemes. These schemes, although open to all, require monthly/periodic contributions, which demand formal employment. Therefore in Tanzania most of the members of these schemes are those in formal employment. The schemes are operated by both the government and private sector. The practice in fishing villages is more of a care scheme by fellow fishers. When a fisher gets sick and he/she cannot raise enough funds for treatment, or when his boat capsizes or even when he dies, or a close member of his family, others feel obliged to contribute, console and take care of the costs rather than to leave everything to him and his family. The care ethics is at the heart of collective action among communities in the fishing industry in Lake Victoria. This in essence is also the main collective action motivating factor for a number of communities. It is the social protection scheme among the fishers. To understand the informal social protection system among the communities would be good grounds in understanding collective action (see also Onyango and Jentoft, 2011).

4.9 BMU members' expectations

The Nyakasenge fishers' expectations about what their BMU could do before the reformation differed among BMU members. Boat owners and crew members in particular expected that the BMU could rectify the weighing scale problem at the landing sites. It is the case that fish processing plant agents use faulty and illegal weighing scales to weigh landed fish destined for the processing plants. This has led to a perennial loss in terms of fish weight for the fishers and boat owners. BMUs were also expected to be independent in implementing fisheries regulation that promote sustainable fisheries, and have authority to collect revenues on behalf of the local council. The boat and crew members indicated that they expected their BMU to improve the social infrastructure of the landing sites by constructing toilets and other business structures. The women on the other hand expected that the BMU could be able to provide credit facilities and establish income generating projects that could improve their businesses and livelihoods.

Nyakasenge fishers however, noted that some of the expectations such as establishment of income generating projects, provision of credit facilities, and collection of revenues on behalf of the local councils could not be achieved. This is because of the leadership weakness portrayed by some of the elected committee members, involvement of some of the BMU committee members in corrupt practices, lack of capacity of the BMU to network with financial institution and other organizations, lack of credit and savings schemes within many BMUs and members, and inadequate visitation by the fisheries staff in some BMUs. The expectations that have been realized such as improvement of the social infrastructure and hygiene in some landing sites and reduced illegal fishing gears were attributed to the support received from the donor-funded projects and the fisheries department.

5. FACTORS FOR SUCCESS/DORMANCY/FAILURE

BMU current status, success, failures, challenges

Going by the fieldwork undertaken for this study, Nyakasenge BMU is still vibrant and active. Although it has had various challenges, the BMU was alive, its executive committee and assembly were meeting frequently and undertaking their roles. They had overall assisted in identifying fishers in possession of illegal gears and fishing practices, they have improved beach hygiene and cleanliness, and improved social infrastructure at the beaches. However, bad practices evident from the BMU included among others, secret involvement of some of members in illegal fishing, conflict with village government over revenue collections, as well as conflict among members, poor recording systems and too much reliance on government even in planning emergency patrols. The committee reported that they have reported the illegal fishers to the district fisheries office, the arrested fisher has been taken to court but his gear was not confiscated nor destroyed. He came back from the court and continued with beach seining. This demoralised the executive committee.

Some of the successes attributable to Nyakasenge BMU noted during the study were:

1. Identification and facilitation of boat registration and licensing. Out of the 25 boats at the landing during the study only three were not registered. It was informed that these three were not being used because they needed repair.
2. Control and reduced use of illegal gears and fishing. The BMU executive committee noted that before BMU formation, the village had over 20 beach seines. This fishing gear is illegal. However, the number has gone down. Although it was claimed that there is none existing, it was observed that at least two are still used very early in the morning in hidden areas.

3. Involvement of fishing crew, boat owners and repairers, women, the youth and the elders as well as traders in implementing activities that the Nyakasenge BMU has set. For example, resolving conflict was one area in which participation of BMU members was observed. Fishers from two boats had fought over gear entanglement while out fishing. They could not agree while in the fishing ground and almost resorted to resolve this through physical means. However when one of the fishing groups reported the matter, BMU members converged and resolved the issue. It was noted that members knew and could identify fishing gears. The fishing gear in question was identified and the right owner between the two groups was given their gear.
4. Representation of fishing crew, boat owners and repairers, women, the youth and the elders as well as traders in the BMU committee. The Nyakasenge BMU chairperson is a trader at the beach.
5. Strict implementation of the fisheries regulations such as improving the fight against illegal fishers and gears.
6. Sending reports to the village government and district fisheries office for further assistance and planning. The committee reported that they do not do this regularly because some of their minutes are not written but when they are written they would normally send them.
7. Cooperating with other fisheries related and networking agencies such as other neighbour BMUs, the fisheries staff, district fisheries office, the Monitoring, Control and Surveillance unit (MCS) in undertaking their mandate.

Some of the challenges noted in the Nyakasenge BMU were:

1. No proper record-keeping. There is no proper record keeping that was observed in the Nyakasenge BMU. Except for assembly meeting minutes, the executive committee meets frequently but do not keep proper records. They undertake a number of activities without keeping records. When asked about this it was observed that this could result from the low importance that the BMU places on record keeping.
2. Inadequate sources of incomes. The BMU was only generating money from fines on those who break their by-laws. They were not creative enough to come up with other sources. Revenue collection through which they could also generate money has become very attractive to non-BMU members to the extent that these other individuals even corrupt those who issue the tenders so that they can win.
3. The democratic practice was also presenting a challenge to the BMU. When new members get into executive office, they come into the BMU very green on what they should do, and how to run the BMU. It was the case that when BMUs were started, the donor funds at that time were used to provide training to the first officials. Several people were trained. Some training of trainers was also done. However these first officials are neither living in the fishing villages nor are they interested in the BMU activities. Some of them climbed the economic ladder, left fishing and ventured into more lucrative business and therefore do not have time to even share their knowledge with new leaders.
4. It was noted that there is a perception held by the executive committee that they are part of the fisheries division; the fishery staff working with them at the village level guard them as if the BMU belongs to the fisheries division. This perception has affected Nyakasenge BMU in implementing their roles. For example they cannot arrest an illegal fisher on their own or ask him to leave their area. The only thing they could do is to report the matter to the fisheries office and wait for the fisheries office to act.

5. Supporting illegal fishing and gears. In some BMU members support illegal fishing gears and practices. They do not report those in possession of such gears nor do they take any action. For example no action has been taken by BMU members to wipe out the existing beach seining reported, or the use of a fishing raft and monofilament which was noted to be in wide use in the village. During the study, it was observed that every evening there are several young fishers fishing tilapia who go fishing by use of outlawed fishing rafts.
6. Inability to control theft and loss of property at the landing sites. The executive committee of Nyakasenge BMU noted that theft and loss of property has been a major problem they face in the village. In addition to this, once in a while they have been attacked by thugs and robbery with violence. The BMU role is only limited to reporting such occurrence to the police.

Nyakasenge BMU could do better through the following ways: the BMU should work as one organizational unit and not committee members working in isolation from members. This requires frequent meetings and feedback mechanisms that incorporates all members. They should have a strong financial base that could assist them in getting tenders and strict implementation of the fisheries regulations. BMU leaders should avoid personal interest and work towards realisation of sustainable fisheries, establish income generating projects and co-operative societies to help its members, and promote involvement of each stakeholder in its activities. They could also plant more trees at the landing sites, include village governments in their activities and totally eradicate illegal gears and fishing to improve the performance of the BMUs.

6. EMERGING ISSUES

1. Understanding of BMU concept: the BMU membership and that of their executive committee keeps on changing, and it is important that the new members understand what BMU is and how it operates. Moreover it is important to establish a system where new members can get information about BMU without having to arrange formal training sessions requiring project funds input. In addition, there is need to focus on BMU communities' awareness in general for effective performance.
2. Ownership of fisheries management process: there is comparative increase in the sense of ownership of lake resources among the BMU members.
3. Involvement of BMU executive committee in all daily operations rather than involving members also. Surveillance is still being undertaken by the BMU committee members with minimal or no involvement of the BMU communities.
4. Financial resources: the BMUs just like any other organization still experience inadequate financial resources. This is limiting their effective involvement in environmental protection interventions and law enforcement.
5. Attendance at meetings: executive committee members of BMUs have been attending regular meetings very well, but the members' attendance at general assembly meetings have been poor. In fact less than half of the members regularly attend assembly meetings. This is a worrying trend that should be looked into.
6. Involvement of village government: although this was not a big problem at Nyakasenge BMU, it is however a problem across several BMUs. Failure of BMU committee members to involve village government officials in their day-to-day operations hampers smooth operations and good relationship of BMU with the village leaders.
7. Some of the village government officials, police and fisheries officers collude with illegal fishers. This has greatly interfered with implementation of workplans of the BMUs.

8. Incorporation of BMU in local government activities: local government structures have not fully incorporated BMU operations into their regular workplans and activities. This has created parallel activities.
9. Record keeping: although BMUs have a reporting and documentation system, in reality, documentation of every activity besides meeting minutes as well as fishers' records and storage of the same has not been very good. This has been due to several reasons, among them improper handing to newly elected BMU executive from those whose terms have ended, as well as having office premises without storage facilities, and above all, inadequate skills in record keeping.
10. Inadequate understanding of the guideline addressing licensing has caused confusion between the BMU committee members, ward fisheries officers and District fisheries officers.
11. Participation in formulation of work plans has not been effective among many BMU committee members and general assembly.
12. Sanitary facilities: there is lack of public toilet at the landing beaches.
13. Mentoring: the expected provision of guidance, encouragement and support from fisheries officers, other local government officials and NGOs to the BMUs has not been adequate.
14. The need for collective action among BMU members is a well-received idea by them.

7. RECOMMENDED STRATEGIES TO STRENGTHEN BMU

In order to strengthen collective action within the BMU framework, it is important to focus on building a stronger fisher community. It is argued that stronger and effective communities are an important ingredient for effective collective action and therefore BMUs. This is similar to what Jentoft (1999) and McGoodwin (2001) have argued with respect to changes in fishing stocks in the water which is argued to simply reflect what goes on in the society. In other words, to manage fisheries would require emphasizing the human dimension of fisheries rather than focusing directly on building of fish stocks. The latter can still be achieved by aiming at the former. This is to say that the human dimension demands that BMUs should promote equity, legitimacy and property rights. BMUs should enable fisher communities to identify with the way their community has defined life. Rather it should enable them to achieve personal power, to act with freedom and autonomy and to experience the joy and self-fulfillment that comes with such freedom (Onyango 2011).

To strengthen collective action in BMUs it is argued that it is prudent to ground BMUs on the principles of equity, legitimacy and representation. This is also to say that fishers are given an opportunity to participate in development and make decisions that affect their lives (Jentoft 1986). This is expected to yield responsibility and compliance to regulations (Fig 6). The argument is that a clear understanding and establishing a firm foundation based on these concepts is not only necessary but should be considered as crucial in implementing collective action. In addition to premise and outcome, collective action involves some scale upon which it should operate (determining the suitability or necessary conditions for co-management), the nature of representation (decision-making process, and issue of legitimate participants) and the management organization (type of co-management and its structure). These should all be considered very carefully before making any move to implementation. How can this work?

FIGURE 6
A perspective on co-management Adapted from Onyango 2001.

(i) Autonomy of resource users

Efforts should be made to make BMUs self-governing and independent in making decisions and implementation. The manner in which BMUs operate makes them look as if they are an extension of the fisheries development division. It is important that BMUs should be more independent and not been seen to implement measures originating from some quarters. Their lack of involvement in designing their operations, structure and membership has created a perception among BMU members that they are indeed implementing regulations, which would have otherwise been implemented by the fisheries officers. This is why it is important to empower them to negotiate and assume their responsibilities in a more effective, self-regulating and voluntary manner. In order to achieve this, it is important that an enabling atmosphere be created through legislation that gives them freedom to make choices, freedom to make their own decisions and freedom to choose how to design and implement their regulations with very limited, if at all, influence from the fisheries authorities.

(ii) Participation of stakeholders

Participation being proposed here should not be confused with involvement. What is required in the first case is to identify all the resource users including fishers, and then from the list of resource users the legitimate stakeholders who should be involved should be determined. Then determine the mode of participation to be adopted whether it should be full or partial participation, clearly identifying the levels through which stakeholders should participate, for instance, policy formulation and implementation as well as conflict resolution and decision making. The proposal being made here is that when fishers and other user-groups (tourism hotels) are organized, participation should start from the beaches and continue up to a national/lake wide level. Participation of stakeholders would be important for building a strong governance mechanism for these fisheries. Governance has since of late become the debate in fisheries (Bavinck 2005: Chuenpagdee 2011: Jentoft and Chuenpagdee, 2009: Kooiman et al 2005).

(iii) Re-think ownership of the lake

Co-management in its entirety places the resource users as external to the resource. They only exercise management rights, which may have to do more with their skills. This is not, however, sufficient if a sustained fishery is sought. This is because co-management, just like any management system, may drive the manager to strive for (personal) benefits. This may be compounded if the marginal costs incurred for any adverse decisions made are perceived as lower than the marginal benefits to be obtained. This ensures that the positive benefits of co-management may not be felt in the immediate future, and the marginal benefits initially gained from co-management's implementation may ultimately decline. Because the co-manager remains external to

the resource itself, and does not own it, s/he may eventually become excluded from the management system, and the sustainable management of the fishery cannot be considered to have been achieved. If, however, the co-manager is the principle user of the resource, and has no other major alternative source of livelihood, the situation becomes considerably more complex, and it is for this reason that it is argued here that there is need to move ahead from co-management to full property ownership.

(iv) Develop capacity of BMU members

BMU capacities have been enhanced through training of BMU executive members. Such trainings have been based on assumption that these executive committee members would in turn train BMU members on areas in which their capacity has been enhanced. However, this has not been the case. Initially the committees were given rigorous training on running a BMU. However given the turnover of BMU officials, those who received training had not imparted the same knowledge to the members. Thus when new officers were elected they took office very green. This is what was observed in Nyakasenge BMU. It is important and prudent therefore that capacity enhancement should also extend to the ordinary members. Efforts should be made to train trainers in each village of the district who can then in turn enhance BMU member's capacity on a periodic basis rather waiting for donor funds to train BMUs.

8. CONCLUSION

This case study on Nyakasenge BMU indicates that the need for alternative management regime for Lake Victoria has already engendered several potential viable viewpoints. Fisheries in most areas of the globe have run into problems. It is only in a few areas that the current management regimes are seen as adequate and delivering sustainable development of this renewable resource. In those areas where fisheries management has been successful, it has been based on property rights, legitimacy of regulations and the operation of a free market. It is therefore imperative to review the Tanzanian fisheries policies with a view to developing a Lake Victoria Fisheries Policy (LVFP), one that would be based on equity, legitimacy and property rights. Such a policy should clearly strive to make management of the lake a deliberate agreement. The policy should also improve the ability of the lake users to negotiate. This can be achieved through building a stronger network of BMUs in the case of Lake Victoria or fishers'groups/associations.

Nyakasenge BMU has shown that there are areas in which they perform better than the others. For example, conflict resolution is one such area. Other areas include collaboration with other BMUs as well as enabling various stakeholders to be represented in the BMU. In a nutshell it can be observed that BMUs accomplish well tasks which involve them interacting among themselves, responsibilities which require self (BMU members) control or respond to issues affecting them. This is an indication that collective action is built around problem-solving. This is why Nyakasenge BMU is good at conflict solving and providing opportunities for various groups to be active in the BMU. BMU institution is therefore used by members to solve their problems in their specific contexts. This is an entry point to strengthen the BMUs. It is important to build in these institutions the ability to address their problems. Moreover it is important to enable these institutions to conceptualise fisheries resources as their own as argued in the previous section. When these resources are perceived to be owned by the BMUs then any arising problems from them would be seen as their problem and as such they will use their abilities to address these successfully.

Secondly, Nyakasenge BMU has shown that they are able to address their problems in an interactive manner. As they address the conflicts among themselves, they have done this through an interactive process, as they address welfare issues such as death

of one of them or of a relative of one of them, and they have learnt that interaction is crucial. Through interactions they have managed to confront food supply problem, they have become self-reliant in addressing their livelihoods and welfare and enhancing income. They have also been able to build their community identity and retain their culture. Interaction is therefore an important ingredient for collective action. Indeed as Kooiman (2003) has argued, there is neither single actor nor public nor private with the requisite knowledge and information to solve complex, dynamic and diversified societal problems. None has a sufficient understanding and actions to dominate. For this reason, interaction of actors as have been shown by the Nyakasenge BMU is a lesson that can be used to strengthen collective action. It is important to note that collective action among communities such as the Nyakasenge have centred on improving communal services to the members, but the community does not live in isolation or in an island in a symbolic manner but with several players both from the private and public sectors. Thus interaction among these actors is essential in ensuring achievement of collective action problems.

This study has shown that Nyakasenge BMU members are endowed with various capabilities. It is these capacities that are crucial and have been driving collective action activities among them. The study has observed that they have a deeper understanding of their environment and conditions. They know how to manoeuvre in their villages as they address their problems. Thus it is important to look at them as partners rather than clients in addressing collective action problems as well as strengthening the same. They know how to use their social capitals to work together to plan and run their projects that change their communities. Given their experience they have learned to cooperate and interact among themselves. Thus in order to strengthen their collective action it is important to recognize their abilities including the capability to make choices. In other words collective action should be built around expansion of human freedoms (Sen, 2009) and capabilities.

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9. Tara Bandu as a coastal and marine resource management mechanism: A case study of Biacou, Timor-Leste

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ACRONYMS

MAF	Ministry of Agriculture and Fisheries
NDFA	National Directorate of Fisheries and Aquaculture
RFLP	Regional Fisheries Livelihoods Programme for South and Southeast Asia
UNTAET	United Nations Transitional Administration in East Timor

GLOSSARY

Aldeia: Hamlet.

Lulik refers to as the realms of the sacred (Barros Duarte, 1975; Hicks, 1984; Loch, 2009; McWilliam, 2001, 2005; Palmer, Niner, & Kent, 2007; Trindade & Castro, 2007), the holy (Field, 2004; Nixon, 2008) or the taboo (Forbes, 1884; Pannell, 2006). It has been defined as spiritual potential (Molnar, 2006) and even magic (Ospina & Hohe, 2001). All considered *lulik* is set apart (Hicks, 2008), potentially bounteous but equally dangerous and malevolent if not correctly approached (McWilliam, 2003). As defined by Traube, "*lulik*" signifies a "*relation of distance*." (Traube, 1986). The reader might find confortable to translate it as "sacred".

Suco: Administrative sub-division formed by a set of hamlets of *aldeias*.

Suco Council: Formal advisory body to the Suco Chief. Its operation and structure is regulated by law.

Uma lisan: Literally "traditional house". Kingroup with a common original ancestor (See footnote 9).

Uma lulik: Sacred house of each *Uma lisan*. Considered to be located in the original land of the kin group.

Rai na'in: Literally "land owner". It can refer to the lineage with a preferential access over a given land or to the spirit that inhabits the land.

Rai na'in kar bua malus: Ritual authority of the lineage with the role of dealing with all matters linked to the realm of the *lulik*.

Village or Aldeia's Council: an informal structure whose members are appointed by the Chief of Aldeia and who assists him in decision making

1. INTRODUCTION

For the purposes of this study, *Tara bandu* can be broadly understood as a regulatory mechanism aimed at governing the relationships among humans and between human and non-human entities (spaces, objects, animals, crops, the state, the environment, etc.). It can be considered both a custom-based regulatory mechanism and a newly supported organizational form (Kurien, 2013). However, it is not a formal organization nor is it recognized or regulated under State law. Endorsement of the Tara bandu requires ritual performance. Penalties for violating its provisions may include payments of foodstuff and animal meat that are consumed in a public event.

FIGURE 1
***Horok* marking the existence of the ban**

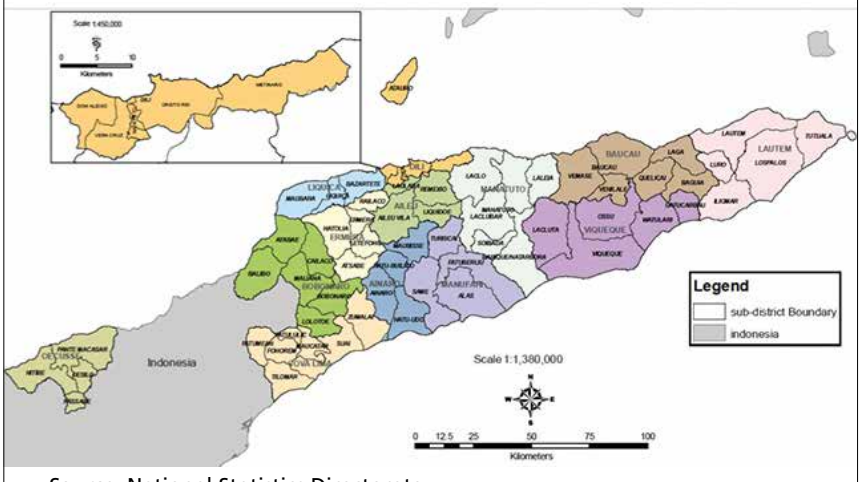
Photo: Junior Carvalho (NDFA)

In Tetum language, *bandu* means literally "prohibition" and refers to a wide array of restrictions and forbidden behaviours. *Tara* refers to the act "hanging" something. Literally, *Tara bandu* could be translated as a "hanging prohibition". The act of hanging is not only a metaphor of the transitory nature of the *Tara bandu*, but may also be related to the *horok* (in Tetum), a hanging object marking specific restrictions of access to spaces or crops that reminds the passer-by of the prohibition at stake in a given place.

The hamlet of Biacou

Biacou is a small fishing village located in the District of Bobonaro, Sub-district of Atabae, Suco Aidabaleten. The District, with a total population of 89 787, is located in the northwestern end of the Timor-Leste territory, marking the boundary with the Indonesian province of Nusa Tenggara Timur (See Figure 2).

FIGURE 2
District map of Timor-Leste



Source: National Statistics Directorate

FIGURE 3
District map of Bobonaro

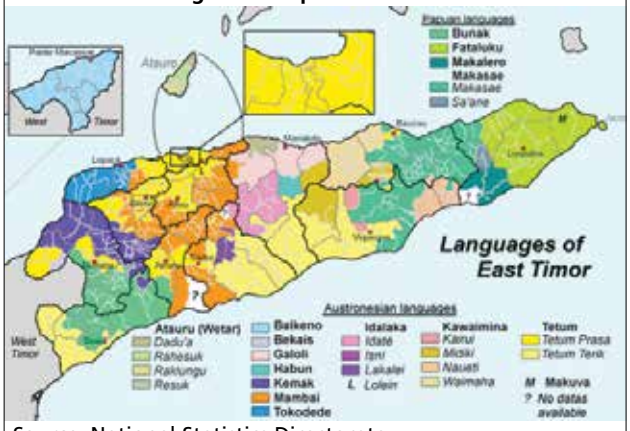
Source: Wikipedia

FIGURE 4
Aerial view of the hamlet of Biacou

Source: Google Earth

Three linguistic groups occupy the territory of Bobonaro: Bunak, Kemak and Tetum. The Bunak speaking groups are mostly located in the southernmost mountanious areas of the district; the rest of the District's territory is split between the Kemak, in the East and Northeast, and the Tetum speakers of the central mountains and the area of Balibo, right in the Indonesian border (NW). Biacou is located in the Kemak linguistic area. It is situated around four hours by car from the capital Dili and around two to three hours from the capital of the District, Maliana, wich lies in the mountanious areas of the center of the island. The settlement of Biacou follows the path of the road that links the two cities. In a valley located right in the coastal fringe, it is bordered throughout the North by a mangrove area that leads to the sea (locally known as the *Tasi feto* –Woman sea) and through the South by the mountains. The last census data (NSD, 2010a) recounted a total population of 507 inhabitants in the hamlet, 259 men and 248 women, who live distributed in 84 households with an average of 6 members/household.

FIGURE 5
Linguistic map of Timor-Leste



Source: National Statistics Directorate

The households of Biacou base their economies on a mixed livelihood strategy. Fishing is one of the main sources of income in the hamlet. Inshore fishing and reef gleaning, along with salt production and some seasonal occupations are complemented with mixed crop-livestock farming. The last Census of Fishers and Boats of the National Directorate of Fisheries and Aquaculture (NDFA) registered 44 fishing boats in Biacou, most of them small canoes for solo fishing. Mechanized canoes employing

two to three crewmembers are equipped with small long tail or 15 hp outboard engines. Fishing techniques range from simple gillnets (bottom gillnets for reef fish and drifting gillnets for small pelagic) to hook and line. Local producers also use small cast nets as well as spear fishing. Reef gleaning is a widespread activity among the population, mostly among women. Unlike many of the neighbouring fishing communities, the natural bay where Biacou is located allows for many fishing days per year despite the small fleet, as the bay is protected from strong winds and big waves. For the most, marine products are sold locally along the road that links the capital Dili with the fourth biggest urban centre in country, Maliana. The marketing of fish is carried out either by the own producers or by their direct family members, who can get a small margin of the total profits. Given its distance to the capital Dili and its strategic location in the road, deals with bigger middle traders only occur when the catches are high.

While rice is one of the main crops cultivated in the *Suco*, the inhabitants of Biacou grow mainly maize, cassava, vegetables, fruits and coconuts for their own consumption with little surplus for the market. Daily meals, in which rice has a primary symbolic role (see Shepherd & McWilliam, 2011), are also complemented with forest products available around the village, such as the leaves of *Moringaceae*. Data available for the sub-district of Atabae shows that 93 percent of the households rear animals (NSD, 2010b). Beyond their use as food and savings, animals are reared to cover the demand regulated by the ritual obligations of the *Uma lisan* [kin or origin house group] of which all households are part of (Alonso Población, 2013). Apart from chickens for consumption and the cockfight market, the most common reared animals in the sub-district are, in order of importance: pigs, goats and buffaloes. These species are subject of customary ritual exchange – as it is common during marriages and mortuary rituals, so the households ensure they have ready available stock for their ritual obligations.

Relevance of the case study

The relevance of the present case study in contributing to the implementation of the Voluntary Guidelines for Securing Small-Scale Fisheries in the Context of Food Security and Poverty Eradication lies in several reasons. The *Tara bandu* of Biacou establishes, although is not limited to, measures of resource conservation, management and enforcement set up by the community members. Unlike most *Tara bandu*, this one extends its reach to marine and coastal resources. This *Tara bandu* was not a measure imposed by the state institutions or by development agencies, although community leaders received further external support during the process to establish the governance arrangement. Far from being an alien measure imposed anew, it represents an example of the revitalization of a customary practice and a claim for the assertion of land, coastal and marine rights, resource exploitation and management by the local community. This case builds upon local beliefs, mixed in complex ways with modern ideals around environmental protection and the state. It takes place in a context of state formation and legal framework development, but with lack of enforcement. The present *Tara bandu* represents the result of a positive collaboration between different stakeholders, including the community members, political and ritual leaders, state institutions (National Directorate of Fisheries and Aquaculture) and a livelihoods project (the FAO-executed Regional Fisheries Livelihoods Programme for South and Southeast Asia). It is the only *Tara bandu* currently active involving coastal and marine resource management that has been written, mapped and is publicly available.

Outline of the case study

The outline of the present case study is based on inputs from the FAO Workshop on Strengthening Organizations and Collective Action in Fisheries: A Way Forward in Implementing the International Guidelines for Securing Sustainable Small-scale Fisheries held in Rome, Italy on 18-20 March 2013 (FAO, 2013).

This introduction provides insight into the background of the present study, the research methodology and provides an overview of the hamlet of Biacou. In the first part, a general overview is provided on collective action and organizations in the fisheries sector in Timor-Leste, including a brief description of the development of the cooperatives sector as well as the custom-based resource management mechanisms. This latter section includes some historical notes on *Tara bandu* as well as a brief analysis of the impacts the subsequent political and religious regimes had in its development.

The third part contains the in-depth study of the organization, including descriptions of its origins and purpose, function, governance structure, gender issues, networking, coherence with principles, empowerment and self-reliance, distributive justice and sharing and transference of knowledge. This section is preceded by a chronology of the facts that the community members considered important for the development of this local resource management measure.

The last two sections account for the positive achievements, weaknesses and challenges, and provide a brief analysis of the factors that are considered key to success. As well, the challenges to avoid dormancy or failure in the current economic and political context of Timor-Leste are accounted for.

Finally, a brief set of conclusions summarizes the results of this analysis. Provided that the present analysis is aimed at being incorporated in a comparative transnational study, the recommendations provided tend to be more general.

Research methodology

The present case study is based on fieldwork conducted in October 2013. It should be noted that as ex-RFLP (Regional Fisheries Livelihoods Programme for South and Southeast Asia) officers, two of the authors of this study were involved since 2011 in assisting the community of Biacou in the development of this local arrangement, the documentation of the community discussions, mapping and drafting of the regulation, disseminating the founding document as well as the preparation of the ceremony. Both were also engaged in the internal technical discussions and attended the ceremony of the *Tara bandu* performed by the community.

Desk research and qualitative fieldwork comprised the main research techniques for this case study. Desk review involved:

a. Analysis of the legal framework related to locally-based marine resource management in fisheries;
b. Analysis of the documentation available on the *Tara bandu* of Biacou, including maps, documentation, fieldwork notes from the time of implementation, photos and audio-visual material from the drafting process since 2011, the public dissemination of the local regulation and the ceremony;
c. Bibliographic review of materials related to the *Tara bandu* in Timor-Leste.

Qualitative research methods included:

a. Key informant interviews with political authorities (Chief of *Suco* and Chief of *Aldeia*), the main ritual authority (*Rai na'in kaer bua malus*), representatives of the Catholic Church, women's representative in the *Aldeia's* Council, current District Fisheries Officer and staff from the Department of Fisheries Resource Management (ex-Fisheries Officer in the RFLP) of the National Directorate of Fisheries and Aquaculture.
b. Semi-structured interviews with fishermen, reef gleaners, middle traders and farmers from the community of Biacou.
c. Participant observation.
d. Informal conversations and short interviews, including two group conversations with youth (one with male youth and one with female youth). These group

conversations with young people from the village were done separately after some formal group discussions were unsuccessfully organized. The formality of a group discussion moderated by older people (one of them a foreigner) proved not to be an adequate technique.

e. Two focus group discussions with people involved in economic activities or livelihoods that have been directly affected by the regulatory mechanism: one discussion group was held with the five men who were punished for having violated the *Tara bandu*, and a second focus group discussion was participated by five salt producers.

f. A series of meetings were held with key staff from institutions that are implementing or directly involved in programmes that promote the *Tara bandu* (UNDP, The Asia Foundation and the Conselho Nacional da Juventude) as a measure for conflict prevention. As well, a meeting was done with a representative of the National Directorate of Cooperatives.

In total, 37 people participated directly in this first fieldwork phase. Distribution by age and occupation is specified in Figures 6 and 7 (excluding officers from institutions).

FIGURE 6
Distribution of informants by occupation

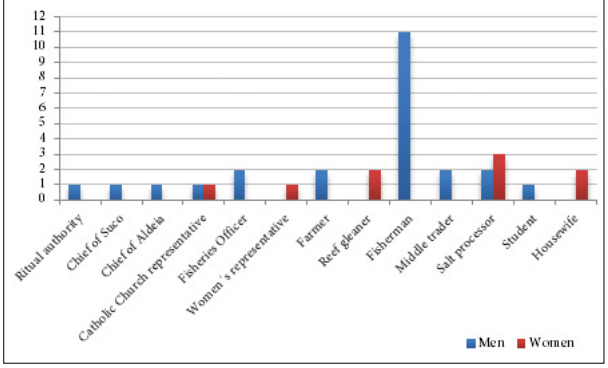
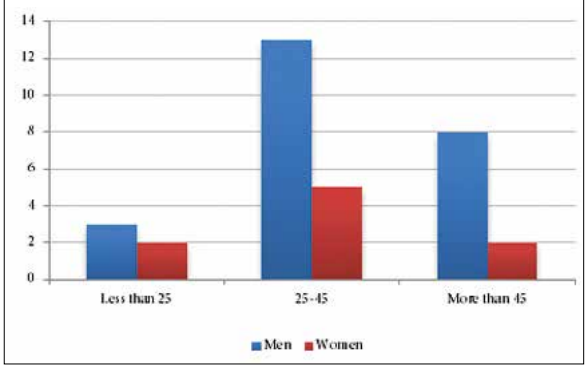


FIGURE 7
Informants' distribution by age and sex



Once the initial data gathering was accomplished, a participatory validation and diagnosis workshop was held. A total of 22 inhabitants of the village of Biacou and two neighbouring villages took part in the workshop. Among them, four salt processors (three women and one man), 11 fishermen, three staff from the NDFA and one extension worker, two Chiefs of *Aldeia* and one middle trader. The workshop was structured as follows:

a. In the first part, the preliminary results of the data available (primary and secondary) were presented to the participants;

b. The participants were then split in two groups: one formed by inhabitants of Biacou and one formed by the inhabitants from the neighbouring villages where there is not an active *Tara bandu*. Both groups discussed about the positive and negative aspects of having an operative *Tara bandu* as well as the challenges that the locally-based management measure is facing and might face in the future.

Part I Fisheries organizations and collective action in Timor-Leste

Beyond a high variety of informal arrangements between fisher groups and middle traders, collective action in fisheries in the young nation of Timor-Leste currently takes place mostly through cooperatives and custom-based measures of resource management. Although this case study is focused in a *Tara bandu*, we considered it worth briefly describing the evolution of the cooperatives, which have been promoted by the different state regimes in the last 30 years. By doing so, we contribute to a

broader view of the fisheries organizations and the collective action in country but also provide an overview of the developments of the sector since the Indonesian occupation in 1975.

Cooperatives

Little documentation is available on the transformations that occurred in the Timor-Leste fisheries sector during the last century. During the Portuguese colonial period (1512-1975), available documents (Figueiredo, 1966, 1968) reported on a fleet dominated by small canoes similar to nowadays boats, but powered mainly by sail and paddle. During the colonial era, technological transfers were regular with the neighbouring islands, while Portuguese officials introduced cotton gillnets and small cast nets. Attempts to boost a transformation of the sector were initiated during the Indonesian time (1975-1999) (see Gunn, 2003). Motorized boats gradually substituted sails and new boat building and fishing techniques were introduced. Cooperatives were promoted and bigger mechanized boats along with nylon fishing nets entered the fishery. The Indonesian New Order attempted a productionist revolution (Gunn, 2003) by promoting the establishment of fisheries cooperatives to channel state aid; boats, nets, and engines were provided to the newly established organizations. In addition, they promoted fishing for small pelagic species, which were in higher demand, introducing trawls, beach seines as well as different types of nylon gillnets.

Currently, there are few remnants of some of the Indonesian attempts of modernization. The cooperatives failed for the most part, much of the donated equipment (such as fiberglass boats) fell out of use and the fisheries infrastructure was burned or destroyed at the time of the Indonesian withdrawal in the period 1999-2002 (MAFF, 2001). Based on the scarce data available, only about 200–300 paddle canoes and around 100 motorized canoes remained operational at the time of independence in 2002. Furthermore, it has been reported that because of political reasons and given the civil unrest, the newly introduced technologies did not benefit most Timorese crews (MAFF, 2001). Added to this, the operation of the cooperatives was hindered by the interference of Jakarta political and military elites who perceived regular interests from the fishing activity (Gunn, 2003). Only some of the innovations introduced, such as the use of gillnets and fuel powered engines remained, but their use might not have been consolidated until the arrival of post-conflict emergency projects, whose main outcome was to handover equipment.

After independence, the state institutions tried again to boost the development of cooperatives. A Cooperatives Law was developed in 2004. Although the legal framework did not set up specific provisions for the fisheries organizations, it established a series of principles, types of cooperatives and organizational requirements, recognizing fisheries as one of the potential branches of the cooperative sector. In 2008, under a new programme aimed at boosting cooperative action in the sector, the National Directorate of Cooperatives (currently under the Ministry of Tourism, Commerce and the Environment) initiated actions with the aim of creating one fishing cooperative per district. Several cooperative organizations where established in the districts of Liquiçá, Dili-Atauro, Manatuto, Lautem, Manufahi, Bobonaro and Viqueque (see map in Figure 2). They were provided legal status, organizational statutes, a standardized operational structure as well as training on cooperative principles, values and management. At the request of the newly established organizations, the National Directorate also assisted with the provision of an institutional identity, participated in the general assemblies and provided support with the initial operations and the selection processes of the management teams.

With the exception of two cooperatives in Atauro, where the longest fishing tradition in Timor-Leste has been reported (Barros Duarte, 1984; Magalhaes, 1918), the remainder are currently inoperative. As occurred during the Indonesian time, one

of the main functions of the cooperatives was to channel state aid and consequently a crucial incentive for producers to form this type of organization was the promise to receive fishing equipment. The National Directorate of Cooperatives, along with the NDFA and other state and non-government organizations, distributed fibreglass boats, outboard engines, solar panels, freezers, fishing nets and other basic fishing equipment. Once the handover of equipment was discontinued, most of the cooperatives ceased their activity. Furthermore, as identified by staff from the National Directorate of Cooperatives, most of the cooperatives were set up by top down decisions of political leaders, creating in no few occasions, centres of power that would challenge the formal political structures and/or the customary leadership in the local level. Nowadays, only the cooperatives of Northeast and East Atauro are functioning. One of them is a fishing cooperative, the other brings together seaweed farmers. Recently, both organizations formed a union. Although an analysis of the success of these two fishing cooperatives is out of the scope of this case study, the common interest in getting a better control over the final prices for the product (as in the specific case of the seaweed cooperative) and the continued support received by the state and NGOs could be pointed out as factors accounting for their continuous operation. Also the presence of charismatic figures, the specificities of the island fishery (highly dependent on the Dili market and the transport of fish from neighbouring islands), along with the specific ethics promoted by the Protestant Church should be explored as cofactors.

Currently, the National Directorate of Cooperatives is planning to continue support to cooperatives and a new legal framework is in preparation. A plan has been announced to support the most successful cooperatives in establishing a *Loja do Povo* (Shop of the people) in each district, a place where each organization would sell their production directly to the local consumers. These plans are however under discussion and little information was available at the time of this study.

Custom-based fisheries resource management measures in Timor-Leste

Since independence in 2002, Timorese society has witnessed the revitalization of customary arrangements and rituals (Mcwilliam, 2010; Palmer and De Carvalho, 2009; Bovensiepen, 2014); hybrid practices that mix in complex ways indigenous practices and moral codes with modern notions as the individual and nature. This resurgence has brought along discussions among CSOs, NGOs and state institutions on the nature, coherence and scope of these schemes in the context of the modern state. The revitalization of custom-based practices has to be understood in light of some contemporary and historical facts: namely, the collapse of the market economy after the Indonesian withdrawal (McWilliam, 2010), the attempt of communities to get a role in state formation (Palmer and De Carvalho, 2009), the function of ritual practice in allowing communities dealing with past conflicts arising from the Indonesian regime (Bovensiepen, 2014) mixed with the search for the construction of national identity or the lack of enforcement capacity by state bodies.

Precedence at a glance: notes on the social differentiation principles

In Biacou, as in many other settings in Timor-Leste, an origin narrative establishes the order of arrival of the different lineages residing in the area. One of the local narratives of Biacou, for example, explains that the land where the settlement is located was solely inhabited by members of an original lineage (lineage A). During mythical times, this lineage shared the land with two other lineages (B and C) as an appreciation for their assistance in war affairs. On the basis of this narrative, inhabitants in the area consider that members of these three lineages (A, B and C) are *Rai na'in* or those with preferential access to the land. This social form, where some individuals or groups have a preferential access to the governance of tenure on the basis of an origin narrative has

been described by ethnographers at locations spread along Southeast Asia and Oceania and has been conceptualized as precedence. In broad terms, precedence refers to a specific principle of social differentiation structured on the basis of origin (see Fox 1995, 2009). Each of these original lineages or kin groups has ritual leaders who are believed to be able to communicate with spirits and ancestors through ritual practice. Local inhabitants consider that any issue related with the governance of tenure requires communication with specific spirits and the ancestors. In this process, ritual leaders act as brokers, while enforcement lies on the shoulders of the spirits. *Tara bandu* is one of these rituals.

Tara bandu during the colonial period

It is not possible to delineate the origins of the *Tara bandu*. However, based on documentation available, *Tara Bandu* (in Tetun) existed as a measure to regulate seasonal or periodic resource harvesting restrictions. This seasonal ban was practiced by the original lineages in their home lands to regulate access to specific resources for the sake of their interests (Meitzner Yoder, 2005, 2010). During the colonization period, the irruption of a new administrative system imposed by the Portuguese (De Carvalho & Coreia, 2011), the fight among the colonial powers to conquer the loyalty of the different *liu rai* (kings), the weakening of the local kingdoms caused by the new hierarchies derived from the sandal commerce, the successive Christianisation campaigns, the conversion of the kings and the intersections between religious and political power, the normal state of war among the kingdoms (Gunn, 1999) have been regarded as causes that eroded these practices. However, evidence shows that the Portuguese did not always frontally opposed the customary practices but used local rituals for the sake of dispute resolution. In any case, it is not possible to delineate to which extent these kind of practices existed before or were even reinforced as part of the colonial administration.

Ritual practices during the Indonesian time

With the arrival of the Indonesian occupation, indigenous ritual practices and figures were severely impacted (see Mubyarto *et al.,* 1991). This happened for several reasons. On one hand, the Indonesian state openly disregarded the authority of the customary leaders (Meitzner Yoder, 2005). A new administration structure was imposed where new figures as the *Kepala-desa* (chiefs of village) took over the local political leadership. State officers from the department of forestry and agriculture were given authority over natural resource management and a forest police was created who took over the roles of the *kableha* (those who traditionally supervised the correct implementation of the *Tara bandu*) (De Carvalho & Coreia, 2011). Given the Timorese resistance to the military regime, police and military forces were an integral part of the local administration. Based on the informants' recounts, the Indonesian military prohibited community gatherings both for obvious political reasons linked to the conspiracies arising from the resistance movement but also because they feared that by conducting rituals the Timorese were using their magic towards them.

The violent control over the traditional ritual practices were also motivated by other ideological precepts. The principles of the *pancasila* were established by Sukarno and further supported by Suharto as the ideological foundations of the Indonesian state. Among the five principles of *pancasila*, the first one was the belief in the divinity of god. As a result of this code, the state obliged the population to adhere to any of the five official religions recognized by the state.

Religious regimes and policies of conversion

Despite the long presence of the Catholic Church in the island (since the beginnings of the XVI century) the imposition by force of the principles of *pancasila* by the military regime resulted in the largest increase of Catholics ever recorded: from the 20 to 30 percent (Fidalgo, 2011; Gunn, 1999) to the 90 percent of the population became regarded as Catholics after reported "mass conversions" (Legaspi, 2011) in order to avoid being regarded as "communists" (Mubyarto et al., 1991).

While most part of Timorese converted to Catholicism, inhabitants of the island of Atauro did convert for the most into Protestantism. The different religious regimes however, operated opposite styles of conversion (see the works of Bicca, 2011). While the Protestant Assembly of God did promote a rupture with the animist base, the Catholic Church, animated by the policies resulted from the Second Vatican Council, constrained by the local resistance of populations to embrace a rupturist approach and weakened by the lack of human resources, carried out a partial conversion. As a result, the indigenous moral codes coexists in various ways with the Catholic morals (see Bicca, 2011; Fidalgo Castro 2011, Bovensiepen 2009 and Silva 2013). In a context of state formation and nation-identity building, this indigenous ritual practice (mixed in complex ways with Catholic morals) is having a crucial role.

Social cohesion and tenure

During the Indonesian New Order regime, the most productive land as well as the territories abandoned by the landowners who opposed the Indonesian pro-integration movement was delivered to state army-backed companies or to individuals or companies supportive with the regime (Aditjondro, 1994).

In regards to landownership and social cohesion it is relevant to mention the effects of the forced movement of people. Both during the Portuguese colonization and the Indonesian time, the ruling governments moved people from one area to another to fulfil workforce needs and destabilize local power. During the Indonesian period, the *transmigrasi* programme (in Indonesian –"transmigration programme") was a way to displace population from the densely populated islands (Java, Bali or Madura) to outer islands in a strategic movement to dominate the periphery, creating important disturbances and social conflict among the native and the newcomers, who enjoyed better working and economic opportunities (Mubyarto et al., 1991). On the other hand, the relocation of entire villages was common. In order to control the mountainous populations, where the guerrilla groups were established, many communities were moved by force to areas where they were better controlled by the state army. Furthermore, the Indonesian government, from a development oriented perspective, promoted new and more aggressive agricultural and forestry practices. All these issues furthered the erosion of social cohesion, contested *de-facto* the power of the customary authorities (already weakened by the Portuguese administration) and animated conflicts over land ownership that remain unresolved. Currently, local discourse link inextricably forest abundance to traditional management practices and the current environment degradation to the Indonesian governance regime.

Tara bandu today

Today a wide range of *Tara bandu* coexists, regulating many different realms of the social life. The brackish water lagoon of *Be-malai*, where saltwater crocodiles inhabit along with prawns and a diverse range of fish species, is regulated under a *Tara bandu*. In February, marine water invades the lake and flows again into the sea. From that time on, the fishing in the lake is completely forbidden. However during the month of August, the ban is lifted and big fishing sessions are held during several days. In a similar fashion, a customary ban exists in Liquiçá regulating the harvest and market

of maize. Once the crop is ready for the harvest a ceremony called *Sau batar* is held marking the lifting of the prohibition to harvest, which is not re-established until the end of the season and the planting of the new crop.

However, the contemporary use of *Tara bandu* goes beyond seasonal resource management measures and serves as a mechanism of dispute resolution or conflict prevention. In post-independent Timor-Leste, a custom-based justice operates *de-facto* in parallel to the formal justice system (The Asia Foundation, 2008). Several surveys reveal that local justice remains the favoured mode of dispute settlement across most segments of the citizenry (The Asia Foundation, 2008). As a result, a number INGOs, NGOs and government bodies have promoted the use of *Tara bandu* for the sake of dispute resolution (see Brandão *et al.,* 2013).

Environment conservation is also a new focus of *Tara bandu*. Since the time of independence, the local organization Haburas Foundation (Haburas Foundation, 2001) has been the main advocate for the use of this customary practice as a measure for nature conservation. While environmental conservation in western terms means a shift in the cosmological basis and sometimes encompasses idealized portrayals of the past times (Meitzner Yoder, 2005), the strategy of re-purposing (Pompeia *et al.,* 2003) the customary ban for nature conservation have provided positive results (De Carvalho & Coreia, 2011; De Carvalho, 2007). As well, the use of *Tara bandu* has been promoted by some organizations in order to animate changes in agricultural patterns (Shepherd, 2009).

Custom-based contemporary practices and marine tenure

Archaeological data in Timor-Leste evidences an ancient fishing and sailing tradition (O'Connor, Ono, & Clarkson, 2011). However, Timorese society has maintained what McWilliam has called a "inward-land based orientation" (McWilliam, 2003). Either because of this reported weak fishing tradition that tends to shock any external observer at a first glance, or because of the lack of interest by analysts on the marine landscape of Timor, little is known about the custom-based resource management mechanisms or marine tenure rights that exist. Overall, the sea, like the land, is subject to a variety of narratives which take place in unspecified times, and are mainly known and transmitted by the ritual leaders. These narratives set the canonical explanations of the origin of each lineage and its relatedness with other lineages, providing legitimacy to assignations of rights. They are also used as arguments in conflict resolution and serve to inform the logics of causation and assignation of liability for a wide array of occurrences. As well, origin narratives serve to identify all those subjects, objects or entities that are locally considered as *lulik*, be subject of special treatment and worship.

Marine animals, as the terrestrial ones, can be deemed as *lulik*. For example, in the village of Makili (SE Atauro) an origin narrative explains that the "avó feto" [grandmother, ancestor] of one lineage is a turtle. As such, turtles are subject of special treatment by the members of the lineage. Another example can be found in a widespread origin narrative that explains that the origins of the land of Timor is a crocodile and the island is a half-submerged reptile (Fox, 2003; McWilliam, 2003). For many Timorese, crocodiles are considered *lulik,* they are subject of worship, fear and respect, and despite they cause a high number of deaths each year (Tsujimura, Alonso, Amaral, & Rodrigues, 2012), they are rarely killed. Also whales, sharks, dolphins or eels (King, 1965) are considered ancestors in different areas and as such their capture or consumption is forbidden (see Fidalgo Castro, 2013 for other examples of food prohibitions).

As occurs with land tenure, some lineages have preferential access to their original land, but also sea-spaces. For example, the area of the island of Jaco, where special prohibitions exist (as hunting or agriculture production) is a locus of ceremonies and worship (McWilliam, 2003). Something similar occurs in an area of Bobonaro near the

hamlet of Biacou, where a narrative recounts that a *lulik* ancestral stone with magical powers from the neighbouring island of Alor lies in the bottom of the sea. The area where it lies is a focus of annual ceremonies and it is considered dangerous to fish over it. The *Tara bandu* is one among these custom-based mechanisms of resource management and marine tenure governance. The case of Biacou is one example among many.

Part II Documentation review

Legal basis

The importance and legitimacy of the customary laws is envisaged in the Constitution. Section 2.4 of the Constitution states that: "The State shall recognise and value the norms and customs of East Timor that are not contrary to the Constitution and to any legislation dealing specifically with customary law." However, until now there has not been any formal recognition of the customary law or any guidance or regulation establishing the relation between the formal and the customary law. As such no legal definition of what a *Tara bandu* is, or should be, has been put in place.

At the end of 2008, the Ministry of Justice began the process of drafting a legal framework for the customary law. At the time when the present case study was accomplished, the law has still not been formally approved; however a first draft has been released for public discussion. Also a draft of the law of the land was drafted and released in 2009, and has been under public discussion ever since. Furthermore, a law on protected areas is in preparation. The approval of all these legal frameworks will affect the *Tara bandu* as it functions today, although their impact will depend on the final content and its enforcement.

When it comes to the scope of action of the local authorities (Chief of *Suco* and Chief of *Aldeia*), the Law 3/2009, of 8 July 2009 on Community Leaderships and their election establishes "Environmental protection" as one of the field of activities of the Chief of *Suco* and the local advisory body, the *Suco* Council. Among its responsibilities, the law accounts for: the promotion of "a continuous consultation and discussion process with the whole community on the planning and execution of community development programs" as well as to "Favor the settlement of minor disputes involving two or more of the *Suco*'s Villages". Among the responsibilities of the Chief of *Aldeia* the law envisions to "Favor the creation of base structures for the settlement and resolution of minor disputes occurring in the Village", to "Promote the respect for the law and cooperate in the pursuance of social stability" as well as to "Promote the consultation and discussion between the Village inhabitants on all matters in connection with the community life and development, and report to the *Suco* Council". Although all these responsibilities are linked to the objectives and purpose of the *Tara Bandu*, the same legislation states in its article 2 that "The community leaders are not included in the Public Administration and their decisions are not binding upon the State."

In the fisheries legal framework, the following articles are linked to local resource management:

- Article 78º envisages that the exploitation of the fishing resources should be guided by the principles of sustainable use and precaution.
- The measures of protection (Article 78º DL 6/2004), the establishment of Marine protected areas and seasonal closures (Article 86º DL 6/2004) correspond to the Minister (Article 96º DL 6/2004)
- Article 140º of the Decree Law 6/2006 establishes that the leaders of the fishing communities and of the fishing associations have the capacity to proceed against the violations of the law.
- Among them, infractions as the use of explosives (Article 83º DL 6/2004), capture of juveniles (Article 84º DL 6/2004), coral extraction and fishing over coral (Article 85º & 91º DL 6/2004) as well as the use of illegal fishing

techniques (Article 87º DL 6/2004) or their incorrect use (e.g. Article 89º & 90 DL 6/2004). As well, the capture of protected species under Ministerial Diploma No. 04/115/GM/IV/2005, such as turtles.

- Article 171º establishes however that the Minister is competent to establish the sanctions for the infractions envisaged in the law. The National Director has the authority to establish the sanctions on issues regarding the artisanal and subsistence fishing sector.

The Government Decree law 5/2004, in its article 175º envisages the operation of co-management committees, which are set to be regulated in further legislation by the Minister. This regulation setting up the functions and structure of these committees has still not been developed at the time of writing this study. However, its development could provide more authority to local stakeholders over the management of the coastal and marine resources taking into account and better articulating the formalization of custom-based resource management measures as the *Tara Bandu*. Furthermore, if the *Tara bandu* was considered a co-management committee it would be summoned every three months to participate in the National Consultative Council. This Council (regulated under articles 173º and 174º) is envisaged under the fisheries law as the main body for policy advice that would meet every three months and would involve all stakeholders related to the sector. Unfortunately, the Consultative Council has never been summoned.

The description above shows the gap in which custom-based resource management arrangements as the *Tara bandu* falls out despite its recognition in the Constitution. As it will be shown, the regulation is promoted by the local authorities, endorsed by a number of stakeholders, agreed and followed by the inhabitants. However, it is not binding upon the state. Furthermore, the fisheries regulation, showing once more its inadequacies to the reality of the sector (Tsujimura *et al.,* 2012), does not have any mechanism to recognize these local management initiatives or to integrate them in policy development. In considering the integration of the *Tara bandu* and its recognition as a resource management measure, it should however be noted that: a) the cosmological basis underlying the *Tara bandu* might not fit with orthodox notions of environment management, b) the penalties are set up on the basis of a custom-based set of fines which might clash with the state legal framework, c) the multi-sectoral nature of the *Tara bandu,* which affects conflict prevention, forestry, land and marine resources would certainly be challenged if regulated under a single sectorial framework as the fisheries law, and d) regulating the Tara Bandu as a co-management committee would reduce its flexibility and adaptive capacity and would shift its purpose and nature. This *Tara bandu* sets the revitalization of an indigenous practice repurposed for resource management; in a context where the actual implementation of the fisheries legal framework presents important challenges to be met, this case presents an example of how collective action is ahead of policy and legal development.

Overview of the founding document of the Tara Bandu of Biacou

In May 2012, the ritual authorities, political authorities as well as members of the community acting as witnesses signed a document that summarized the agreements held during more than one year of social dialogue to establish the norms, penalties and regulation measures under the new *Tara Bandu*. The document explains the background and provides a justification for the re-establishment of the *Tara Bandu*, setting restrictions in three domains: human, spiritual and natural. Table 1 summarizes the spaces/resources under protection and Table 2 summarizes the penalties.

TABLE 1
Summary of the spaces/resources under protection

Lulik objects/spaces under protection	Forestry resources under protection	Coastal and marine resources under protection
Sources of water	Tamarind trees	Coral reefs
Namon. Place for rituals when there is no fish abundance	Sandal forest	Turtles
Oho no Rae. Place "where the spirit of the land inhabits"	Forest	Salt production area
Lulin Baun/Udan be'en. The "place of the spirit of the rain".	Cajeput tree[1]	Fish bombing and fish poisoning prohibited

A process for the resolution of conflicts and a series of penalties are also set up. Penalties include meat, consumables such as beverages, rice, areca nut and betel leafs or cigarettes. It is envisaged that all items are consumed in a communal feast once the reconciliation arrangement is achieved. The ceremony in which they are consumed and offered to the spirits is conducted with the aim of seeking forgiveness.

TABLE 2
Summary of the penalties

Violating once the Tara bandu, the offender(s) should provide	Violating twice the Tb, the offender(s) should provide	Violating three times the Tb, the offender(s) should provide
One goat	One water buffalo	One water buffalo
Two boxes of alcoholic beverages (palm wine/beers)	Two boxes of alcoholic beverages (palm wine/beers)	Four boxes of alcoholic beverages (palm wine/beers)
100 US$	100 US$	200 US$
Two sacs of rice	Two sacs of rice	Four sacs of rice
Two packs of cigarettes	Two packs of cigarettes	Four packs of cigarettes
Betel leafs and areca nuts	Betel leafs and areca nuts	Betel leafs and areca nuts

Box 1 presents the translation of the founding document.

Part III The Tara Bandu of Biacou, Bobonaro District

Origins and chronology

The chronology in Table 3 provides an overview of the process of the *Tara Bandu*, combining the events emphasized in the recounts of the informants (up to 2011) with the records of the researchers (2011-2013).

BOX 1
Founding document of the *Tara bandu* of Biacou

Background

Since the time of our ancestors, the people of Timor have been practicing our own culture. The Culture are the customs and the rules that we have developed over our history to regulate our relationships with each other, with the spirits, ancestors and the environment.

During the last centuries, Timor Leste has lived through the Portuguese colonization, Japanese invasion and Indonesian occupation. The country that is now Timor Leste has suffered from violence, war, violation of basic human rights and civil conflict during the last 100 years. Since our independence, Timorese society is going through a process of rapid change and growth.

Throughout these long historical processes, some aspects of our Culture have been used to maintain order while others have become lost and disappeared. Within our Suco Aidabaleten two issues need to be addressed; one is related with the use of our natural resources and spaces, and other is addressing frequent conflict among two youth groups from the Aldeias of Biacou and Miguir.

BOX 1 *(continued...)*

The process

In our capacity to govern our own lives in the contemporary context of our independent country, the people and local authorities of the *Suco* of Aidabaleten want to put in practice the customs that were taught to us by our ancestors. For these reasons we have accomplished this *Tara Bandu*, with the objective of managing some of our most valued natural resources and *lulik* spaces as well as seek to resolve the conflict between the young people of this *Suco*. Our final goal is to seek a renewed equilibrium with everything that surrounds us while maintaining and transmitting our values, environment and good relationships to the coming generations.

In order to do this, three meetings were conducted. The first meeting was held in November 2010 and a second one was followed in May 2011. During this second meeting, these larger issues were discussed and a goat and a pig were slaughtered as an offering and eaten by the participants in acknowledgement of the cooperation and agreement between all. After these smaller meetings, a larger event was held on day 28 of September 2011 involving the larger community. During this ceremony, in which the present agreement was reached, one water buffalo and one pig were slaughtered as offering and eaten in recognition of this law.

The events were attended by the local authorities and inhabitants of the different *Aldeias* involved. The *Lia nain* who carried out the ceremony on day 28 September were Mr. Manuel Pires, Mr. Albertino Pires and Mr. Berekasa. In their roles as *Lia nain* they were commissioned to take the oath, ask the spirits and interpret the signs. They agreed that the signs indicated that those who do not respect the normative principles of the present Tara Bandu will put themselves in a high risk. If they are seen by any person breaking the law of the Tara Bandu they will have to pay the fines specified below. But beyond this, those who violate the Tara Bandu and their future generations can be fined by spirits and ancestors by suffering disease, sudden death, and attack of crocodiles or other misfortune.

Reasons for this Tara Bandu

A. Conflict among young people

1. Youth groups from the *Aldeias* of Miguir and Biacou have long been in conflict. This conflict has only brought along hate and revenge between the inhabitants of the two *Aldeias*.
2. Suco Aidabaleten have different groups of martial arts and conflict must be prevented in order to maintain peace and harmony within our *Suco*.

B. Natural resources and spaces in Suco Aidabaleten

1. The area around the well (Bearagoa and Paaban). In the time of our grandfathers this area was considered *lulik* and respected. This was an area full of trees, a forest. During the Indonesian time the trees of this area were cut down but since then it has recovered and we wish to preserve the area.
2. The forest shrubs are important resources. They serves as food for the animals and are important to avoid the water of the rivers flooding to the hamlets. The area where this tree is was also exploited during the Indonesian time and today is damaged, so it needs our help to be recovered.
3. The *Namon* is a place for worship. When there is no fish, it is the custom to carry out ceremonies in this sacred place which has to be therefore respected.
4. *Oho no rae* (also referred as *Oho no rae*) is also a place for worship. Its importance is higher than the *Namon* as here we not only conduct ceremonies but also consult with the *Rai nain*, the spirit of the land.
5. *Lulin Baun.* This is the place of the owner of the rain, *udan nain*. As such, it is a sacred place that has to be respected to ensure the regular operation of the rain. It is also a place for worship and the accomplishment of ceremonies.

BOX 1 *(continued...)*

6. Mangroves. Traditionally this was not a sacred place, but recently we knew about the importance of this tree. The mangrove areas are important places for the conservation of biodiversity and the reproduction of the small fish and shrimp. The quality of this tree is very good and people extracted this wood without any control, so that mangrove areas have suffered.
7. Corals. As in the case of the mangrove areas, this was not traditionally prohibited. The coral is commonly used to make the lime that is consumed with the betel nut and areca leaf. During the Indonesian time, the extraction of coral increased as it was exploited for commercial use. For this reason, some areas have been negatively affected.
8. The salt production area. The exploitation of salt is one of the main sources of income for many families in the area and this livelihood is open to anyone that wish to work. For this reason any kind of appropriation by any individual with particular interests must be avoided and prevented (as by constructing a house in the common area). Even more given that the country is living nowadays changes in the ownership of land.
9. Tamarind. Tamarind tree is a shared resource available all around the Suco which price in the market has risen considerably in the last years. Currently, in the market its price is 50 cents per kilogram. Although all inhabitants have access to the resource, bad use (for example animals eating the fruits) or the resource degradation (for example people cutting the trees too quickly) must be prevented.

Law of Tara Bandu

Based on the facts specified above:

A. In regards conflicts among the young people:
   1. Fights among youth groups of the different Aldeias [are prohibited]
   2. Fights among martial art groups within the Suco [are prohibited]

B. In regards the resources of the Suco:
   1. The sources of water of Baragoa and Paaban [are under protection]
   2. It is forbidden to clear or burn the underbrush without control
   3. The *Namon* can not be spoiled
   4. The *Oho no Rae* can not be spoiled
   5. The *Lulin Bauk/Udan beén* [can not be spoiled]
   6. The mangroves cannot be cut
   7. The coral cannot be collected and destroyed
   8. The salt production area cannot be occupied
   9. The tamarind tress cannot be cut down
   10. Turtles cannot be taken and their eggs cannot be collected
   11. Only during the day of the Keri seli, people can enter in the *Lulin baun*. Only the day after the ceremony, the bats can be hunted and their excrements collected. The ban is reestablished one day after.
   12. The sandal trees cannot be cut down
   13. Fish bombing as well as the use of poison is prohibited
   14. The cajeput tree can not be collected without control. Its fruit can be gathered, but the trees cannot be cut down.

Sanctions

1. If any of the norms of the *Tara Bandu* is violated one time, the offender must give to the community, the Chief of *Suco*, the Chief of *Aldeia* and the ritual authorities:
   - One goat
   - Two boxes of alcoholic beverages (palm wine/beers)

BOX 1 *(continued...)*

- 100 US$
- Two sacs of rice
- Two packs of cigarettes
- Betel leafs and areca nuts

2. If any of the norms of the Tara Bandu is violated two times, the offender must give to the community, the Chief of *Suco*, the Chief of *Aldeia* and the ritual authorities:

A. One water buffalo
B. Two boxes of alcoholic beverages (palm wine/beers)
C. 100 US$
D. Two sacs of rice
E. Two packs of cigarettes
F. Betel leafs and areca nuts

3. If any of the norms of the Tara Bandu is violated three times, the offender must give to the community, the Chief of *Suco*, the Chief of *Aldeia* and the ritual authorities:

G. One water buffalo
H. Four boxes of alcoholic beverages (palm wine/beers)
I. 200 US$
J. Four sacs of rice
K. Four packs of cigarettes
L. Betel leafs and areca nuts
M. The members of the communities involved must oversee the proper implementation of this law and inform local authorities of any violations if they have reliable evidence. Also the members of the community and the under signatories agree not to use this law to their own personal or group benefit and always act in good faith.
N. Any complaint by any member of the community in front of the local authorities must be adequately checked by meetings between the authority(ies) and the complainant(s) and the alleged offender(s). No action will be taken without proper verification and acknowledgment of the facts. Also, the false report will also constitute a violation of this law.
O. The *Tara Bandu* will be in harmony with the official regulations and will not override any larger judicial procedure.
P. The under signatories agree and commit that the implementation of the present traditional law doesn't violate any of the fundamental rights of our citizens as recognized in our Constitution and other relevant laws.
Q. All parties agree and commit to act in good faith.

Distribution and use of the resources received by the community as sanctions

It is agreed by the signatories of this agreement as well as the members of the community that when someone commits and infraction, the penalties specified above will be used and consumed in the public ceremony that on a mandatory basis will follow the transgression of this law.

The ceremonies of reconciliation must be conducted in the following way:

A. Once the offender is identified and the offence acknowledged by him or her [during the nahe biti dialogues], he or she must be taken to the Suco chief office, the Aldeia chief's house or competent authority where he or she will be informed of the quantity of the penalty for the infraction.
B. Both local authority and offender will agree on the adequate date in which the offender can collect and bring all the goods that are required as punishment as specified under paragraphs 5.A, 5.2 and 5.3.

BOX 1 *(continued...)*

C. The local authority must inform the community about the day when the ceremony will be accomplished.
D. At the appointed date, the offender will bring to the local authority's house the goods specified above to conduct the ceremony of reconciliation.
E. The ceremony of reconciliation must be participated by:
   i. Chefe de Suco or/and chefe de Aldeia as representative of the local authority
   ii. At least two ritual authorities from at least two different lineajes
   iii. At least ten members (men and women) of the community directly affected by the infraction (i.e., the place or community where the infraction took place).
F. The different participants will perform the following roles in the ceremony:
   i. The local authorities must remind to the offender on the quantity of the penalties if the law is violated again, and will remind the community on the norms of this Tara Bandu.
   ii. The ritual authorities will office the corresponding ceremony following the mandate of the tradition, which includes but it is not limited to the offer of animal meat and the interpretation of the signals.
   iii. The community members will act as witnesses of the reconciliation.
G. All the participants in the ceremony will consume the goods brought by the offender(s) during the event. All members of the community regardless of their sex, age, class or condition will have equal access to the food and other resources brought by the offender(s) for the event.
H. The under signatories and the community agree that all the money brought by the offender(s) will be spent in goods for direct consumption (food, drink, tobacco, and other goods) during the mentioned public event.
I. The under signatories and the members of the community commit not to use any of these goods in their own individual or group benefit.

Signatories
Sub-district administrator, Chief of Suco, Chief of Aldeia, three Ritual leaders, four witnesses on behalf of the community members.

TABLE 3
Chronology of the Tara Bandu of Biacou based on informants' views

Period/time	Developments	Notes
Up to 1975 "During the Portuguese time"	Traditional Tara bandu	The "ancestors" established a Tara bandu in the lulik places of the Lulin baun, the Namon matan and the Oho no rae. The Tara bandu established restrictions over forest logging with special observation to areas located near the sources of water. In the Lulin baun, ceremonies were held to request assistance of the spirit of the rain. In the Namon matan, worship was conducted to request more fish when there is scarcity of that resource. The Oho no rae is the place of the spirit of the Rai na'in, where the Tara bandu ceremony is carried out.
1975-1999 "During the Indonesian time"	Discontinuity in ritual practice	Informants explained how the Indonesian military regime prohibited the performance of rituals. During the Indonesian occupation, the introduction of destructive fishing techniques, increased forestry exploitation or the loss of respect for the lulik spaces are considered by informants as causes of the environment degradation.
1999-2002 Conflict and "Independence"	Referendum and transitional government	Conflict started in 1999 after the Referendum for the Independence. In 2002, first elections were held. There was widespread destruction of fishing infrastructure.
2004	Development of the fisheries law	In the period 2004-2005, the most part of the current fisheries legislation is developed. Among them the Decree law 6/2004 and the Government decree 5/2004.

Period/time	Developments	Notes
2005	Dissemination of the fisheries law in Biacou	A first dissemination of the fisheries laws was accomplished in 2005 covering only one fishing centre per district. Biacou was the site selected for the District of Bobonaro. Informants recount that the activity served them to learn about "the importance of mangrove and reef conservation". They learned about the new fishing techniques prohibited by law and the species under protection.
2010	Visit from the Secretary of State of Environment	A visit by the Secretary of State for environment served as an occasion to discuss environmental issues in Biacou. The government interest in mangrove protection and replanting was communicated to the community.
2010	First conversations	In 2010, conversations among the local authorities and the inhabitants of Biacou start on the initiative of setting up a Tara bandu as a measure to address some of the environmental problems identified by the community as well as to address issues of violence among youth of two hamlets. Meetings continued during 2011 and up to 2012.
2011	Presence of the NDFA in the community	In 2011, with support from the RFLP, an NDFA Fisheries Office was set up in Biacou and an officer was assigned to the village. The NDFA office had been constructed in 2009; however no officer had been assigned yet since.
2011	Coordination between local authorities and NDFA	The Chief of Aldeia approaches the Fisheries Officer and shows him a document written by hand which summarizes in one page the prescriptions of the Tara bandu resulting from the first dialogues among community members.
2011	Fisheries Officer engagement	The Fisheries Officer is engaged in community discussions on the Tara bandu. He reports to the headquarters office on the initiative and takes notes during the meetings.
2011	NDFA & RFLP engagement	Discussions with local leaders are held to discuss how RFLP can assist in the process. RFLP officers engaged in discussions with community leaders and produced a more extended version of the first draft regulation based on the minutes of the meetings.
2011-2012	Consultations and re-drafting	Community leaders in coordination with the Fisheries Officer engage again in community consultations on the first drafts and provided feedback. Feedback is incorporated in the drafts until a final version is agreed.
May 2012	Signature of the agreement	Political authorities, ritual authorities and witnesses sign the Tara bandu regulation.
2012	Mapping	The fisheries officer together with one fisherman and the Chief of Aldeia gets geo referenced photographs of the protected areas. RFLP develop simple .kmz maps.
2012	Map painting	With the resulting geo referenced data, a map is painted in the wall of the fish-landing centre, where the protected areas can be seen by all those who pass by.
August 2012	Dissemination of the law. Ceremony of Tara bandu	The law is disseminated to community members. Copies of the founding document are handover to participants. The Tara bandu ceremony is held. Secretary of State of Fisheries, representatives of the local administration, ritual authorities, church representative and community members participate.
October 2012	The Tara bandu is violated	Five inhabitants of Biacou break the Tara bandu. They are punished accordingly.

Motivations, functions and purpose

The purpose of the Tara bandu is threefold:

- Regulate access to the lulik or sacred spaces.
- Regulate access and use of environmental assets, including the sandalwood forest, the mangroves and the corals.
- Preventing conflicts among young people from the neighbouring hamlets.

Governance structure

It should be noted that the Tara bandu is not a formal organization. It does not have a clear governance structure nor is it formed by members, although it involves and affects all community inhabitants.

Governance pillars

The structure of the present *Tara bandu* has two main governance pillars:

- The political-institutional domain: political authorities include mainly the Chief of *Aldeia* and the Chief of *Suco*. But also other representatives from the state institutions, such as the District Administrator, who supported the initiative. In the case of this *Tara bandu* other state institutions, such as the Ministry of Agriculture and Fisheries are also represented.
- The ritual domain: this includes the ritual authorities, called *Rai na'in kaer bua malus*. The ritual authority of the original lineage (referred to above as lineage A) in the area where the village is located is the main person responsible for the ritual domain. The ritual authorities of the following two lineages (B and C) also took part.

A third governance pillar can be found in the social domain, which comprises all inhabitants of the community of Biacou. During the consultations all inhabitants of Biacou participated; two men and two women signed the document on their behalf as witnesses. They act as guardians of the ban.

Supervision

Descriptions of other Tara bandu report on the existence of the so called *kableha*, a group of "guardians" who are in charge of the surveillance and monitoring of the fulfilment of ban by the villagers. In the case of the *Tara bandu* of Biacou, it is considered that all villagers have to take part in the monitoring of the regulation, informing the authorities in case of any violation.

Enforcement

For the local inhabitants, the *Tara bandu* is not enforced directly by humans, but by the spirit called *Rai na'in* and the ancestors, who are believed to bring misfortune, sudden death or sickness to the perpetrators. The ritual authorities are considered mere mediators between the realms of humans and non-humans.

When the *Tara bandu* is violated, a critical step is dialogue (See Box 2 on the news released after the resolution of the first breach of the ban). This is done through the customary figure of the *nahe biti* (see Babbo-Soares, 2004). The act of *nahe* (unroll) the *biti* (mat) refers to the act of resolving the problems through dialogue (Fidalgo & Alonso, 2012). During the *nahe biti*, the perpetrators sit together on the mat with the ritual authorities, the political authorities and those community members involved in the issue. Conflict resolution involves discussion, identification of the responsibilities and argumentation until a consensus is reached. Dialogue among the parties involved in the *biti* can last for hours or even days. During the conversations:

- The representatives of the political domain would bring the problem to the table and will mediate the discussions.
- The participants will intervene in the dialogue as parties involved in the issue at stake. Until a consensus is reached, no action is taken by the ritual authorities.
- The representatives of the ritual domain are in charge of communicating with the spirits and ancestors.

Based on the experience of the first breach of the ban, once the consensus is reached among the parties involved, agreements are communicated to spirits and ancestors through the slaughtering of the animals brought by the perpetrators (a goat or a water buffalo). Ritual authorities interpret the viscera of the animals and are deemed to seek consensus over the agreements reached between the parts involved. Through this process, the anger of the *Rai na'in* spirit against the perpetrators is believed to be "appeased" and the "hanging prohibition" (*Tara bandu*) is re-established.

BOX 2

News released when five community members were punished for violating the regulation

On 7 October 2012, five residents from Biacou were found to have accidently burned down a 100 year old tamarind tree. They were grilling fish and drinking palm wine under the tree and when they went home after a few hours they forgot to put out the fire. The fire spread to the tree and at 3 o clock in the morning the tree fell and woke the residents.

Tamarind as well as other trees such as sandalwood are protected by Tara Bandu law as are marine resources such as coral reefs, mangroves and turtles.

"This is the first time we have enforced *Tara Bandu* by penalizing those who damage protected natural resources. Previously we only penalized those who damaged sacred places, such as *Namon Matan and Oho no Rae*. Since we documented the Tara Bandu the community has started to recognize Tara Bandu law in earnest," said Sergio Pedroco, chief of Biacou sub-village.

Those who violate Tara Bandu are penalized depending on the seriousness of what they have done. They also have to hold a ceremony to make an apology, and pay the penalty for their act.

"We recognize the Tara Bandu law because it's a good way to protect our resources. We were drunk and when we went home forgot to put out the fire. We violated the Tara Bandu and must pay the price," said Buru-Bara, one of those responsible for burning down the tamarind tree.

Because this was the first time they violated Tara Bandu, those responsible received the first level of sanction. They had to hand over a goat, two bags of rice, two boxes of beer, two cartons of cigarettes, USD 100 in cash, betel leaves and areca nuts to hold a ceremony and also as a symbol of their regret. At the end of the ceremony, they also presented a young pig and planted a new tree to replace the tree that burned down.

After the ceremony, all the offerings are then cooked and eaten by the community members in attendance while the money is used to buy other ingredients to be consumed. This act symbolizes that the offerings have been received by the ancestors and that the Tara Bandu law will remain with them to remind them not to violate it again.

The penalty for violations of the Tara Bandu were set following discussion and approval from the local authorities and the community [during the nahe biti]. There are three levels with the penalties becoming progressively more severe.

"I hope this can be a lesson to others, so they do not make the same mistake. If they do, they will also be penalized," said Buru-Bara.

"I'm happy that the *Tara Bandu* has been completely implemented by the community. In the past some community members did not believe in the Tara Bandu and said we were lying. But since the Secretary of State officially launched the documented Tara Bandu, the community started to be more concerned about protecting resources" said the customary leader *(Rai nain kaer bua malus)*.

Gender issues

One of the main challenges of the Tara bandu is the effective integration of women in decision-making processes. The governance structure is formed mainly by men.

- In regards the political domain, the local authorities are elected in democratic polls, however the numbers of women candidates are still low in local politics. In the case of Biacou, none of the political leaders are women.
- In regards to the social domain, two of the four witnesses representing the community were women. They were the women's representative and the representative of youth in the Village Council. The inclusion of women in the document was however suggested by the NDFA & RFLP officers.

- In regards to the ritual domain, the position of *Rai na'in kaer bua malus* is inherited within the lineage. Each lineage has a ritual authority, but this role is normally inherited through the male line.

Despite two women having acted as signatories in the founding document, important challenges remain for women's effective participation in the *Tara bandu* (see below). Based on the interviewees' responses as well as by reviewing the audio-visual material of the *nahe biti,* we identified that their participation in the dialogue process as well as in the ritual was marginal.

Networking and external relations

The *Tara bandu* of Biacou not only affects largely the inhabitants of the village, but also outsiders. It was identified that:

- This *Tara bandu* has served as an example for new initiatives promoted by the Chief of *Suco*, who is planning to set up *Tara bandu* in the *Suco* level with assistance from government and non-government organizations.
- Although an event was held in order to disseminate the content of the ban, the regulation may affect the inhabitants of the neighbouring areas who might not be aware of the borders of the area under protection and are also afraid to contravene its principles.
- The state institutions supported the *Tara bandu*, however at the national level there have not been sufficient efforts to keep track of these local initiatives and create linkages and secondary structures or forums in which the *Tara bandu* involving resource management can be represented and can have a voice in policy making.
- The fisheries legislation provides ample room for the integration of these custom-based structures of resource management in state consultative bodies through the development of the article 175º Decree government 5/2004 on the Co-management Committees, and the implementation of the National Consultative Council. However no efforts have been made in order to operate the Council neither to integrate any local resource management initiative.

Finances, infrastructure and market

The *Tara Bandu* is an informal organization and does not depend on membership. Its operation does not require regular inputs of resources. It does not relate directly to market issues but with resource governance.

Decent employment and working conditions

Migration inside the sector is still minimal. In regards to migration outside the sector, some social mobility has been identified as a result of the generalized access to public education after independence in 2002. Labour migration to the capital Dili is high; however it was not identified as an issue among Biacou fishers. A mining company has just started operation nearby the town; however at the time of the study it still did not have an effect on labour migration.

Coherence with principles

The *Tara bandu* has shown to be coherent with the governing principles as stated in the founding document, namely: protection of the *lulik* spaces as well as in conflict prevention. It has also shown coherence in the implementation of the settlement of disputes and the punishments for those who violated the ban. However, the regulation has been weaker when it comes to protection to environmental assets. Some flexibility has been identified in this regard, as exemplified by the opening of a quarry in the area.

Empowerment and self-reliance

The local arrangement served:

- As a resource management measure that allows producers to protect environmental assets and improve sustainability in the use of resources.
- As an assertion of rights claims over local resources (see next section).
- As a conflict prevention and conflict resolution method, contributing to social cohesion on the basis of respect to a set of commons principles.

Distributive justice

One of the functions of the *Tara bandu* is the administration of justice. Several issues should be considered:

- When it comes to the punishments, the amounts are not set up depending on the gravity of the violation but in the number of times a person breaches the regulation. This fact can lead to unfair situations, although it makes simpler the administration of the fines and it sets a fixed standard of penalties.
- One of the advantages of the codification of the ban is the increased transparency, which contributes to avoid potential abuses from the authorities.
- The *Tara bandu* on one hand might empower the precedent lineages over the newcomers (note that the newcomers do not have a voice in the ritual domain), affecting the more vulnerable social strata; however codification would contribute to preventing abuses of these lineages and their ritual leaders, contributing a fairer administration of justice. At the time of the present study however no case involving abuse of power in the administration of justice was reported, but long term monitoring of these issues should be pursued.
- When asked about the consequences of non-paying, some refer to the family ties obligations cycle and the obligation to help in case of need; this could increase the level of indebtedness of the families. It should be noted however that fines are not set if the alleged perpetrator doesn't recognize his or her fault. At the time of the present study there was no case available to extract empirical lessons.

Sharing and transference of knowledge

Despite prohibitions over ritual practice during the Indonesian occupation, as many other custom-based practices, *Tara bandu* has shown some resilience to the passage of time, even though they have been subject to fundamental changes: today it is used as an environment protection and conflict prevention measure. A key in getting social legitimacy is however ritual performance, which is accomplished by the ritual leaders. The transference of knowledge in the ritual domain is regulated within the lineage regime: the position of *Rai na'in kaer bua malus* is inherited. Men are the preferential choice to inherit the position. The ritual leader will choose as his heir on the basis of his capacity to speak and his willingness to learn and get involved in issues related with the custom. When there are no potential inheritors, new formulas of transmission are sought (see D'Andrea, 2010). For years, the elected heir will accompany the ritual leader and will learn the origin narratives of the lineage, the language of the ancestors as well as the details of the ritual performance. Either at the death of the old ritual leader or when he decides to pass the baton to his heir, the young apprentice will then become the lineage's ritual authority.

Achievements and success factors

By establishing this *Tara bandu*:

i. The community established a successful **resource protection** mechanism. Currently, the mangrove area is denser, less coral is extracted for the production of lime and the forests around the village have not been burned as occurred before on a regular basis.

ii. By codifying the regulation, standardizing the penalties, disseminating and sharing copies of the founding document agreed by all community members, the authorities increased **transparency**.
iii. By engaging the National Directorate of Fisheries and Aquaculture the community got **recognition** of their rights and effective engagement in resource management.
iv. By including women as signatories, this *Tara bandu* set an innovative step, at least formally speaking, in regards to gender inclusion (see following section).

The following are considered facts that contributed to these successes:

i. A reduced geographical scope. The articles linked to resource management affect a reduced geographical area that can be easily monitored by the community members and over which the parts involved, both the ritual and the political authorities, have customary tenure rights and political authority respectively.

ii. Low historical migration patterns. Unlike other nearby villages and areas where there was widespread migrations in the past, Biacou seems to have received few outsiders except those who have migrated as a result of marriage alliances. This historical fact could have contributed to a high level of social cohesion (as no more layers for conflict are added to land issues), a characteristic of the village in the words of the own informants. The arrival of newcomers from Indonesia or the reallocation of people has led to serious conflicts with respect to land ownership in other locations, which affected the legitimacy of the ritual authorities and the realization of custom-based restrictions and their enforcement (see e.g. D'Andrea, Silva, & Meitzner Yoder, 2003).

iii. A socially accepted history/narrative pattern. Origin narratives provide locally an explanation to the social order and account for land and marine tenure rights. Narratives are used to identify which are the lineages with preferential access to the land. It has been identified that in the absence or blurring of these local narratives (death or forced migration of those who "know" the tradition – that we refer here as ritual authorities) authority can be contested by newcomers through the re-interpretation of the origin narratives (e.g. Alonso Población & Fidalgo Castro, 2014). Currently, there are 12 *Uma lisan* (lineages) living in Biacou, of whom one is considered the original one and other two, the second and third to arrive. The other lineages are believed to have "arrived later to the land". A seemingly uncontested origin narrative accounts for this process.

iv. Legal development and epistemological change. Since the time of the transitional administration (1999-2002), the resource management framework has had a special focus on environment protection as revealed by the subsequent regulations on forestry and protected areas. This approach, initiated during the UNTAET (United Nations Transitional Administration in East Timor) time was transferred to the new administration in several different ways. In the case of fisheries, a first policy was released in 2001 (MAFF, 2001) and in 2004 the fisheries legislation framework currently in force was developed. The new legislation envisioned species protection (turtles, crocodiles, etc.) and MPA development as resource management measures. In 2005, the NDFA engaged in a dissemination project of the fisheries legal framework to the fishing communities. This first dissemination effort covered only few fishing centres; Biacou was one of them. Other projects also landed in the area, among them the establishment of an MPA in the neighbouring village of Batugade, on the border with Indonesia, the implementation of which is still under discussion. Further to the 2005 dissemination of laws, a visit was held in 2010 by the Secretary of

State of Environment where conservation issues were discussed, including the initiative of repopulating the mangrove areas and creating protected areas as part of the new forestry policy. In sum, through the engagement in successive initiatives coming from different projects and institutions, environmental discourse has been appropriated in different ways by the local authorities and the different sectors of the community of Biacou.

v. **An engaged fisheries officer**. One of the ways through which the environmental discourse entered the community was through one staff member of the NDFA who took part in the 2005 dissemination of the fisheries laws. He is from Bobonaro. After finishing his studies in fisheries in Java in 2002 he joined a small FAO project aimed at establishing a statistics system and piloting some MPA initiatives. In 2005 he carried out with some colleagues a field visit to Thailand where they were trained in the establishment and management of MPAs. After the project finished he was contracted by the NDFA as fisheries officer in Bobonaro and continued collaborating with partner projects related with marine conservation. During his time in the NDFA, however, he faced important challenges in order to implement activities in the field given the shortage of resources at the institution. When he was working in the NDFA he used to have the office in Maliana, in the mountainous area of the district, more than two hours from the coast. In 2011 he joined the RFLP as a district staff. As field officer of the RFLP he was relocated to the fish-landing centre of Biacou, where he worked up to 2013. By moving his duty station and residence to Biacou, he entered into the daily life of the community where he was already well known. During his time working in the village, the Fisheries Officer gained reputation as a good worker and supporter of the community and the local fishers. Together with the Chief of *Aldeia* he was a main promoter of the initiative of *Tara bandu*. He took the role of assisting the Chief in the organization of activities and the development of the first drafts.

vi. **Engaged political authorities**. The Chief of *Aldeia* of Biacou was one of the initiators and main promoter of the *Tara bandu.* When asked about the reasons to re-establish the *Tara bandu,* his arguments are varied. On one side he articulates a discourse concerned with environmental issues; on the other hand he understands the *Tara bandu* as a measure to counter the negative effects of "modernity" and "individual choice", which from his point of view inform the current conflicts among youth: "now everybody do whatever they want". In the face of these challenges, he considers the *Tara bandu* as a measure to get "equilibrium between development and culture" (in his own words). On the other hand, the Chief of *Suco* of Aidabaleten also saw an opportunity in the *Tara bandu* and supported the initiative. Currently, and based on the experience in Biacou, he is developing other *Tara bandu* documents with support from state institutions and non-governmental organizations. Higher political leaders in the local administration, as the Sub-district administrator also took part in the ceremony. A recent study released by The Asia Foundation (Brandão, Notaras, & Wassel, 2013) pointed out the crucial role of the political leaders, especially the *Aldeia* Chiefs in achieving success in the implementation of *Tara bandu*.

vii. **Involvement of the ritual authorities**. The same study mentioned above points out also the importance of the effective involvement of the ritual authorities in developing successful local regulations. The strength and legitimacy of the *Tara bandu* lies for the most part in the strength conferred by local inhabitants to the spirit of the *Rai na'in*. It is believed that the enforcement of the law by the spirit is only achieved through the mediation of the ritual authorities. Respondents in this study emphasized that there is no *Tara bandu* if no ceremony is done: the

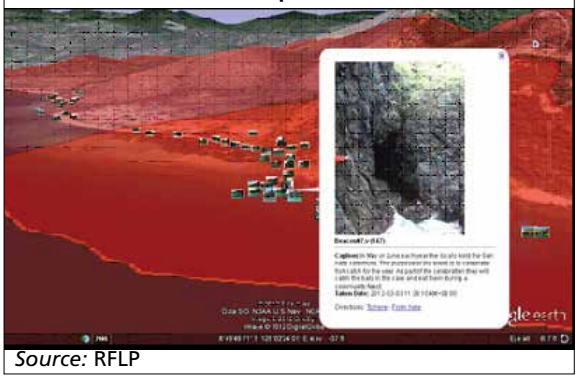
ritual appears in the informants' discourse as the main tool that provides validity and legitimacy to the regulation.

viii. **Participation of the church**. Ninety-six percent of the Timorese declare themselves to be Catholic, so that the role of the church in supporting social action is deemed crucial by informants. In conversations with the church representatives of the parish, they expressed their consensus with the principles of resource protection although differ in their attitude towards indigenous beliefs. Despite this, they did not openly oppose the initiative and the local priest participated in the *Tara bandu* ceremony. Informants consider that participation communicates alignment and respect.

ix. **Public recognition by the fisheries state administration**. The engagement of the NDFA was not limited to technical issues; the Secretary of State for Fisheries and Aquaculture participated in the ceremony. His participation as "bainaka" (guest) is interpreted by the informants as executive demonstration of the support of the state, reinforcing the strength and legitimacy of the local regulation.

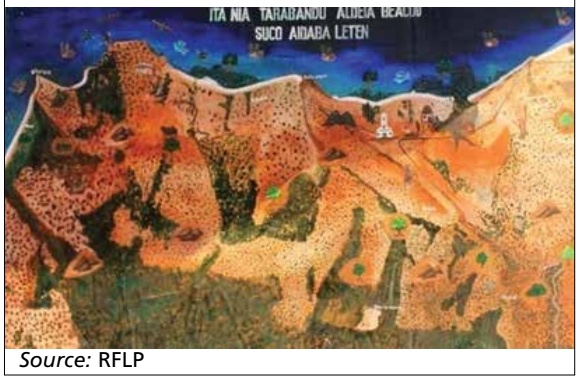
x. **Codification**. Through the **NDFA-RFLP engagement**, local leaders got assistance in writing the regulation, mapping the areas and disseminating the rules. Based on the informants' comments, one of the strengths of this *Tara bandu* is that it is not only words ("laos koalia deit"). The technical assistance provided by the NDFA through the RFLP was basically helping the community to write down the full document, to develop maps and to disseminate the regulation. This was done in three phases: first the Fisheries Officer transcribed the first handwritten version and engaged in the community discussions. A second document was developed including a section on the background of the regulation, a short description of the reasons for the ban as well as the places at stake. Three versions were written of this second draft until a final one was agreed by all involved. In parallel, maps were developed using GPS cameras. Once done, under the request of the local authorities, a dissemination of the rule was accomplished, copies of the document were shared among community members and a map was painted over the wall of the fish landing centre, signalling all the sites under special management.

PHOTO 1
Geo-reference map of the Tara bandu



Source: RFLP

PHOTO 2
Map painted in the Fish Landing Centre of Biacou



Source: RFLP

xi. The founding document builds upon **dialogue and consensus**. Dialogue took place in two phases. First, before launching and conducting the ceremony of *Tara bandu*, the Chief of *Aldeia* summoned the community several times (2010-2011) with the aim of identifying the problems and discussing the initiative.

Principles and protection measures, as well as the penalties were discussed and agreed. Secondly, dialogue was established as a requisite when the *Tara bandu* was violated in order to re-establish the order.

xii. The establishment of **penalties**. Elders in the village recounted that, "before the Indonesian occupation", the *Tara bandu* performed did not include penalties to those violating the law. "In the time of the ancestors", power to enforce was said to correspond only to the spirit of *Rai na'in*. Informants considered that the *Rai na'in* is still the main source of power of the *Tara bandu*, however, including penalties strengthen its efficacy.

xiii. Tara bandu **keeps the enforcement capacity at the local level**. Unlike state law, *Tara bandu* ensures a rapid and low-cost means to resolve disputes and manage resources in an effective manner. Although there is a fisheries law and a forestry law, their effects are hardly present at the local level. The NDFA has one Fisheries Officer in the district who faces enormous challenges to implement the law (lack of resources, lack of standard operating procedures and mainly lack of understanding and knowledge of the scope of their responsibilities). The result is a total lack of enforcement. Initiatives like this, where communities take a responsible role over their coastal resources are acknowledged as crucial by the NDFA officers.

xiv. The **initiative arose from the community**. Although the project of establishing the *Tara bandu* received further support by the NDFA and the RFLP, the original initiative arose from the community leaders.

xv. The first violation of the rules triggered a **rapid response** (see Box 2). In 2012, some months after the launching of the ban, a group of five men burned an old tree in the *Tara bandu* area during the night. By the next day, the structure of the *Tara bandu* through a call from the Chief of *Aldeia* was activated. In the informants' accounts, this case serves as the exemplification of the usefulness and correct operation of the *Tara bandu*. Currently all the village members interviewed were aware of the fault and the punishment and all referred to the activation of the mechanisms of the *Taru bandu* as a positive outcome.

Overcoming challenges to avoid dormancy or failure

The establishment of the *Tara bandu* has brought along downsides and some weaknesses have been identified in its implementation. Among them, the following were noted during the fieldwork:

i. Increased workload for salt producers. The enactment of the Tara bandu has had an impact on the workload of the salt producers. To produce the salt they need wood with which they boil saltwater that was previously mixed with sediments from the intertidal area and filtered. Since the enactment of the ban those living from salt making have to cover larger areas of forest in search of wood, either gathering deposited dried wood debris or cutting trunks in the forest out of the area under protection. As explained by them: "this work is too heavy and people do not want to produce salt." This can be a source of disputes and threaten the continuity and legitimacy of the *Tara bandu*. Aware of this, the Chief of *Aldeia*, together with the salt producers held conversations with a company which plans to buy salt from the area if the producers adopt new methods which do not require the use of wood (sun drying instead).

ii. The *Tara bandu* did not effectively incorporate women. Although two women were involved in the document's endorsement, they were not part of the resolution process for the first violation of the *Tara bandu* that occurred in October 2012 (see Box 2). The inclusion of women as part of the informal governing structure was suggested by the NDFA-RFLP during the development

of the founding document. As none of the authorities (political or ritual) were women, it was agreed that at least half of the witnesses should be women. The signatories were the women's representative and the youth representative in the *Aldeia*'s council; positions which are appointed by the Chief of *Aldeia*. Effective participation of women in the dispute resolutions held in the *nahe biti* is a vital challenge for the *Tara bandu*.

iii. **Increased household expenditures**. One of the aims of the Tara bandu was to protect the reef situated immediately in front of the village. The referred reef is easily accessible during low tide and the inhabitants of Biacou, mostly the women, were used to access the reef in order to extract pieces of coral. The corals are processed by wrapping them in palm leaves, dried and put over the fire until it becomes powder. The resulting product is chewed with areca leaves and betel nut, activating its effects. Some households used to sell the powder in the market and receive small but complementary incomes. It should be noted that the extraction of coral does not require any level of capitalization so it was carried out by all families. On the other hand, the current prohibition leads to a situation where households have to spend some money every month to get the lime from the "mountains" which is available in the local market (see Box 3). Some informants said the flavour "is not the same" but keep consuming it; some other respondents declared they reduced the consumption of the lime.

BOX 3
A rough estimation of the increased expenditures in lime powder

Areca nut and betel leaf consumption is widespread in Timor-Leste, mostly among women. Informants state "now we are scared" to extract the coral just for the regular chewing because they can get punished by the Rai na'in spirit or could produce disturbances in the rain patterns, as the coral is near the Lulin baun, the place of worship to the spirit of the rain. Before the ban was established "we destroyed many coral", an old woman said. Celestina, a 58-year old widow "with many kids" recounts that when she was a kid they used to sell a kilogram for 5 cents; before the ban, the price was around fifty cents per kilo. Since the ban was established she says she faces some difficulties as she now has less income. Instead "I go fishing from the shore and sell the fish", she declares. Beyond the income from selling the powder, which varies significantly in each household, all of them declared that now they have to spend more money to chew areca and betel; expenditures that are added to the regular household expenses. Belinda, a 45 year old woman explained that every week for her house she spends 2 US$ in nuts and 1US$ in leaves. In the past, she did not have to spend money for the lime, but now she spends 1 US$ per month (one 1.5 litre water bottle full of lime). If she has guests, she will have to spend even more. In her own words, "there is no money, but for chewing areca and betel we always have [...] we spend even more than on food".

Among the current challenges to avoid dormancy or failure, the following have been identified:

i. The **increased presence of outsiders**, who, not knowing the existence of the local regulation could violate the law. In these cases, enforcement will be challenging. During the validation workshop held on 11 October 2013 as part of this study, one of the issues requested by both the inhabitants of Biacou and the neighbouring villages was the need to accomplish the dissemination outside of the village, so that outsiders would not violate the ban.

ii. **Issues regarding land ownership**. As explained by the ritual authority and head of the so-considered original lineage, "the land is from the government, but the *lulik* is mine". This short phrase reveals the ongoing issues with land tenure in

Timor-Leste. The law of the land has been for years under consultation. Issues with regards to land include old titles from the Portuguese time, widespread occupation of property after the Indonesian withdrawal, claims for customary land and the establishment of the so-considered state land since independence which includes the coastal fringe (from high water mark to 200 meters inland). Recently, in July 2013, the law of land expropriation was approved. The legal provisions establish that private land can be expropriated by the state for the sake of public interest.

iii. **Cultural change and the questioning by some social sectors of the legitimacy of practices deemed as "traditional"**. Timor-Leste is immersed in rapid social change and *Tara bandu* will surely adopt new forms in line with social dynamics. As pointed by the officer of the Conselho Nacional da Juventude interviewed, some sectors of society (youth, educated classes or others whose interests are affected by these measures) openly disregard the authority of ritual leaders (see also Brandão et al., 2013) and the legitimacy of traditional practices. In the area of Biacou youths seemed to show respect and support to the *Tara bandu*, however, the way this mechanism is able to adapt to further social dynamics will be key for its future survival.

iv. **Economic interests in the area**. Economic interests can affect the *Tara bandu* as has been shown by the opening of a quarry in an area that is under protection. The cases described in Box 4 and Box 5 reveal the vulnerability of local environments regulated only under community management measures. If the community regulations are not backed and recognized by the state, they will hardly be able to meet the challenges of political and economic interests from powerful centres beyond the local realm. Other example can be found in the rampant illegal fishing that occurs in the waters within protected areas.

BOX 4

Destructive fishing from semi-industrial vessels

One of the concerns raised by the fishers during the diagnosis workshop was their reduced capacity to control the fishing operations of the bigger vessels operating in the area. The maritime area of Bobonaro is in close proximity to the boundary with Indonesia. This area has a history of illegal fishing since the time of the independence. Besides illegal operators, last year a semi-industrial vessel was granted licence by the government and is operating in the coast west of Dili. In the own words of one of the fishermen participating in the workshop, "we, the small operators, are the losers". The participants' concern is that these vessels use powerful engines and "nets that destroy the corals" and "we [the fishermen] cannot do anything". In dealing with these issues, the Tara bandu seems an insufficient measure for resource management; they will require efforts in policy development and investments in patrolling by state institutions.

BOX 5

Quarrying in the area under protection

In 2013, a company got interested in the area under protection for the extraction of stone for road construction. The request provoked divisions among the inhabitants of Biacou. The arguments were twofold. On one side, some argued that as the stone would be used to build the road that passes by Biacou covering the route between the capital Dili and the District capital Maliana, efforts should be made to see this through as a development goal. The company stated that the quality of the stone at the site was exceptionally good, ensuring a long lasting road for the area. Additionally, the company promised employment opportunities for non-qualified manpower from the village. On the other side, others rejected the initiative as it would have an impact in their forest resources and were sceptical about the promises of the company. The initial discussions among those who supported the initiative and those who didn't were resolved by the mediation of a high level political authority who visited the area and made a formal request to both parties: the community should make an effort for the sake of national development; the company should bring employment opportunities for the inhabitants and ensure they benefit from their presence. The convincing speech and the fact that when discussions were held the law of land expropriation was already about to be approved (see above "Land ownership issues") tipped the scale to the side of those who opted for granting permission to the company. Since the quarrying involved tree cutting (prohibited under the Tara bandu), an agreement was reached in the nahe biti and the ritual authority did a sacrificial ceremony to request the spirits to grant permission. The company offered free supply of galvanized steel panels to the community members, a house for the priest and a football pitch. Non-qualified jobs for two women and a man as cooks and four men as security guards were given. More men are contracted on an ad hoc basis as temporary labour. The first criticisms have been felt by the hiring of drivers from other areas. The inhabitants expect the company will hire local drivers as soon as some youths get their driving permits.

The following are issues that should be monitored in the future, even if informants did not consider them an issue in their responses:

i. **Accumulative nature of the punishments**. The punishments are established depending on the number of times the offence is committed, not with the severity of the offence. Someone burning a tree would receive the same punishment as someone burning the whole forest. This accumulative punishments scheme could be considered unfair if new violations occur with differential scale effects.

ii. **Issues of discretion**. The *Tara bandu* document forbids extracting corals or burning the forest cover "arbiru" [out of control] or "foti no estraga" [collect and destroy] the corals. This measure does not restrict access totally, however it is not specific enough in regards to the conditions under which the corals could be extracted. This fact can be seen as a strength given the level of flexibility that it allows, but it can also pose new issues of discretion, as what can be considered "arbiru" can lead to disagreements. Currently, for example, when any of the households of the village needs more lime than usual because they have to fulfil lineage ritual obligations they would issue a request to the Chief of *Aldeia*, who will grant the permission on his own on the basis of the reasons provided. The issue of the discretion on the implementation of the local regulation as well as the flexible interpretation of the principles could lead to unfair situations. Until now however any dispute has arisen from this issue.

CONCLUSIONS

The case of the *Tara bandu* of Biacou clearly shows how the global intrudes in the lives of the local villagers of a Timorese coastal community and how they incorporate the external influences and re-construct their own custom-based practices according to their contemporary needs and aspirations. On one hand the *Tara bandu* is a custom-based practice whose legitimacy lies in the performance of a ritual, in the origin narratives accounting for the roles and rights of each lineage and the ritual authorities, the status of all items classified as *lulik* and the strength given locally to the spirit of the *Rai na'in*. On the other hand, it is an example of a hybrid practice that integrates the external influences through various ways. While the concept of "nature" might be traced back to the Portuguese colonization, the discourse of environment protection seems to have taken centre stage more recently. From the time of independence in 2002, notions linked to environment protection seem to have permeated social discourses trough several different ways.

The case of Biacou shows the role of the development of a legal framework that incorporates principles of environmental protection and the impact of its dissemination in the local community. This process has to be understood also as an issue of identity; a construction and representation of the self (Timorese) against the Indonesian pattern of development and its perceived negative environmental consequences as environmental degradation is considered in part as a result of the disregard of the Indonesian military rule to the ritual authorities. Finally, this case study has shown the importance of charismatic figures in triggering collective action. First, the political authorities: the Chief of *Suco* and more importantly the Chief of *Aldeia*, a principal advocate of the initiative of reinstating the *Tara bandu* in order to deal with contemporary social and environmental issues. Secondly, the ritual authorities, whose legitimacy still lie in an uncontested origin narrative. Thirdly, the Fisheries Officer, who seeks to implement the knowledge gained during training on marine conservation and find a ready available solution by adapting global tools to local custom-based patterns of practices. All this occurs with the assistance of a fisheries project and in a national context where law enforcement is minimal and where the NDFA has to find creative ways to engage local communities in marine and coastal management given the constraints in human and capital resources.

This study has shown that the *Tara bandu* was successful in regards to: a) resource protection of some specific resources, b) increased transparency and c) recognition, although informal, from the state administration.

Weaknesses in the protection of other resources as well as downsides have been also identified, including: a) increased workload for salt producers, b) increased household expenditures in lime powder for chewing areca nut and betel leafs and c) little effective involvement of women (they appear as signatories but did not participate in the dialogue process during the settlement of disputes).

RECOMMENDATIONS

For projects targeting the community level:

i. The correct identification of the communities where collective action can be promoted is key to success. Selection of sites should not be done from a top-down approach, but by extensive consultations with local leaders and communities and adequate analyses of the factors favouring collective action before support is provided.

ii. Collective action is triggered by specific sets of incentives. Induced incentives such as the receipt of state aid pose issues of sustainability and favours dependence on political powers. Projects should identify the systems of incentives for social mobilization.

iii. Ways to assist the communities in raising public awareness and getting visibility for their local regulatory measures should be pursued. Public knowledge of local management measures should also target neighbouring communities and the state administration.
iv. Any action increasing transparency of local regulations should be promoted. Documenting, mapping, disseminating and sharing copies of the *Tara bandu* founding document might help prevent abuses by local elites in justice administration. NDFA should keep a database of local regulatory measures.
v. Legitimacy of custom-based mechanisms like the *Tara bandu* is conferred by the practical performance of rituals and the participation of the different sectors of society in the ceremonies. Development actors should not neglect the importance of ritual and participation.
vi. Consensus and endorsement of the regulation is reached at three domains: social, political and ritual/customary. The three domains should be engaged in the development of custom-based local regulatory frameworks.
vii. Participation of all sectors of society (including the church, the state administration, etc.) is locally considered a crucial factor in the development of social arrangements. This multi-sectoral consensus should be pursued.
viii. The roles of charismatic figures (the Fisheries Officer as well as the Chief of *Aldeia*) were key. Efforts should focus on the right identification of the figures able to become agents of change.
ix. Beneficiaries should not be treated as mere "recipients of development" but as active agents that negotiate external influences and set strategies according to their needs and aspirations. Hybrid practices as the *Tara bandu* (that mixes environmental protection with ritual performance) are the result of a social and cultural negotiation between different agents and moral codes.
x. Project should take into account that measures of environmental protection might bring along downsides in livelihoods. These should be monitored.

Recommendations for policy interventions:

i. Hybrid regulatory measures such as the *Tara bandu* have a great potential as resource management mechanisms in contexts where the state lacks resources or capacity to enforce the laws in the local context. Their existence and capacity to empower local communities should not be neglected.
ii. The case of the *Tara bandu* of Biacou shows how social action can be one step ahead to policy and legal development. States should not turn their back to social and cutural dynamics. Steps to recognize and better articulate collective initiatives such as the *Tara bandu* in policy development should be pursued.
iii. *Tara bandu* is not restricted to specific management domains (fisheries, forestry, agricultural, etc.) paralleled by institutions of the modern states. In the case of Biacou, the *Tara bandu* covers resource management of forestry resources, coastal and marine resources and conflict prevention. Recognition and integration of the *Tara bandu* in the state institutional frameworks would bring along important efforts in inter-ministerial coordination.
iv. State articulation of these customary regulations should also be accompanied by the development of mechanisms to improve their transparency and the potential vetting of their interventions in order to avoid them contravening human rights and national legal principles.
v. State institutions should pursue advancing current knowledge and conduct comparative analyses about the existing resource management arrangements in its territory before any foreign-influenced co-management measure is promoted.

vi. The case of Biacou shows that larger issues such as IUU fishing by industrial vessels cannot be addressed only by local-based management mechanisms. Further channels of collaboration and coordination between local communities and state institutions should be developed to tackle these larger issues.
vii. In sum, the State should pursue ways to better articulate local resource management arrangements with State laws and policy frameworks.

Recommendations for communities:

i. Codifying local arrangements can increase bargaining power of the communities in dealing with external interests. Communities should keep records on resolutions as well as changes in the founding document.
ii. Advocate for a formal recognition by state institutions on the community rights to manage the coastal resources.
iii. Advocate for an active participation in state co-management bodies (currently inactive).
iv. Flexibly adapt to new challenges and seek consensus over all matters affecting the community's regulation.
v. Ensure continuity/transmission preventing dormancy if there is any change in the political leadership.
vi. Effectively integrate women in decision making.
vii. Seek channels to ensure involvement of the state in order to tackle larger issues affecting local resources such as illegal fishing.
viii. Seek options for those whose livelihoods have been affected and pursue support from state or/and development agencies.
ix. Avoid abuses of power and ensure fairness and transparency in decisions concerning issues regulated under the *Tara bandu*.

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10. Ocracoke Working Watermen's Association & Ocracoke Seafood Company: A case study of collective action in small-scale fisheries in Ocracoke, North Carolina, USA

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INTRODUCTION

This case study examines the Ocracoke Working Watermen's Association and Ocracoke Seafood Company in Ocracoke, North Carolina, the United States of America. Research was conducted primarily through interviews of the watermen that make up these organizations as well as with community, non-government organizations and academic stakeholders within the small-scale fisheries sector from December 2013 to April 2014. A total of twenty-two interviews were conducted and a list of all interviewees with their affiliations can be found in the Acknowledgements section.

In terms of the structure of this case study, both Part 1 and 2 will provide a background on collective action in the United States of America and state of North Carolina. Part 1 will give a national context, providing a brief history of collective action within small-scale fisheries in the country, examples of current organization in small-scale fisheries in the country, lessons learned within collective action by a small-scale fishery community organizer and a brief review of national fisheries management. Part 2 will provide a state context, presenting a background of North Carolina, its fisheries sector and an overview of the history of collective action in the state. Following this, Part 3 and 4 is the main substance of the case study, with part 3 delving into the Ocracoke Working Watermen's Association and the Ocracoke Seafood Company as a "new supported organizational form" (Kurien, 2013) examining the form they developed, their legal framework and documents, governance, origins, process of development, objectives and main activities, internal operating mechanics, issues in gender and youth, networking and external relations as well as how their form aligns with the International Cooperative Association principles. In conclusion, Part 4 will identify the outcomes of the organization, the factors that have played a role in their successes and challenges as well as strategies identified by the group as ways to overcome difficulties. The study will conclude with possible strategies to strengthen the organization as identified by the author.

PART 1 – NATIONAL CONTEXT

1. A BRIEF HISTORY OF COLLECTIVE ACTION IN FISHERIES IN THE UNITED STATES OF AMERICA

In the United States of America, the history of collective action in fisheries is not well documented and remains understudied. Much of the research around this topic focuses on organizing activity in the Northeast United States, as this is where the first major capture fishery was established in the country – first for cod and later for halibut – and the structure of the fisheries in this region may better lend itself to more formal organization that can be more accessible to study. Formal organization in the Northeast, mostly in Massachusetts, has been primarily driven by unions representing fishing crews of large boats.

Dr Matthew McKenzie, Associate Professor at the University of Connecticut with a specialty focus on American social and labour history, noted that collective action in the country could be traced back to informal activities in the Northeast as far back as the 1850s. During this time, independent small-scale fishers in the region organized themselves in order to petition local and state governments to restrict use of capital intensive gear, positioning themselves as conservationists as they feared that this gear would put their small-scale practices out of business. Fishers also organized themselves in the late 1870s and early 1880s to maintain their fishing rights when increased tensions between the United States of America and Canada led American fishing rights in Canadian waters to be restricted.

According to McKenzie, the precursor to union activity began in the 1880s and 1890s, when there were repeated attempts by fish buyers to monopolize the New York fish markets as well as to control prices and costs paid to labour. In response,

fishers attempted several times to unionize, out of which the Atlantic Fisheries Union, based in Boston, was formalized. McKenzie notes that similar to every other highly capitalized industry in the country during this time, this unionization was largely in response to the power the buyers had in the workplace, and thus the union worked to "protect their assets in a very combative marketplace" (M. McKenzie, personal communication, 2014).

Unions in the Northeast United States grew in the 1930s, at a time when the area's fisheries were characterized by large trawlers owned by companies, which were worked by crews of fishers hired by these companies. Unions such as the Atlantic Fisheries Union, Sea Farers International Union and the New Bedford Union, represented these fishing crews and are some of the earliest and most formalized models in terms of collective action in fisheries in the country. Dr Colin J. Davis, Professor of History at the University of Alabama at Birmingham with a strong focus on labour in the United States of America, explained that these unions were strengthened during the 1930s, which is similar to the American labour union history in general. "Even though the country was in the depths of the great depression, for labour it was a time of great expansion. Fishermen seem to fit that pattern…they have nothing to lose" (C. Davis, personal communication, 2014). The unions helped to fight for better working conditions for fishers which included issues such as safety at sea, time off between trips, welfare funds, training and reducing the burden on the fishermen to pay for incidentals like protective clothing, food, ice, oil, advocating that the company boat owners should pay for these items. Fish processors were also part of union efforts.

The unions' positions were strengthened when they began contracting with some of the company-owned boats to eventually establish their own group of applicants for hire. Following this, companies began going through the union to hire crew members, as they knew they would be able to hire fishers who were experienced and vouched for. Unions also sponsored memorials to fishers lost at sea. Much of the union's early success and growth came from the fact that union organizers were very embedded in the community they were working in.

These unions grew from the 1930s through World War Two, which was followed by a glut in the American fisheries market, as after the war many went back to fishing. In an effort to bring prices back up, the union enacted policies that limited days fishing, trip length, etc, in an attempt to slow production down. However, the government viewed this as unfairly influencing the market and in 1951, the state of Massachusetts filed suit against the Atlantic Fisheries Union, in an attempt to break it up. This act effectively ended the union, and coupled with the decline in the fishing industry, the union was almost entirely dead by 1965.

One of the biggest challenges unions continually faced was due to the fact that fishermen earned shares of a company-owned boat's profit, rather than wages, which made fishermen legally not a worker, but a 'co-venturer'. This definition made it significantly difficult for the unions to fight for benefits to the fishermen, as the fishermen were essentially treated as their own independent small business, which did not warrant having benefits covered by another entity. Davis notes that ultimately, this issue was one reason that led to the decline and eventual end of the Atlantic Fisheries Union.

Collective action in fisheries in the United States can also be viewed in terms of co-management practices, which is "an arrangement where responsibility for resource management is shared between the government and user groups" (Sen and Nielsen, 1996). Co-management models first emerged in the country in the 1970s, when First Nations people began challenging governments over the aboriginal title to their traditional territories. The first official co-management practice was

formally established in 1980 in Washington State, when tribes began to co-manage the Pacific salmon fishery (Loucks, Wilson and Ginter, 2003). Loucks et al. notes that "today, the tribal-state co-management system in Washington State is arguably the most sophisticated hybrid governance model that combines state control with local decentralized decision-making and accountability." Though there are now a variety of co-management practices in the United States, it does not always work out in the small-scale sector's favour. Too often the scale of implementation of the co-management arrangement as well as the high costs of participation, ultimately result in a process that is strongly biased against small-scale operations (Loucks, Wilson and Ginter, 2003).

During research for this case study, women were continually brought up as playing a strong role within small-scale fishery collective action, both in the Northeast and Southeast United States. For instance, in the 1960s, wives of fishermen in Gloucester, Massachusetts began getting politically involved in fisheries, attending fishery meetings to represent their family's interest and protect their fishery from foreign fleets. "Wives were already managers of their husband's business, so it was just a little leap for them to start getting politically involved. The men are away working so women enter that void in a sense (the wives) became a kind of guardian or stewards of the fishery" (C. Davis, personal communication, 2014). This trend is also similar to women organizing within North Carolina fisheries, discussed further in Section 6.

2. CURRENT NATIONAL SMALL-SCALE FISHERY INITIATIVES AND NETWORKS

In general, there is no strong enabling legislation or policy to support or promote community-led organization in small-scale fisheries in the country. Instead, such organization is currently done at the grassroots level, garnering support from NGOs and communities. This section provides a few examples of recent efforts, which reflect small-scale fishery initiatives and networks in the United States of America at the national level.

2.1 Who Fishes Matters Campaign

The Who Fishes Matters Campaign was launched in 2009 with the goal to educate the public on fishery policies that the campaign believes is undermining coastal communities, local economies, the marine environment and the food system. The campaign has forged alliances between commercial fishers, seafood eaters, local business groups, family farm organizations, food activists and environmental justice networks in order to help transform policy. Their main focus to date has been on policy amendment towards maintaining fleet diversity in the Northeast United States, demonstrating that policies designed to consolidate the fleet and transform fishing access into private property are hurting communities and driving fisheries access towards the large-scale industry. The campaign has collected testimonials from over 500 small-scale fishers about why this is important.

2.2 The Fish Locally Collaborative

The Fish Locally Collaborative is a decentralized organizing model led by local fishers, fishing families and community-focused marine and social scientists, youth activists, social justice and food systems leaders, and fisheries advocates. The mission is to recover and maintain marine biodiversity through community-based fisheries. The group works to transform fisheries and seafood market policy by advocating for co-management models, fleet diversity, a more just and fair seafood system, ensuring a more level playing field for small and mid-scale fisheries and that access to the fishery is in the control of communities and not outside interests. The group also works on developing alternative markets for seafood to bring more value to

fishers, the ocean, local communities and the food system. The group is made up of 'collaborators' and has a "genuine participatory governance structure that is bottom up" with "local fishermen and fishing communities who are most impacted by policies, changing markets and ocean conservation at the centre of the decision making table" (Fish Locally Collaborative, 2014).

2.3 Slow Fish USA

One of the more recent additions to the small-scale fishery networks is Slow Fish USA, a subchapter of the larger Slow Food USA organization (which is a member of the international Slow Food movement). In the fall of 2013, Slow Fish USA launched its first campaign, which was a two-week series of workshops with chefs focused on local seafood. Still developing its organizational form, Slow Fish USA is currently focusing on understanding what has already been happening with local community seafood events around the country, and is working to build an organizational infrastructure to link these events and the stakeholders involved.

3. LESSONS LEARNED IN SMALL-SCALE FISHERY COLLECTIVE ACTION FROM A COMMUNITY ORGANIZER

Mr Brett Tolley, Community Organizer for the Northwest Atlantic Marine Alliance, a non-profit based in the Northeast United States, spoke about some of the lessons learned in his experience taking part in and observing collective action in small-scale fisheries.

For organizations that represent smaller scale and mid-scale fishers, he stressed that decisions must come from those who are most affected, which are often the fishers themselves. Additionally, he believes that a strong emphasis needs to be placed on leadership development, so fishers can act as leaders directly representing their fisheries sector as well as the long-term health of the ocean. Tolley notes that often what could be viewed as community action is not authentic; organizations claim they advocate on behalf of fishers, but their connection to fishers is very weak, sometimes to the point where the fishers are not involved in the organization or any of its practices. He provided an example of one association, which was a strong advocate for employing the catch share program in the Northeast region. The association used promotional materials with photographs of the fishers they claimed to represent. However, some of these fishers had never been engaged in the organization's decision to support catch shares, and Tolley says may not have even understood the programme and its impacts on their livelihoods. Tolley calls this an example of an organization "co-opting the fishermen's voices." Instead, Tolley says organizations that claim to represent fishers, "must work directly with fishermen and fishing families, and be guided by their vision and challenges." He continues, "Otherwise, you are going towards the organization's own vision, or worse, towards a vision in line with funding sources associated with the organization, which may not be grounded in the people who are most affected" (B. Tolley, personal communication, 2013).

At the same time however, Tolley's experience working in fishing communities has also demonstrated that collective action must think more widely to consider stakeholders beyond just 'fishermen', which tends to be extremely white male, boat-owner oriented. He believes that in order to create enough political support to counter the growing industrial pressures driving policy decision-making, successful collective action must include a wider diversity of fishing women, fishing families, crews on boats, the general public who support small-scale, and broader movements of people engaged in economic, social, environmental and food justice.

4. NATIONAL FRAMEWORK FOR FISHERIES MANAGEMENT

A brief overview of national federal fisheries management is presented below to provide a context for this case study, please note that this is in no way a comprehensive discussion.

Federal fisheries and fishery decision-making bodies were formalized in 1976 with the passage of the Fishery Management and Conservation Act (later called the Magnuson-Stevens Act). With this act, the Commerce Department's National Oceanic and Atmospheric Administration (NOAA) was given the responsibility of overseeing and regulating fishers harvesting seafood off national shores. Some federal fisheries encompass all waters past three miles off national shores and extend to the 200-mile limit, others have input on nearshore activities. The Magnuson-Stevens Act also established eight Regional Fisheries Management Councils, tasked with formulating and implementing regional fisheries management plans. All fish and other seafood harvested from shore to three miles off the coast are regulated by individual states.

PART 2 – SMALL-SCALE FISHERIES AND COLLECTIVE ACTION IN NORTH CAROLINA

Overview of North Carolina

FIGURE 1
The United States of America and North Carolina

Source: Wikimedia Commons, 2014

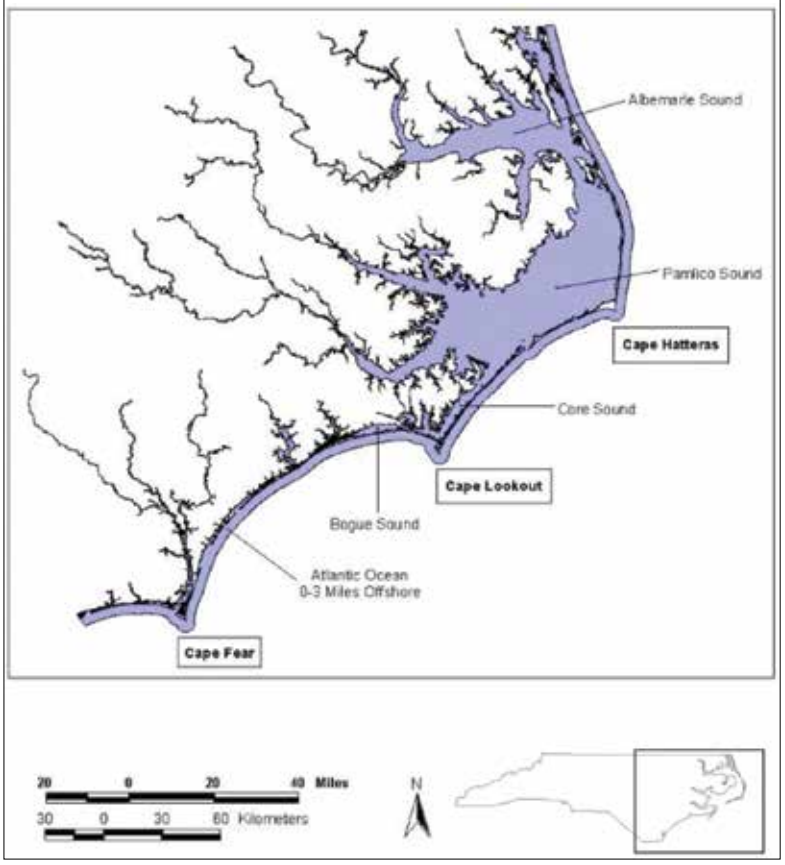
North Carolina is a state in the Southeast United States, bordering South Carolina and Georgia to the South, Tennessee to the west, Virginia to the north and the Atlantic Ocean to the east. The state is made up of 100 counties, and its two largest metropolitan areas are Raleigh and Charlotte.

In 2013, the estimated population of the state was 9 848 060 people. The median annual household income from 2008 to 2012 was USD 25 285, lower than for the national average (USD 28 051). From 2008 to 2012, an estimated 16.8 percent of the population lives below the poverty level, significantly higher than the national average (14.9 percent) (U.S. Census Bureau, 2014).

5. OVERVIEW OF FISHERIES IN NORTH CAROLINA

North Carolina has 484 km of coastline, ranking it as the state with the 7th longest coastline in the country. Major North Carolina water bodies can be seen in Figure 2.

FIGURE 2
Major North Carolina Water Bodies



For 2012, NOAA estimated that 25 708 tonnes of finfish and shellfish were commercially landed in the state, ranking North Carolina as having the highest commercial landings in the South Atlantic region (NOAA, 2012a). To provide some national context, these landings were relatively small in comparison to other states' landings in the same year, such as in Alaska (2 424 099 tonnes), Louisiana (550 755 tonnes), Virginia (209 531 tonnes), Washington (190 566 tonnes), California (162 461 tonnes), and Massachusetts (134 973 tonnes) (NOAA, 2012a). Furthermore, the majority of North Carolina fisheries could be defined as small-scale, with most fishing vessels measuring roughly 6 to 12 meters and generally utilizing non-mechanized gears such as crab/peeler pots, by-hand, gillnets, gigs, rakes, shrimp trawl, tongs and pound nets (North Carolina Division of Marine Fisheries, 2013 and H. Plyler, personal communication, 2014).

For 2012, species with the highest volumes landed in North Carolina were: blue crabs (12 149 tonnes), shrimp (2 786 tonnes), Atlantic croaker (1 410 tonnes), spiny dogfish (1 238 tonnes) and striped mullet (843 tonnes). That same year, the top ten valued species were (in order) hard shell blue crabs, shrimp, southern flounder, swordfish, summer flounder, oysters, clams, croaker, yellowfin tuna, soft shell crab and Spanish mackerel (North Carolina Division of Marine Fisheries, 2013). See Table 1 for their specific value in USD.

TABLE 1
2012 Value in landings, top ten species

Species	Value (USD)
Hard shell blue crabs	20 196 369
Shrimp	13 294 014
Southern flounder	4 450 847
Swordfish	3 009 107
Summer flounder	2 962 447
Oysters	2 906 267
Clams	2 255 269
Croaker	2 135 458
Yellowfin tuna	2 130 454
Soft shell crab	1 496 021
Spanish mackerel	1 374 648

Source: North Carolina Division of Marine Fisheries, 2013

North Carolina's fisheries have been facing significant declines in landings (both in volume and value) as well in the number of commercial fishers employed. According to Andreatta et al. from 1997 to 2007, there was a 53 percent decrease in the total number of pounds landed in the state, excluding the menhaden purse seine fishery (Andreatta, Nash and Martin, 2011). In the same vein, the value of commercially harvested fish and shellfish decreased by 25 percent from 1997 to 2007, with the deflated value decreasing by 42 percent over the same 10 years (McInerny and Bianchi, 2009). Some commercial fishers contend that one of the causes for these declines is increased market competition from cheaper, imported seafood products (Andreatta, Nash and Martin, 2011). Indeed, imports supply the majority of consumption in the country; it was estimated in 2011 about 91 percent of seafood consumed in the U.S. was imported, up by 5 percent from 2010 (NOAA, 2012b). Many fishers interviewed for this case study also reported increased regulatory management as another strong reason for the economic decline of the state's fisheries and the decreasing number of commercial fishers. See section 21.1 for a full discussion on regulation challenges fishers are facing in the state.

With these declines in market share and income, and increases in fuel prices, fishers have begun leaving the industry. In Carteret County, an area with a strong history of commercial fishing activity, one study found that from 1994 to 2008, the number of commercial fishers declined by 48 percent (McInery and Bianchi, 2009). Moreover, the number of wholesale seafood packing facilities in coastal North Carolina declined by 36 percent from 2001 to 2011 (Garrity-Blake and Nash, 2012).

In terms of state fisheries management, the North Carolina Division of Marine Fisheries (NCDMF) prepares state-level fishery management plans for commercially and recreationally significant species found in coastal state waters, defined as up to three miles offshore. These plans are then reviewed and adopted by the North Carolina Marine Fisheries Commission. Other interstate commissions and regional management councils develop management plans for species that migrate out of coastal state waters (NC Catch, 2014).

6. COLLECTIVE ACTION IN NORTH CAROLINA FISHERIES

"The only way you can have a voice in this state and in this country is to band together and speak with one voice, that's the only chance you've got because there are a lot of forces against you out there, and they come from a local, state and national level who have a lot more money, a lot more influence and a lot more propaganda ability than commercial fishermen"

–Ms Pam Morris

This section aims to provide a summary of some of the main trends in the history of collective action in North Carolina fisheries since the 1950s. It is in no way an extensive review and more research is needed to provide a full history. A brief overview

demonstrates that organization has been primarily initiated at the association and auxiliary level in reaction to regulatory management issues. These entities have been organized to support fishers within the fisheries management process. More recently, organization has focused on promoting and marketing North Carolina caught seafood with these efforts providing new opportunities for the sector.

6.1 A brief history

According to Ms Pam Morris, the Community Resources and Collections Coordinator at the Core Sound Waterfowl Museum and Heritage Center, collective action in the North Carolina's fisheries sector was formalized in the 1950s with the founding of The North Carolina Fisheries Association (NCFA) in 1952. NCFA is a non-profit trade association representing commercial fishermen, seafood dealers and processors. It is one of the oldest commercial fishing organizations in the country and serves as a state-level umbrella trade organization for North Carolina fisheries, actively lobbying local, state and federal legislators while strengthening public awareness of the fishing industry in the state.

Other entities that have developed in relation to organizing within the state's fisheries sector have taken the form of auxiliaries or associations, with these entities essentially functioning as "political packs" that focus on responding and adapting to fishery management issues and advocacy (P. Morris, personal communication, 2013). Most of these entities were developed at the more local level and are considered to be under the umbrella organization of NCFA. Interestingly, unions have not played a role within North Carolina's fishery sector, which is also the case in other economic sectors in the state such as in the textile and agriculture industry. This is likely due to a myriad of factors, including both environmental and structural. Environmental factors such as the anti-union political environment of the Southeast have likely played a strong role, especially in North Carolina, which ranks as the least-unionized state in the country (United States Department of Labor, 2014). Davis notes that compared to the Northeast, the Southeast United States also lacks a culture of trade unions. "In the Northeast, you're surrounded by (trade unions). This is not the case in North Carolina. There is no local tradition or culture of trade unions" (C. Davis, personal communication, 2014). In terms of structural factors that have led to a lack of union activity, it is helpful to compare North Carolina's sector to the Northeast's, where a strong history of unionization in fisheries took place (see Section 1). In general, North Carolina's sector has been made up of smaller, family owned boats that do not have crews, whereas the Northeast was composed of larger boats with crews, which is what primarily drove unionization there. Cooperatives have not played a strong role either, and though there was one effort in Dare County in 1974 to form a regional cooperative, that effort failed within a few years and the enterprise went into private ownership.

Beginning in the early 1990s, a number of groups in North Carolina formed at the county level as auxiliary groups to NCFA. These auxiliaries formed in response to impending regulations related to new gear restrictions and modifications that were being mandated by the state, user conflict between recreational and commercial fishing groups and a myriad of other factors. In relation to gear restrictions and modifications, the auxiliaries began helping fishers organize against new proposed gear mandates while at the same time working to help fishers adapt to the gears that had been mandated. According to Morris, the auxiliaries played a crucial role in finding ways for the fishers to be involved in the testing of the equipment in order to help secure these gears as feasible and economically viable.

Notably, women were the ones that established these auxiliary groups and led them, attending meetings, representing the group during visits to the state legislature to provide public commentary, organizing events and leading fundraising efforts. Mrs Karen Willis Amspacher, Executive Director of Core Sound Waterfowl Museum

and Heritage Center, notes that "the role of women was always strong because the men were always gone fishing" (K. Amspacher, personal communication, 2014). Women's leadership within auxiliaries is often noted as just another extension of their already supportive role, and in *The Fish House Opera,* authors write, "Women accustomed to mending nets, keeping accounts, filling out required state and federal fishery forms, driving fish trucks, and juggling a slew of other tasks simply added 'taking on the government' to the list of chores necessary to keep the family business up and running." (West and Garrity-Blake, 2003)

Following the early 90s, the largest regulatory overhaul in North Carolina fisheries occurred in 1997 with The Fisheries Reform Act, which "forever changed" fisheries in the state (P. Morris, personal communication, 2013). During its three-year development, policymakers declared a moratorium whereby no new commercial fishers would be welcomed in the state. A new fishery association, the Carteret County Fishermen's Association, formed during its development in order to provide inputs to these new proposed rules, which would have significant impacts on fishery livelihoods in the state. According to Morris, this association acted as "leaders that affected a lot of change that helped commercial fishermen" during the Fisheries Reform Act process, bringing independent voices together to have a unified voice, working to ensure that fishers were represented on appointed government committees and engaging in public relations (P. Morris, personal communication, 2013). Despite widespread protest from commercial fishers against the Fisheries Reform Act, the Act passed thereby establishing a licensing system and capping the number of standard commercial fishing licenses that can be held in the state, while also requiring the development of fishery management plans for commercially and recreational significant species. Since the Reform Act, a new association, the North Carolina Watermen United, formed in 2005 to work with and for all user groups of the water, including commercial, recreational and charter fishers. The Ocracoke Working Watermen, the entity which Part 3 and 4 are focused on, has also emerged as an important organization at the local and state level.

More recent regulations, such as House Bill 983 and a petition to re-classify internal coastal waters to ban shrimp trawling, both in 2013, have resulted in strong grassroots organizing. Fishers have organized to prepare public statements and showed up en masse to provide their input on the proposed regulations to the NCDMF during public commentary hearings. At the public commentary meeting on House Bill 983 in Raleigh, over 400 fishers attended, with about 100 providing public comments (H. Plyler, personal communication, 2014).

6.2 Challenges to collective action in North Carolina fisheries

North Carolina's fisheries face a number of challenges to collective action. Mrs Susan West, Community Leader and Journalist, stressed that the diversity in the state's fisheries makes organizing around regulations especially difficult. In particular, the wide range of species targeted means that stocks are managed by a variety of federal councils that meet up and down the Eastern seaboard, in places as far north as Maine and far south as Florida. "Keeping abreast of proposed regulatory changes is not only difficult, but it is also expensive for fishermen to travel to those (faraway) meeting locations" (S. West, personal communication, 2014). She notes that it can also be challenging to galvanize interest and action related to specific species as rather than the entire sector being affected, only that portion of North Carolina fishers which target those species will actually be impacted by the related regulation. The isolated nature of fishing communities and the distance between them only heightens these challenges, making it difficult for fishermen to receive the information they need to keep up with proposed and impending regulations, unless they are part of a larger fisheries group.

6.3 Recent efforts

More recently, in response to the growing public demand for local seafood, collective action has taken the form of 'catch groups', local organizations that work to promote and market North Carolina seafood through branding campaigns. Groups such as Carteret Catch, Brunswick Catch, Outer Banks Catch and Ocracoke Fresh were initiated at the county level in the early 2000s, with the goal to connect consumers to local seafood. In 2012, an umbrella state-level non-profit organization called NC Catch was established to represent all of the local county level groups and to lead a grassroots community and industry-based state-wide branding and educational campaign. As an educational resource for the public, their website presents relevant fishery regulations, a consumer guide to buying fresh seafood, recipes and a summary of all major state fisheries by species. Amspacher says she is hopeful that this new organization will provide the important "education, promotion and marketing piece" which fishers so significantly need. She explains further, "The whole local movement, support for local businesses, locally made products and especially the local foods movement has opened up all kinds of new doors for North Carolina local seafood. Our challenge is that fishermen do not really know how to step through this new door to new opportunities. We are working with other agencies such as North Carolina Sea Grant and North Carolina Department of Agriculture to help fishermen rethink the way they sell their catch. Local demand for North Carolina's seafood is very important good news for the fishermen and more and more they are working together to build on that demand" (K. Amspacher, personal communication, 2014).

Trends toward local consumption have also offered opportunities for fishers to try to reach new markets to stabilize and increase their incomes with a growing number of businesses now selling locally caught seafood to inland communities in the state, thereby developing shorter value chains, helping to increase profits and providing more access to North Carolina caught seafood. Amspacher speaks of this development as "the encouraging side of the industry, these are opportunities that didn't exist before." (K. Amspacher, personal communication, 2014).

PART 3 – CASE STUDY ON OCRACOKE WORKING WATERMEN'S ASSOCIATION AND OCRACOKE SEAFOOD COMPANY

7. INTRODUCTION

In selecting an organization for this case study, many familiar with North Carolina fisheries suggested approaching the Ocracoke Working Watermen's Association (OWWA), a 'cooperative' that would be in line with the case study's focus on collective action and organizing. From initial research, the model seemed simple in that OWWA collectively owned Ocracoke Seafood Company (herein referred to as Ocracoke Seafood), a fish house and retail store. However, over the course of this research, what was revealed was an organizational form that is much more complex than what is traditionally perceived as a cooperative. Rather, OWWA and Ocracoke Seafood are separate but linked entities that are multi-faceted, innovative and have evolved with a focus on economic, environmental and social sustainability with significant support from the Ocracoke Foundation (OFI), the watermen themselves, the larger community, politicians and dedicated state organizations. The form is most similar to what Kurien (2013) deems a "new supported organizational form", based on "collective action which is co-operational, multi-interest (cross-class) and multi-layered with revived interest by state, international organization and NGOs."

During research for this case study, conflicting and confusing information at times arose on the structure of the organizational form itself, governance, membership and other aspects. For instance, when asked what kind of organizational form Ocracoke

Seafood and OWWA existed as, watermen provided a variety of answers, such as a business, semi-cooperative and/or cooperative for the former and a non-profit and/or project for the latter. There were also unclear and conflicting answers as to how both entities worked together, and at the same time, were distinct from one another. This confusion seemed to stem from the structure's hybrid nature (further detailed in Section 9), as well as its informality. Rather than this confusion being viewed as only negative, it instead demonstrated both the inclusivity of the new supported organizational form, as well as its complexity, providing insight into how this complexity can play out in the day to day of collective action in small-scale fisheries. Creating more formal documents on the framework of these entities along with discussion with the watermen on the framework and why it matters, could provide further clarity here as well as in other areas. It is hoped that parts of this case study will provide more of a formal document on certain organizational aspects that will be useful to OWWA, Ocracoke Seafood and OFI.

Though the scope of the OWWA and Ocracoke Seafood is small, involving only around 35 watermen, the initiatives driven and supported by the watermen reflect an example of strong collective action in small-scale fisheries that could provide lessons for other small fishing communities.

8. OCRACOKE

Before delving into the organizational form of OWWA and Ocracoke Seafood, a context of Ocracoke Island will be provided.

Part of the North Carolina Outer Banks, Ocracoke is one of a chain of islands that form a barrier between the Atlantic Ocean and the sounds behind the islands (Ballance, 1989). As one of the most remote islands in the Outer Banks, it can only be reached by one of three public ferries, private boat, or private plane. According to the 2010 census, the island's population was 948 (Census Viewer, 2010). Other than the village of Ocracoke, most of the island is designated as part of the Cape Hatteras National Seashore with the village listed on the National Register of Historic Places.

Ocracoke is part of Hyde County, which is currently classified by the North Carolina as a Tier 1 county, which means that the county is facing a combination of the following issues: high unemployment rates, low per capita income and low percentage growth in population.

As an isolated community with a small population, tourism serves as Ocracoke's main economic activity. Most of the jobs on the island are low paying service industry related and individuals require one or two additional jobs on top of their primary employment. The highest paying occupations are major business owners within the lodging, restaurant and real estate industry. Trade employers associated with the construction industry are next. Third is state and federal workers; teachers, law enforcement, ferry division, transportation, national park service and health care (R. Payne, personal communication, 2014).

In terms of fisheries, Ocracoke has a strong fishing heritage with both commercial and recreational fishing contributing to the economy (Ballance, 1989). Interviewees estimated that there were about 35 commercial watermen on the island, with the majority fishing part-time, which provides a vital source of supplementary income as well as access to local seafood for the community. Part-time work in the tourism sector, including sport fishing, duck hunting, and water sports, provides additional income. It was estimated that zero to five men on the island were full-time commercial watermen.

The Ocracoke community refers to fishers as 'watermen' in order to be reflective and inclusive of all those who work on the water, including those who run charter boats, fish recreationally or who target species beyond fish, such as oysters, clams and

crabs. As 'watermen' is the language used by the Ocracoke community, the term will be used in all subsequent sections of the case study (unless using a direct quote) and is used inclusively for both men and women.

9. ORGANIZATIONAL FORM AND LEGAL FRAMEWORK

This section will provide an in-depth look at the organizational form of three entities, including: OFI, OWWA and Ocracoke Seafood. Though the case study will focus on OWWA and Ocracoke Seafood, OFI will also be discussed in this section as the organization played such a strong role in their development. Finally, the section will examine how OWWA and Ocracoke Seafood were developed under the legal framework of a Memorandum of Understanding (MOU) and how the organizational form evolved.

9.1 Memorandum of Understanding as a legal framework

The MOU between OFI and OWWA is the legal framework that demonstrates the organizational form of OWWA and Ocracoke Seafood. As stated in the MOU, OWWA is formally a direct project that OFI, a non-profit organization, incorporated. Ocracoke Seafood is a for-profit subsidiary that OFI also incorporated. As such, OFI serves as the sole shareholder in Ocracoke Seafood, thereby owning all stocks for the purpose of ensuring the mission.

9.2 The Ocracoke Foundation

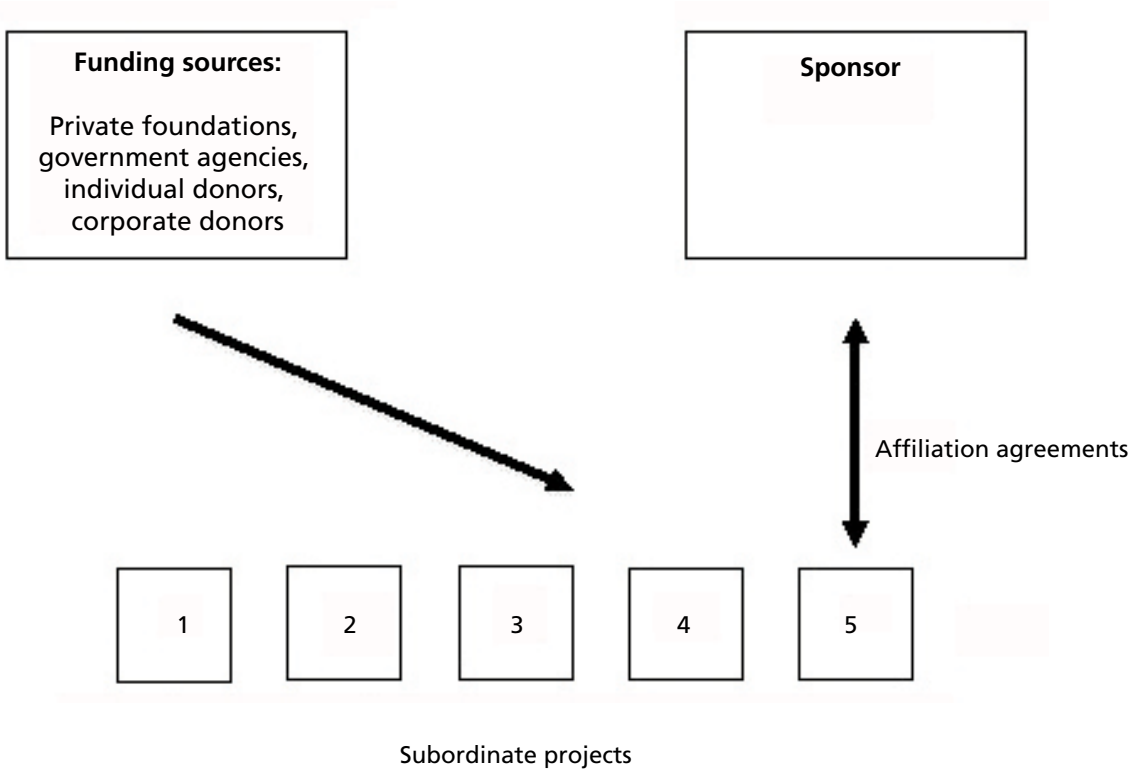
OFI is a non-profit organization that was established to assist the community of Ocracoke with its educational, social, infrastructure, economic, environmental and social needs. This work is done through direct projects or assisting fledging groups in the development of a separate entity provided it falls under OFI's mission guidelines. Key to OFI's mission is to ensure that all endeavours that they support tie together educational, social, infrastructure, economic, environmental and social aspects in order to best ensure the project's sustainability and long-term benefits to the community. The development of OWWA and Ocracoke Seafood was OFI's first formalized attempt in working towards these aims, and thus the experience was an iterative process that helped OFI distinguish themselves as an organization and one which guided their future work.

The concept for OFI began in 2003, when a group of community members organized an effort to save a historic piece of property that could be used to address a number of local economic needs. Over the next few years, a number of similar community-based efforts were initiated, however these ultimately were not sustainable as there was no organization to facilitate and house the projects. Ms Robin Payne, now Executive Director of OFI explains, "sitting on the periphery, what I saw was numerous groups of volunteers and organizations struggling to address specific needs and support themselves. These island groups and programs had the right idea and the dedication but no government or local support structure readily available," resulting in a number of needed projects failing to incubate (R. Payne, personal communication, 2014). Watching this process, it became clear to Payne that a comprehensive non-profit organization focusing on supporting environmental, educational and social needs in Ocracoke was needed. The non-profit would be able to help develop projects, own property (when it benefited the community and/or environment), write and administer grants and provide community outreach as well as technical and fiscal assistance. With Ocracoke's last remaining fish house put up for sale in April of 2006, Payne decided that it was time to initiate OFI as the 'vessel' to help the watermen. Thus, though it was not intentionally planned this way, OFI was formally established as a non-profit organization in August of 2006, around the same time that OWWA and Ocracoke Seafood were being developed.

9.3 Ocracoke Working Watermen's Association

After incorporating as a non-profit, OFI's Board of Directors unanimously approved the establishment and incorporation of OWWA as a direct project under OFI's non-profit umbrella in August of 2006. OWWA has a separate Board with mission specific guidelines and operates under its sponsor's (OFI) non-profit status. The group is, however, considered a separate legal identify. Practically speaking, this means that OWWA is able to receive tax-deductible donations directly from donors. This is a fiscal sponsorship arrangement known as the Group Exemption Model (Presentation on Fiscal Sponsorship).

FIGURE 3
Group Exemption



Source: Colvin, 2006

As stated in the MOU, OWWA is to be made up of Ocracoke watermen and was established with the purpose of "preserving the maritime heritage of Ocracoke, supporting the needs of all working watermen and responsibly promoting seafood assets for a long term seafood industry." The MOU states that OFI will have no involvement in the day-to-day management of OWWA, but provides fiscal sponsorship, technical assistance and helps with education and outreach.

9.4 Ocracoke Seafood Company

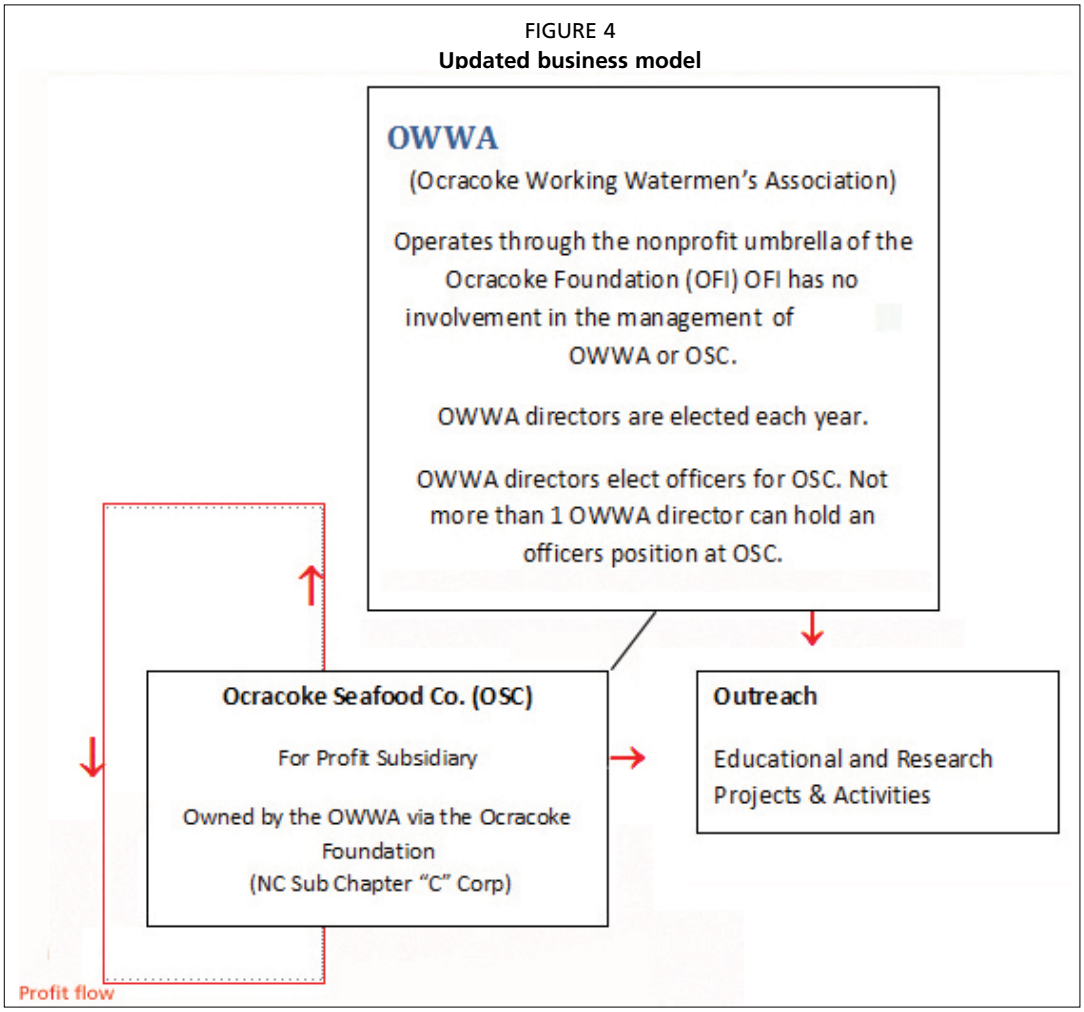
In May of 2007, OFI also incorporated Ocracoke Seafood, a separate entity that is a for-profit subsidiary under OFI's non-profit umbrella.

Ocracoke Seafood serves as a base of operations for about 35 watermen from Ocracoke as well as for watermen from neighbouring communities along the coast. The business has a wholesale and retail side that is open from the spring through early December, when it closes for the winter as fishing substantially slows. After covering

expenses, all profits made are either reinvested in the business or in a profit sharing program giving back to watermen based on individual annual landings. OFI are the sole shareholders of the company to ensure the mission, but receive no income from Ocracoke Seafood and as with OWWA, have no say in its day-to-day operations.

Thus, there is no individual owner of Ocracoke Seafood, rather, as demonstrated in the updated business model in Figure 4, it is collectively owned by "OWWA via OFI". OWWA and Ocracoke Seafood are clearly connected in that the watermen of OWWA sell their seafood directly to Ocracoke Seafood, but they are also further linked through this collective ownership concept.

FIGURE 4
Updated business model



9.5 Evolution of organizational form

The development of the innovative organizational form of OWWA and Ocracoke Seafood is an interesting process in and of itself that will be further explored here.

First, though it was always recognized that Ocracoke Seafood was to be run as a for-profit business (and ultimately would end up as a for-profit subsidiary of the parent non-profit), leaders realized that a non-profit arm (OWWA) should also be developed. This realization came during initial development meetings with the watermen, which demonstrated that there was both a need for a fish house (which Ocracoke Seafood would satisfy) and a need for educational outreach (which Ocracoke Seafood was not

positioned to fill). According to Payne, this need for educational outreach surfaced when watermen began discussing the responsibility they felt to educate the public about the important role the watermen play as stewards of the environment, local fishing heritage and restoration of Ocracoke's fisheries, with this responsibility becoming the driver behind developing OWWA.

Thus, with these two needs identified, a two-pronged approach was established, with OWWA as the non-profit arm and Ocracoke Seafood as the for-profit arm. Leaders referred to this innovative approach as a "joint business non-profit concept," (D. Hilton, personal communication, 2014) with an "attitude of social entrepreneurship" (R. Payne, personal communication, 2014). Though distinct entities with their own purpose, activities and governance, most interviewees referred to OWWA and Ocracoke Seafood interchangeably as they are strongly linked.

Another aspect that had to be explored was in deciding what kind of organizational form these two entities would exist as. As seen in Figure 5, both watermen and OFI carefully considered a range of options based on their needs and goals. Private ownership was considered but not viewed as feasible due to the facts: 1) it would have prohibited grant funding availability, 2) would have resulted in a single perspective on how to run the business, 3) no long-term security, and 4) not all watermen would be served. A traditional cooperative was also considered, but watermen brought up concerns they had with cooperative management and organizing ownership between thirty plus watermen, thereby making it a weak option. Likewise, OWWA and Ocracoke Seafood could not be owned publically by Ocracoke nor could they be housed under an existing non-profit organization, as none existed to provide long-term stewardship. Finally, although forming the two entities as its own non-profit was considered, watermen made it clear that they did not want to spend their time managing a non-profit. Furthermore, grant funds must be used to provide for all watermen, not a specific group and thus grantees being the direct beneficiaries would have severely limited grant funding.

FIGURE 5
Organizational Forms Considered by the Watermen

Private ownership	Traditional cooperative	House under an existing non-profit	Town or county to own, with a watermen's group to be established to hold lease	Form new watermen's non-profit as a single functioning entity	*Create new non-profit as the parent organization
-No grants available for new, privately owned business -No individual coming forward with USD 325 000 to purchase business -If privately owned, there would be no flexibility to address local fishing industry potential	-Collective oversight, management and tracking of volunteer activity would be a challenge -Watermen felt they worked individually and as such, there was no way for them to function uniformly	-No existing organization with capability to provide long-range stewardship	-Ocracoke not a town, very distinct from county	-Watermen want to fish, do not want to spend time managing a non-profit -Small community is unable to form new non-profit every time a need arises -Grant criteria specifies that grants must be for charitable reasons, not available when grantee is beneficiary	-Custom tailor to meet needs and long-term plans

Source: Ocracoke Foundation, 2010

Based on this exercise, it was decided that OFI, the new non-profit organization, would serve as the 'parent organization' for both OWWA and Ocracoke Seafood. This would mean that OFI would provide fiscal sponsorship to OWWA, its direct project and would be the primary shareholders of Ocracoke Seafood, its for-profit subsidiary.

Payne notes that two important benefits came about from this organization form. One, with OFI as the sponsor, OWWA's mission could be ensured. OFI wrote and administered grants, provided tax deductions for qualifying donations, maintains a watermen's educational exhibit, continues to provide educational outreach and secured permits for the oyster restoration project. Two, with OFI as the sole shareholders of Ocracoke Seafood, they provide a sort of "safety net to the business" in case it ever fell apart, as OFI could revive it using a collective approach rather than letting it fall into private ownership again (R. Payne, personal communication, 2014). Despite being the parent organization, it is important to note that OFI does not exercise control over OWWA or Ocracoke Seafood. Payne stresses this, "The role of OFI was to listen and then facilitate the development of a sustainable industry for the benefit of all watermen. Once the initial work was done, it is up to industry stakeholders to guide. It is their livelihood and their community. OFI as shareholders offers a safety net, preservation of the mission should it stumble and keeps each watermen on an equal playing field." (R. Payne, personal communication, 2014)

The organizational form of OFI, OWWA and Ocracoke Seafood will continue to evolve. Some leaders of the group think that as OWWA grows and continues to develop its mission, it may make more sense for it to become its own non-profit organization. Another thought that it could be beneficial for OWWA to approve the establishment of an endowment fund for educational and travel purposes through OFI. In terms of Ocracoke Seafood, it was also expressed that shares from the company should possibly be given to OWWA rather than be held by OFI. In weighing these decisions, Payne hopes the group understands to ensure sustainability of small-scale fisheries in the community, widespread representation, commitment and understanding of and to the mission is essential. She believes that having a separate but mission supportive entity as the shareholders is essential and works to keep all watermen on a level playing field.

10. REVIEW OF THE MEMORANDUM OF UNDERSTANDING (MOU) AND OTHER DOCUMENTS

As discussed above, both OWWA and Ocracoke Seafood were incorporated by OFI, with an MOU developed as the guiding framework between these three entities. The MOU acts as a conceptualization of OWWA's and Ocracoke Seafood's legal identity with "documented rules that all parties involved have agreed on" in order to guide each entity (R. Payne, personal communication, 2014). The MOU remains the original and most formalized legal paperwork, but additional documents such as a three-year review and updated business model have been written to further detail the structure and activities of all three entities. Key aspects of the MOU and other documents will be reviewed here, including protection of tax-exempt status, use of funds and technical assistance.

10.1 Tax-exempt status and use of funds

Within the MOU, OFI agreed to provide fiscal sponsorship to OWWA. This means that under their organizational form, OFI was able to accept tax deductions on behalf of OWWA, provided that the funds OWWA received were used for educational and mission related needs. OWWA further agreed to use funds received through OFI solely for legitimate expenses and not in any way that would jeopardize the tax-exempt status of OFI. In a follow up document from 2009, it is stated that a percentage of donations for OWWA may be used for needs associated with Ocracoke Seafood, but these funds may not be used to run the business as this would result in the loss of non-profit status.

10.2 Technical assistance

In terms of technical assistance, the MOU clearly outlines the way in which OFI would provide assistance to OWWA, both during its development stages as well as afterwards. Along with general support in developing and organizing OWWA, OFI agreed to provide if needed: office and accounting support, help in finding funding sources, aid in writing grants, business plans, proposals and presentations, and support in developing community press relations. In their three year review document from 2009, it is further stated that OFI will provide assistance in creating newsletters, developing and maintaining a website, planning educational events, assisting with developing promotional items, maintaining OWWA's outreach list, developing and sustaining the Working Watermen's Exhibit and fostering hands-on learning with watermen to the public.

11. GOVERNANCE

OWWA annually elects Representatives for the main economic activities of Ocracoke watermen, including fin fishing, crabbing, clamming and charter fishing. It is the role of these leaders to represent their subsector's perspective within OWWA, meaning that they gather input from those watermen and if needed, speak on behalf of their subsector during an OWWA meeting. In addition to these Representatives, OWWA also elects a Board of Officers for Ocracoke Seafood, including a President, Vice-President, Treasurer and Secretary. All proposals related to Ocracoke Seafood are put to this Board for final acceptance. Other than one member, OWWA Representatives and Board of Officers must be made up of different individuals, and therefore a Representative cannot also serve on the Board of Officers. All of these governance positions are unpaid volunteer positions that serve for a one year-term with the position then being open for re-election. Mr David Hilton has served as the President of Ocracoke Seafood Company since 2008.

Governance provided by OWWA is explicitly conducted through the election and leadership of the Representatives and Ocracoke Seafood Board of Officers, but governance goes a step further with OWWA reviewing the year-end financials as a group, which provides credibility and transparency to the business. Furthermore, OWWA's governance of Ocracoke Seafood is underscored in the MOU when it states that the hired Manager of the company must follow the direction of OSC Officers who must take into consideration OWWA's group decisions and long range plans.

12. PROCESS

This section will provide an overview of the origins of the entities involved as well as the process undertaken to maintain Ocracoke's commercial fishing sector.

12.1 Origins

In February 2006, the Ocracoke community learned that the last and only remaining fish house was being put up for sale. The fish house had been privately owned with a 99-year lease in place and was put on the market for USD 325 000. Ocracoke watermen recognized that with no fish house on the island, fishing would no longer be a viable economic activity as they would not have access to a convenient place to sell their fish, distribution or bulk ice. This lesson had been recognized in the year previously as the fish house had already been closed for a year before going on the market, forcing watermen to make nearly a three hour round trip drive to sell their catch off the island. This experience made it clear to watermen that this was not cost effective and not how they wanted to be spending their time. In addition to directly affecting their livelihoods, the closure of the fish house would also negatively impact tourism as with no fish house, no fresh seafood would be available for restaurants.

The community also greatly valued Ocracoke's fishing heritage, wanting to maintain fishing on the island and ensure its viability for the future. Meetings began to be held within the community about saving the fish house to keep it in business and sustain the commercial fishing sector (see Table 2).

TABLE 2
Timeline of the process

Needs assessment/organizational period	**February 2006–May 2007**
• Fish house put up for sale	February 2006
• One year leased signed by Paynes	June 2006
• OFI established	August 2006
• OWWA established	August 2006
• Ocracoke Seafood established	May 2007
Phase 1: Fundraising to purchase fish house and lease and conduct renovations	**August 2006–December 2008**
• Awarded NC Rural Center grant (USD 325 000)	August 2007
• Fish house business and lease purchased by OWWA	November 2007
• Received Golden Leaf grant (USD 407 710)	December 2008
Phase 2: Renovations	**December 2008–spring 2009**
Phase 3: Expanding into value-added development	**February 2009–present**
• Logo/branding completed	May 2010
• Website completed	May 2010
• Watermen's exhibit developed	May 2010
• Exploring value added	ongoing

Note that the development of the organizational form of OWWA and Ocracoke Seafood was in and of itself an interesting and valuable process, with this evolution detailed in Section 9.5.

12.2 Needs assessment/organizational period for OWWA and OSC: February 2006-May 2007

When the fish house was put up for sale, Payne was in the process of establishing OFI, the non-profit organization (see Section 9.2 for more details on this). When developing the non-profit, Payne began facilitating a series of meetings with the watermen, which served as an informal needs assessment. Meetings discussed what the watermen's needs were, why the fish house was important to the community and long-range goals for Ocracoke's fisheries. The watermen demonstrated that the fish house was a vital part of the Ocracoke community due to the fact that it helped to create and retain jobs, contributed to Ocracoke's maritime cultural heritage and quant fishing village atmosphere, helped to develop and maintain tourism, provided access to fresh and local seafood and added to the local economy via sales tax.

At meetings with watermen about the closure, several needs and issues emerged, including:

- An interim plan for the fish house was needed to allow watermen to continue to fish before a formal plan has been established.
- In private ownership of a fish house, watermen recognized that a middleman can pose a problem.
- All watermen needed to be assisted, including clammers, crabbers, oystermen, fishers.
- Watermen faced obstacles such as regulations, weather, pollution, cheap imports, and;
- Educating the public was deemed necessary (Ocracoke Foundation, 2010).

Payne also tagged responses to the idea of collectively purchasing the fish house, answering questions such as: "Why would we do this? What are your concerns? Do you think there is any growth potential? What are your obstacles? Who would the seafood house serve?" (R. Payne, personal communication, 2014).

Based on this needs assessment and careful consideration, the organizational form between OFI, OWWA and Ocracoke Seafood was developed (for more on this see Section 9.5) and work began towards establishing OWWA and Ocracoke Seafood as formal entities. This was key, both in order to provide ownership over the fish house and to be able to apply for and receive financial grants.

However, the process towards establishing OWWA and Ocracoke Seafood took time, and in order to provide an interim plan for the fish house to begin operating again as soon as possible, Robin and Thomas Payne initially leased the fish house in June of 2006 for one year. This was done in their personal names as no formal entity had been established to hold the lease. The Paynes gave the watermen full utilization of the fish house during this time. The initial lease, first year's rent and repairs were paid by a personal loan of USD 50 000 from the Paynes. The watermen decided to run the fish house collectively for one year before any formal MOU or corporate documents were created in order to provide time for OWWA and Ocracoke Seafood to be developed and to learn how it would work to run the fish house in a collective manner.

12.3 Phase 1, Purchasing the existing business and lease: August 2006-December 2008

Once OFI, OWWA and Ocracoke Seafood were established, the first phase was initiated, with the goal to purchase the fish house and lease, transferring the lease title from the Paynes to Ocracoke Seafood. In order to achieve this goal, this first phase focused on fundraising, organizing community fundraisers (oyster roasts and fish-fry's), providing outreach for individual donations, applying for grants and garnering political support for these efforts. Nearly all of the watermen were involved in helping with community fundraisers and outreach for donations, while OFI led the grant applications, educational/promotional outreach at off-island events and press relations. Local and political leaders were also involved in these efforts as well (see Section 19.5 for more information on this).

In terms of grants, OFI applied for and received the following grants from state and county organizations: an interim loan from Hyde County's Revolving Loan Fund (USD 325 000), The NC Rural Economic Development Center (USD 325 000), and Golden LEAF Foundation (USD 407 710). Payne led the writing of the grants, along with Gene Balance, now Ocracoke's Seafood Data Manager. Soliciting watermen's inputs for incorporation into the grant applications was crucial, and Payne worked to ensure it was a participatory process by daily phone calls, emails or taking questions directly to the "steering wheel" of the watermen's trucks (R. Payne, personal communication, 2014). Additional meetings were held with the watermen in order for her to get the group's overall feedback.

Using initial funding from the Hyde County Revolving Loan, the fish house business and lease term (set to expire in 2074) was purchased in November 2007 by OWWA for USD 325 000. At this time, the Payne's lease over the fish house was transferred to Ocracoke Seafood and the necessary federal and state filings were completed.

12.4 Phase 2, renovating the existing structure and updating equipment: December 2008-Spring 2009

Once the fish house was purchased, the second phase was initiated with the goal to renovate the existing structure, update the equipment and obtain the required permits and licenses in order to process seafood in a code compliant structure. This was a significant amount of work and expense, as nearly half the building had to be taken

down, a new foundation was poured and the building was rebuilt with a new roof. In terms of equipment, the entire refrigeration system was replaced, a new ice machine and compressors were installed, the electrical system was redone and the retail store was re-modelled. Renovations took over four months and was paid for by funding from the Golden LEAF grant (USD 407 710).

As with fundraising, renovations were a "community based effort" with "a lot of people giving a lot of time without pay" (D. Hilton, personal communication, 2014). For instance, the dock was entirely built by community members and watermen. Contractors were hired to complete other more technical aspects of the reconstruction, such as pouring concrete and getting new ice machines installed. Renovations were completed in the spring of 2009, and the business began operating in its renovated space immediately afterwards.

12.5 Phase 3, Expanding into value added development: February 2009-present

With the fish house renovated and operations fully initiated, OWWA and Ocracoke Seafood then expanded into the third phase of the process, value added development. The watermen are still currently working towards these efforts, and thus far have focused on marketing and brand development in their retail store with the goal to differentiate their product.

To work towards these efforts, the first step was to create a brand and marketing strategy for Ocracoke Seafood, one which represented the watermen, the fish house and its purpose. OWWA and Ocracoke Seafood partnered with North Carolina Sea Grant to participate in three marketing workshops to explore Ocracoke Seafood's assets, brand name development, direct marketing strategies and long-range goals. From these workshops, North Carolina Sea Grant concluded that by promoting Ocracoke Seafood's unique assets and creating a brand, Ocracoke Seafood had "the capability to expand its operation and reach one of its primary goals, developing a thriving commercial fishing industry" (Ocracoke Seafood Company, 2009).

During the workshops, watermen began by assessing Ocracoke Seafood's strengths and weaknesses as a business, as well as the attributes that defined their methods of small-scale fishing. From these findings and with the help of North Carolina Sea Grant, a logo and brand were developed to represent their business. The logo and branding "Ocracoke Fresh" was completed in May of 2010, with a website and other brochures developed as well. The aim of the brand name campaign was to take Ocracoke Seafood "beyond its basic level of operating as only a bulk whole fish processor" and differentiate its high quality products in the market place (Ocracoke Seafood Company, 2009).

FIGURE 6
Logo developed from the basis of a photograph, portraying location (lighthouse), tradition (pound nets) and by-hand (waterman on a small boat)

Ocracoke Pound Netters

Final Logo Choice

Source: Ocracoke Seafood Company, 2009

Workshops also explored further issues including how the watermen saw Ocracoke Seafood as a leader in their industry, their greatest challenges and future vision. Findings concluded that increasing Ocracoke's Seafood clam and oyster production, developing sushi grade flounder, packaging prepared foods (to market, sell online and ship off-island), creating a soft shell/peeler marketing and being able to provide a better variety by offshore species to the retail market would be next steps for Ocracoke Seafood's growth.

13. MISSION, OBJECTIVES AND MAIN ACTIVITIES

Within this section, the mission, objectives and activities of both OWWA and Ocracoke Seafood will be discussed.

13.1 Ocracoke Working Watermen's Association Mission and Objectives

OWWA's mission is to promote and sustain the local fishing industry. OWWA's mission of sustainability calls for Ocracoke Seafood to act as a base of operations where the needs of all watermen are met and to carry out the below primary objectives.

OWWA's primary objectives can be categorized into three main areas, including education, research and restoration and providing an industry voice.

TABLE 3
OWWA's primary objectives

Education: • Educate the travelling public about Ocracoke's maritime past and present • Provide educational opportunities for the watermen • Responsibly promote Ocracoke's seafood related assets
Research and restoration: 13. Engage in monitoring and restoration efforts
Providing an industry voice: • Provide a forum through which all watermen have a voice

13.2 Educational activities of OWWA

In terms of education, watermen believe it is vital to teach the public about traditional fishing methods, restoration efforts and watermen's role in the community and heritage. There was also a significant need for education, as tourists, teacher groups, political leaders, associations and others visited the island wanting to learn more about how the island's last fish house had been saved. Payne saw this as an opportunity, "There was a huge story to be told," she said, "up and down the Eastern seaboard, fish houses were closing. Real estate values, cheaper imports and regulations were the primary obstacles. Ocracoke's story stood apart from other fish houses: 'Traditional fishing village staves off possible extinction'. People connected with this" (R. Payne, personal communication, 2014).

In this spirit, OWWA and OFI developed the 'Working Watermen's Exhibit', located in a former fish house (now a nationally registered historic structure) to highlight how fishing, past and present, plays an important role in connecting the local community, environment, traditional workplace, and the economy. The exhibit has short video clips on different topics, printed materials from North Carolina fishery organizations and models set up of traditional fishing gear such as pound nets. In addition, the exhibit explains how the fish house was saved, how OWWA works and how fishing in the natural environment can be practiced responsibly. The exhibit serves as a destination point for visitors, who can informally walk in to view the exhibit as well as schedule more formal visits for classes and special events. As a destination point, the exhibit provides a unique setting for watermen to give talks in, whether on fishing

heritage, current oyster restoration efforts or other related topics. The ultimate goal of the exhibit is not to show what used to be, but rather that fishing is "still very much alive" in Ocraocoke (R. Payne, personal communication, 2014).

FIGURE 7
Watermen's Exhibit

Photo credit: Robin Payne

Photo credit: Anna Child

In addition to the exhibit, OWWA holds free classes for the public in the summer on wetlands, oysters, crabs and other topics. With five classes offered per week in the summer season, they are well attended. Each week, class participants are taken down to visit Ocracoke Seafood as well.

13.3 Research and restoration activities of OWWA

Within research and restoration, OWWA and OFI currently have an oyster spat monitoring program to evaluate the health of oyster stocks. In addition, they instituted an oyster restoration project in the spring of 2010, which involved obtaining an oyster lease on a historic oyster bed and planting oyster shells to help initiate the process of

oysters growing. Funding for the project (supplied by Golden LEAF) allowed for the purchase of a barge, motor, trailer, and some oyster cultch materials as well as the yearly allotment provided to the Ocracoke area. Since then, full-time watermen Mr Bill Evans says that OWWA is still "very much involved" in helping to strengthen the oyster reefs near Ocracoke with these efforts ongoing (B. Evans, personal communication, 2014). Thus far, the restoration has proved successful as they learn how to grow oysters closer to the island while keeping them disease free.

13.4 OWWA providing an industry voice

OWWA engages in political activities in a number of different ways. The first is via their regular meetings, which provide a forum to discuss new and impending fisheries regulations, mostly at the state level. Mr James Barrie Gaskill, the oldest waterman in the group, explains that leaders discuss which regulations may be coming in the near future, "what the consequences are going to be, what we can do, what we need to do and how it will effect us" (J. Barrie Gaskill, personal communication, 2014). These discussions not only further watermen's understanding of new regulations, but also aid in helping watermen learn how they may need to adapt their gear types and fishing practices.

OWWA also responds to proposed regulations by presenting their collective comment during public commentary hearings, in which watermen are invited to provide their opinions on proposed regulations in front of the NCDMF Commission. This is a careful process to engage in, with OWWA discussing the proposed regulation, preparing their collective comment as a group and then travelling to the hearings to present it. Recently, in March of 2013, OWWA travelled to Raleigh to present their collective comment against a proposed House Bill. One of the youngest watermen, Mr Morty Gaskill Jr., a 20-year-old waterman and university student, presented their statement, iterating how this bill would hurt the commercial fishing industry of North Carolina and make a number of species inaccessible to the average North Carolina consumer.

13.5 Ocracoke Seafood's Objective

Ocracoke Seafood goes beyond just providing a fish house to the watermen, with the objective to "work for the watermen" providing a "vehicle so that (watermen) can do better" (R. Payne, personal communication, 2014). This means that the business' primary goal is not to achieve significant profits, as "the profit Ocracoke Seafood makes is meant to cover the bills and no more" (D. Hilton, personal communication, 2014). Instead, the overarching goal is to "build a sustainable fishing industry on Ocracoke, which contributes to the long-term health of Ocracoke and its community", sustaining quality jobs, creating economic diversity, preserving history and reinvesting the profit into the local community (R. Payne, personal communication, 2014). Mr Hardy Plyler, the Manager of Ocracoke Seafood since 2006, highlights its role in tourism; as "a community based business," Ocracoke Seafood "sets a tone for the fishing village (of Ocracoke) that attracts the tourists and benefits every business on Ocracoke" (H. Plyler, personal communication, 2014).

Plyler notes that despite these more socially entrepreneurial objective and goals, business objectives must still be in place: "It has to be run like a business…that means no waste, keeping the sanitation rules, HAACP rules…it's got to be done right (H. Plyler, personal communication, 2014). He also stressed that their unique model does not mean they are immune to challenges that other fish houses experience, noting that the fish house business in the country in general is "all about volume" and holding "a tight line on spending" (H. Plyler, personal communication, 2014).

The company has four paid full-time employees in season, including a General Manager, Retail Manager and Wholesale Floor Manager, Data Manager.

13.6 Ocracoke Seafood's Wholesale and Retail Activities

On the wholesale side, Ocracoke Seafood buys from about 20 to 25 watermen regularly when in season. An additional ten watermen sell to Ocracoke Seafood in high fishing season, such as in the flounder season in the fall. Plyler estimates that around 90 percent of these volumes are then sold about two to three times a week to Wanchese Fish Company, a wholesale and distributor based in the Southeast, with a location in North Carolina. Wanchese sells aggregate volumes to established markets in the mid-Atlantic and Northeast United States, including Washington D.C., Philadelphia, New York and Boston.

With Ocracoke Seafood not aiming to maximize their profit as a wholesaler, this allows more of the economic benefits to go directly to the watermen in terms of the price received for their catch. Generally, fish houses in the region take 30 to 45 cents on every pound, with watermen getting paid the difference. However, Ocracoke Seafood has been able to decrease the margin that they take because of their unique business model, allowing their margin to be "lower than industry average", thereby covering their fixed costs (labour, ice, cardboard boxes) but not making a profit for Ocracoke Seafood beyond that (D. Hilton, personal communication, 2014). Though working on smaller margin than other fish houses, Plyler is careful to put this in perspective, noting that though they "work on less of a margin than most do," it is "not by much" as again, the company must cover its fixed costs in order to operate. "You're working with a perishable product selling it essentially on consignment," said Plyler, "it's a tricky business." However, this does allow for Ocracoke Seafood to pay the watermen higher prices for their catch, which Plyler notes makes it "easier to work with them and keeps them loyal" (H. Plyler, personal communication, 2014).

All prices paid to watermen and received from Wanchese Fish Company are posted publically in order to be transparent about the profit margin Ocracoke Seafood is making. As a group, OWWA annually meets to go over the profit made and discusses how it may be used outside of regular operating costs. If there is a profit remaining after fixed costs, repairs needed, etc, the group does a dividend return, giving watermen a percentage of this profit based on their catch volume that year.

On the retail side, Ocracoke Seafood has a seasonal shop that provides local seafood for community members and tourists. Plyler estimates that an annual average of about 10 percent of volumes is sold at the retail level. Watermen are proud of the fact that the retail store mostly features inshore fish caught by the Ocracoke watermen as well as some offshore North Carolina caught fish (tuna, tilefish, mahi mahi, wahoo) from Wanchese Fish Company as these are popular species with tourists. When regulations prevent harvests of certain North Carolina species, the retail store does have to sometimes sell imported products.

14. INTERNAL OPERATING MECHANICS

This section will provide an overview of OWWA's internal operating mechanics, including their membership, meeting schedule, decision-making processes, elections, leadership as well as their monitoring and evaluation strategies. A general theme that emerged from interviews was the informality of OWWA. According to Hilton (personal communication, 2014), "We're a very small community and most of the guys are extremely casual." As Ocracoke Seafood is a for profit business, the details of their internal operating mechanics are not presented unless pertinent to OWWA or to more general topics such as leadership.

14.1 Membership

Technically, OWWA is not a membership-based organization due to Internal Revenue Services guidelines, which suggest that OWWA cannot have members, as they would then be equated as the direct beneficiaries of tax-exempt funding. Instead, funding must go towards the benefit of commercial fishing industry, rather than specific individuals identified via membership. Therefore, all Ocracoke watermen are considered part of OWWA, taking part through attending meetings, participating in leadership roles as well as supporting the mission of and selling seafood to Ocracoke Seafood. It was estimated that about 35 watermen take part in OWWA, with most considered part-time commercial watermen who substitute their livelihood with other part-time income. A minority in the group (estimates were given from one to five) are full-time watermen or run charter boat businesses. Hilton admits that that they define the term 'watermen' fairly loosely as working in some capacity on the water for income, but notes that they have never had anyone try to participate who is not a waterman. OWWA does not mandate any formal criteria or procedural process in order to be able to participate, rather, participation is voluntary for those who want to.

Although attendance at meetings is encouraged, there are also no requirements for participation, as watermen can participate as much or as little as they wish. This leads to some participating heavily by taking a leadership role, while others are uncertain if they would even be considered part of OWWA as they do not attend meetings. At the very least, all those who consider themselves to be part of OWWA sell at least part of their catch to Ocracoke Seafood, although there are no legal requirements for them to do so.

14.2 Meetings

The MOU outlines that OWWA is to meet "as needed and quarterly" although interviewees noted that in the busy seasons (summer and fall), meetings are sometimes not held. OWWA meetings can be held as general check-ins, or can be called to discuss a particular issue. During meetings, relevant issues will be discussed, such as regarding fishery management, proposed regulations, an upcoming event, fundraising, decisions related to Ocracoke Seafood and elections. When there are decisions to be made, Hilton notes that attendees "listen to presentations….debate…and then the goal is to reach consensus" (D. Hilton, personal communication, 2014). Meeting minutes are written up, with decisions documented.

14.3 Communication

Internal communication within OWWA is done via email, phone calls and in person meetings, although this can be challenging with many watermen often on the water and do not have email. Challenges related to communication and overcoming them are discussed further in Section 21.2. When organizing meetings, Hilton and Plyler reach out to all the watermen to find a time that will maximize participation and post meeting times publically.

In terms of OWWA's communication to the public, "there is no official vetting process or communications officer" (D. Hilton, personal communication, 2014). Rather, leaders communicate on behalf of OWWA, doing their best to circulate to watermen what will be communicated beforehand for their input. If there is a difference in opinion on how something needs to be communicated, a meeting will be called.

14.4 Elections

During the winter meetings, elections take place for OWWA Representatives and the Board of Officers for Ocracoke Seafood. Elections are not formal, but are a casual process where others nominate watermen to engage in these leadership positions. If there is no disagreement, nominees are voted in by consensus. Elected Officers are also

brought to the current Board of Officers for final approval. Hilton notes that he would like to "bring a little bit more formality to the process" of elections, in order for the process to be more professional (D. Hilton, personal communication, 2014).

14.5 Leadership

Those interviewed spoke of Hilton, Plyler and Payne as vital leaders to both OWWA and Ocracoke Seafood, with each of these individuals filling a different leadership role. Though neither Plyler or Payne hold an official elected position, Plyler's role as General Manager of Ocracoke Seafood and Payne's role as Executive Director of OFI have designated them as key leaders. All three admitted that leadership can be difficult, especially when divergent views were expressed. Of overcoming this challenge, Hilton says, "Individualism is both a watermen's strength and weakness. My goal has always been to bring offsetting opinions to OWWA members for a group discussion and to find consensus" (D. Hilton, personal communication, 2014).

Hilton has played a lead role in political issues, helping to organize and represent OWWA's opinion on relevant fishing regulations as well as working with political leaders to bolster political support. Attributes such as being well spoken, intelligent and organized were brought up by interviewees as reasons that made Hilton a successful leader in the political realm.

As the General Manager of Ocracoke Seafood, Plyler undoubtedly plays a key role in overseeing the day-to-day operations of the fish house. These duties include helping to make sure that all fish house needs are met, negotiating prices with Wanchese Fish House and guiding the overall business. Of his position, Plyler says he "half volunteered, half got drafted", and has stuck with it for minimum salary because he "wants the fishing industry to stay alive" (H. Plyler, personal communication, 2014). Plyler also works in the political realm, working with NCFA and NC Catch on regulatory and marketing issues.

Finally, in almost every interview, Payne was brought up as the leader in getting OWWA and Ocracoke Seafood started; "If it weren't for (Payne) writing those grants, we might not ever have the fish house or OWWA now" (J. Barrie Gaskill, personal communication, 2014). Another watermen reiterated this, "Robin Payne is the only reason that the fish house exists, (she) did more work than you can imagine" (F. O'Neal, personal communication, 2014).

14.6 Monitoring and self-evaluation

Neither OWWA nor Ocracoke Seafood has a formal monitoring and self-evaluation scheme, although with the grants received they were required to provide outputs within a certain timeframe. In a sense, OWWA's quarterly meetings and Ocracoke Seafood's Board meetings are an informal self-evaluative check-in, with leaders providing an update on activities as well as relevant events and issues of regulation. Financial records such as a budget for OWWA and Ocracoke Seafood's end of year sales reports also provide fiscal monitoring and self-evaluation. Ocracoke Seafood keeps financial reports and as mentioned above, posts prices publically to be transparent about the price they are paying to the watermen and the price they are receiving from Wanchese Fish Company.

15. GENDER AND YOUTH

The involvement of youth in commercial fishing is "one of the biggest issues" within the fishing industry in the country, and Ocracoke is not outside this norm (D. Hilton, personal communication, 2014). Ocracoke's unique geographic isolation as an island actually heightens this challenge, as many youth leave the island in search of jobs. Some interviewed stressed that the decline of watermen on the island have caused the decline

of fish houses in Ocracoke, as in 1940 there were four small fish houses on the island but have closed down largely because there "just weren't enough fishermen anymore" (J. Barrie Gaskill, personal communication, 2014).

With this trend, Hilton says that the majority of watermen participating in OWWA are older than 35. However, according to a number of those interviewed, there is a growing presence of younger individuals in high school and university that are participating in commercial fishing and OWWA activities. Evans notes, "You have kids getting up before 5am to fish their nets," and claims that there are now "more kids in high school that are part-time fishing than I can ever remember." This revival in youth's participation has been attributed to Ocracoke Seafood, as it has been a "bright light" helping to "show the kids there is something different here that they can take part in." This is notable, especially in an island community where jobs are few and far between. "People say kids should do something else," Evan mused, "but Wal-Mart isn't around here, (fishing) is the job here" (B. Evans, personal communication, 2014).

One example of a youth waterman is Mr Morty Gaskill Jr., who became involved in fishing when he was three. By the time he was nine, he had gotten his commercial fishing license and began selling to Ocracoke Seafood when he was thirteen. At fifteen, Gaskill Jr. had bought his own boat with the money he had saved. In North Carolina, there is no age requirement for obtaining a commercial fishing license, with it being the social and cultural norm that children under the age of eighteen are fishing for personal reasons (a love of fishing) while still attending school and having time for normal childhood developments. Generally speaking, youth who are fishing do not demonstrate issues of child labour, but instead a way to foster a love of life on the water and the state's fishing heritage at a young age.

Gaskill Jr. continues to fish whenever he is on break from school and now also participates as a youth leader within OWWA. Despite his young age, Gaskill Jr. says that OWWA respects his opinion, remarking that within the group "no one has a lesser voice". Recently, he represented OWWA during the public commentary meeting on the proposed Gamefish Bill, reading OWWA's prepared statement and demonstrating that youth are taking part in commercial fishing. Though he is certainly not the norm in Ocracoke, there are an additional four watermen around his age that are also involved in fishing, significant given the small number of watermen and population of the island. Of this new trend Gaskill Jr. says, "a lot of people in (my) age range are still interested in fishing…hopefully we'll still be able to keep it going" (M. Gaskill Jr., personal communication, 2014). OWWA leaders are also working to involve younger watermen (20-40 years old) in participating with relevant fishery organizations, whether at the regional or state level.

In terms of gender representation, the majority of watermen are men, though about 10 percent are made up of women. As with their male counterparts, women fish to varying degrees. Of the four Ocracoke Seafood Board positions, one of them (Secretary) is currently held by a woman. Of the paid positions, the Retail Manager is also held by a woman, Mrs Pattie Plyler, who Hilton referred to as "one of their best public relations people" as she interfaces daily with customers at the retail shop (D. Hilton, personal communication, 2014). There is no specific promotion of women's empowerment and autonomy in OWWA or Ocracoke Seafood, but like all watermen, women can play as big or little of a role as they choose.

16. NETWORKING AND EXTERNAL RELATIONS

OWWA conducts networking and external relations by representing their views and perspectives within various fishery organizations. At the state level, OWWA serves as a member on the NCFA Board. OWWA also participates as a Regional Representative and Marketing/Fundraising Committee Member on the Board for NC Catch. Finally,

OWWA participates on the Board of Directors for North Carolina Watermen United. The way in which OWWA participates in these state organizations is discussed during meetings, to decide who they want to partner with and how. OWWA is not formally part of any fishery organizations at the national level. For further information on how OWWA provides a unified industry voice, see Section 13.4.

In terms of research and academic institutions, OWWA has worked with the North Carolina Coastal Federation, North Carolina Sea Grant and NC Center for the Advancement of Teaching on oyster projects as well as in research on nesting and erosion areas. Interestingly, interviewees noted that most researchers who have been getting in touch with OWWA recently have been interested in studying the organization itself, how it originated, the process of development, success outcomes, lessons learned, etc.

Information and communication technologies have in some ways strengthened communication between OWWA and the public, although Hilton says that the commercial fishing community "has been slow to adapt to the electronic revolution." He continues, "Many of us still barely embrace smart phones and internet. This is changing though, because more fishermen every day (locally, state and nationally) recognize they have to communicate with the public and regulators" (D. Hilton, personal communication, 2014). A website created and maintained by OFI and volunteers has provided a public face for Ocracoke Seafood and OWWA. In terms of social media, Ocracoke Fresh, the branding campaign of Ocracoke Seafood Company, has a twitter account managed by a volunteer, and posts relevant news from the island on the fresh catch, restaurant seafood offerings, weather information, etc.

17. COHERENCE WITH THE INTERNATIONAL COOPERATIVE ALLIANCE PRINCIPLES

Though OWWA and Ocracoke Seafood have not been legally organized as a cooperative nor do they use the term 'cooperative' in their title, it was noted that their organizational form is "the closest thing to a cooperative in the state" (P. Morris, personal communication, 2013). Furthermore, both entities were developed based on many fundamental cooperative values, including self-help, self-responsibility, democracy, equality, equity, and solidarity. The International Cooperative Alliance, a cooperative union representing cooperatives and the cooperative movement worldwide, has set forward seven cooperative principles as the "guidelines by which cooperatives put their values into practice" (International Cooperative Alliance, 2011). Table 4 reviews how OWWA and Ocracoke Seafood align with these principles.

Within the Table, each ICA principle is presented along with how OWWA and Ocracoke Seafood are currently engaging with the principle. Note that those principles which OWWA and Ocracoke Seafood may not be fully aligned with is not a negative finding, rather it demonstrates how their specific new supported organizational form functions within its unique structure.

TABLE 4
ICA Principles (green indicates strong coherence with the ICA principles while yellow indicates somewhat practicing or working towards practicing the principles)

Principle	Description	Coherence of OWWA and Ocracoke Seafood	Level of coherency
1. Voluntary and open membership	Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political, or religious discrimination.	Though not a membership based organization, participation in both OWWA and Ocracoke Seafood is voluntary and open to all without discrimination.	
2. Democratic member control	Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. Members have equal voting rights (one member, one vote).	OWWA and Ocracoke Seafood are democratically controlled by their participants' leadership, though participation within some of OWWA's leadership roles as well as general participation can be lacking. All watermen have equal voting rights.	
3. Member Economic Participation	Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. They usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any of the following purposes: developing the cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.	There are no economic contributions (such as dues) required by watermen, but capital could be seen as the volumes of seafood watermen sell to Ocracoke Seafood. Watermen leaders also democratically control their capital through deciding how to use profit, providing a dividend return to all watermen during a profitable year. The fish house could also be viewed as common property owned by the watermen of OWWA.	
4. Autonomy and Independence	Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.	OWWA and Ocracoke Seafood have entered into an agreement with OFI that ensures their democratic control and autonomy. Furthermore, the support of OFI has been indispensable in terms of its development and sustainability.	
5. Education, Training and Information	Cooperatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their cooperatives. They inform the general public – particularly young people and opinion leaders – about the nature and benefits of cooperation.	No education and training is provided formally, though professional development opportunities are provided through leadership roles in other state fishery organizations and being involved in fishery management participation. Though OWWA and Ocracoke Seafood do not publically state that they are a cooperative and provide no formal public information on the nature and benefits of a cooperative, they do inform the public about how they have benefited their community.	
6. Cooperation among Cooperatives	Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional, and international structures.	OWWA and Ocracoke Seafood are strongly involved in working with state organizations and policies. They are currently not involved in national, regional or international structures.	

Principle	Description	Coherence of OWWA and Ocracoke Seafood	Level of coherency
7. Concern for Community	While focusing on member needs, cooperatives work for the sustainable development of their communities through policies accepted by their members.	One of the biggest impacts OWWA and Ocracoke Seafood made is in sustaining a viable fisheries industry on the island, retaining commercial fishing jobs, preserving their fishing heritage, maintaining their quaint fishing village atmosphere and making fresh seafood accessible to the public. This is done at the micro-level by keeping the fish house open but also at the macro-level by working to prevent harmful regulations.	

Source: International Cooperative Alliance, 2011

As all ICA Principles were strongly or somewhat cohered to, it is clear that OWWA and Ocracoke Seafood could be viewed as an organizational form that is aligned to ICA's international vision of a cooperative.

PART 4 – OUTCOMES OF OWWA AND OCRACOKE SEAFOOD

18. SUCCESSES AND EVOLVING OBJECTIVES

The establishment of OWWA and Ocracoke Seafood set a strong precedent within North Carolina fisheries, demonstrating how a small, rural fisheries community can work collectively to maintain their commercial fishing sector. Plyler says of their efforts, "We've done something that has never been done (in Ocracoke) before," underscoring the significance of achieving collective action in a small, island community where there is a "long tradition of people that didn't trust each other" (H. Plyler, personal communication, 2014). In fact, Ocracoke Seafood is one of the few collectively run fish houses in the entire Southeast United States, and as such is a leader for the region. Thus, nearly eight years later, the establishment of OWWA and Ocracoke Seafood can be viewed as positive outcomes in and of themselves.

The most immediate success outcome of OWWA and Ocracoke Seafood was in creating a self-reliant fish house, which allowed the fishing heritage of Ocracoke to be retained, maintained the quaint fishing village atmosphere for tourism, sustained and improved fishery livelihoods (saving an estimated 28 full-time equivalent jobs), enabled access to fresh local seafood and contributed to the local economy. In terms of fishery livelihoods, between 2007 to 2013, Plyler estimates that Ocracoke Seafood has paid between USD 400 000 to 500 000 a year to local watermen, with gross sales of USD 750 000 to 900 000 a year. Though the business has faced some challenging years with hurricanes, which has led to smaller volumes landed, the business has been profitable since it began operating in 2007. A profit sharing dividend return has been given twice, with the most recent being in 2013 when USD 7000 was divided amongst the watermen. Though not a large amount once divvied up, Plyler notes that this distribution "galvanizes the group" in the short term (H. Plyler, personal communication, 2014).

OWWA's more long-term educational, research and political efforts have also been successful in educating the public about local fisheries, reviving the local oyster population and providing a respected unified opinion on fishery regulations and management issues. Many of the watermen interviewed spoke proudly of the fact that OWWA provides a "unified voice" on fishing regulations as "opinions given in mass have a huge weight" (M. Gaskill Jr. and D. Hilton, personal communication, 2014). According to Barrie, over time and with strong and organized leaders, OWWA has gained significant respect from other fishery organizations, political leaders and the NCDMF. These stakeholders "really listen to (OWWA) now" says Barrie, as OWWA

tries to "work for things instead of against everything." Barrie explained further that OWWA has learned that at times, they will need to "adapt and understand the position" of the NCDMF while at others, respectfully "disagree and explain to them" the reasons why (J. Barrie, personal communication, 2014). OWWA also reaches out to North Carolina citizens through their website and email list about political issues, urging citizens to contact state legislators in an effort to stop relevant bills from passing.

The Ocracoke community has received strong media attention at the local, state and national level for OWWA and Ocracoke Seafood's efforts with articles written about the collectively owned and managed fish house in newspapers, magazines and books. During the renovation phase of their development, Payne noted that reporters would show up on an almost weekly basis. The watermen of OWWA are genuinely proud of keeping the last remaining fish house on Ocracoke open. "A lot of people said it wouldn't work, it wouldn't work," Evans commented, "but we finally just went for it and it did. Once people saw it going, they got interested and back into fishing" (B. Evans, personal communication, 2014).

The original motivation to sustain Ocracoke's commercial fishing sector remains the most significant driver behind Ocracoke Seafood's and OWWA's work. With the initial objective of saving the last remaining fish house on the island achieved and renovations completed in 2008, objectives have evolved to developing marketing and branding campaigns in 2010. More recently, efforts have focused on providing a group voice on emerging regulations in an increasingly hostile political environment. Hilton states, "it's not enough to be a good fishermen anymore, you have to be a good politician" as these regulations can pose very immediate threats to their livelihood (D. Hilton, personal communication, 2014). As discussed furthered in Section 21.1 on regulatory challenges, many watermen feared that in facing possible increased closures and quotas, they would not be able to provide seafood to the public on a consistent basis. Thus, how much further OWWA and Ocracoke Seafood will go in pursuing objectives related to researching and developing value added aspects of their business (which was identified as a major objective during a 2009 North Carolina Sea Grant Marketing Workshop), depends largely on the regulatory environment. Regardless, Payne is a strong believer that the group still needs to plan for the future by reviewing various business options rather than withdrawing under the weight of obstacles. She believes that moving forward with assessing how value added products can help Ocracoke Seafood enhance their income would be the next step. "If Ocracoke Seafood has an opportunity to enhance their income, then the company needs to move with that" (R. Payne, personal communication, 2014).

19. FACTORS THAT CONTRIBUTED TO SUCCESS

When discussing factors that contributed to their success, most interviewees brought up factors affiliated with Ocracoke Seafood's initial outcomes rather than those related to OWWA's. This is likely due to the fact that Ocracoke Seafood's result of creating and maintaining a viable fish house is more immediate and tangible than some of OWWA's success in the educational and political realm. Furthermore, as both entities are so strongly connected, it is clear that Ocracoke Seafood's success is shared by OWWA.

The most common factors mentioned in contributing to the initial success of Ocracoke Seafood included lack of competition, a tourist-based economy, the joint wholesale and retail model, keeping operating costs low, developing the business using a value chain approach, and support from OFI, state non-profit organizations, the government and community. The majority of these factors can be labelled as being beyond innate to the Ocracoke community, as other than having a tourist-based economy without competition in the seafood sector, all of the factors took a direct, proactive effort to develop. This fact demonstrates that though innate characteristics

of a community and value-chain are certainly vital in collective action, in order to guarantee success, groups must undertake a strategic and deliberate process with key partners. Below, each subsection outlines the main determinants given for success.

19.1 Lack of competition and a tourist-based economy

"Many people have said to me in different fishing villages, 'We want to do what ya'll did in Ocracoke.' and I've told them two things," says Plyler, "we don't have any direct wholesale competition on the island from another fish house and we have a tourist based economy" (H. Plyler, personal communication, 2014). As a small island community, Ocracoke does not currently have any direct wholesale or retail competition for locally caught seafood. This has allowed Ocracoke Seafood to have an adequate supply of seafood from watermen as there is no other wholesale entity for the watermen to sell to. Furthermore, it has allowed Ocracoke Seafood to sell their product at their retail store at a price that they set, rather than having to adjust the price to stay competitive. Finally, Ocracoke's tourist-based economy provides a ready consumer base to support Ocracoke Seafood's retail store. Hilton adds to this, "seafood and tourism go hand and hand", noting research that found tourists ranked a dinner of fresh, local seafood as one of the main reasons they come to the coast (D. Hilton, personal communication, 2014).

19.2 The development of a joint retail and wholesale model

Ocracoke Seafood essentially functions as a small vertically integrated company, with the joint retail and wholesale model working because the profit from the retail side makes up for the lost profit on the wholesale side. Indeed, many watermen noted that the retail side of the business, "is what keeps the fish house going" as the wholesale side either breaks even or at times loses money (H. Plyler, personal communication, 2014). For instance, at the wholesale level, Ocracoke Seafood will pay watermen a certain price for shrimp. Most of these shrimp will then be sold for a slightly higher price to the Wanchese Fish Company, the wholesale/distributor they work with. The profit margin Ocracoke Seafood takes is just enough to "cover the cost of handling", which essentially includes labour, ice and boxes (M. Gaskill Jr., personal communication, 2014). The retail store will then sell a portion of the shrimp for a price that makes up for the loss income on the wholesale side.

19.3 Keeping operating costs low

Ocracoke Seafood's low operating costs, including labour and freight, is another significant factor in maintaining its profitability. Throughout their operating years, Ocracoke Seafood's labour costs have been very low, almost minimal. This was especially true in the beginning stages of the company, when watermen contributed much of the labour for free. Hilton remembers; watermen would "cull their own fish, get the boxes ready and fill them with ice," with their donated time considered to be worth it in order to "keep their fish on the island" (J. Barrie Gaskill and D. Hilton, personal communication, 2014). This cooperative spirit still exists, with watermen "pitch(ing) in for no charge" during busy times (J. Barrie Gaskill, personal communication, 2014). Paid positions within Ocracoke Seafood are paid minimally, with people mostly taking the job because "they love the business…and fishing in the community" (D. Hilton, personal communication, 2014). Ocracoke Seafood also has a volunteer that manages their finances and taxes, which Plyler estimates alone saves the business around USD 20 000 per year.

19.4 Developing the business using a strategic value-chain approach

Ocracoke Seafood has been deliberate in how they have evolved as a business, allowing their strengths, weaknesses and specific context to help guide their business development utilizing a value-chain approach. They have recognized the importance of

establishing strong relationships in the value chain and moving beyond just production into marketing their product.

On the wholesale side, Ocracoke Seafood established a vital partner in the value-chain by selling to Wanchese Fish Company. This was key to Ocracoke Seafood's success as they did not have the supply, distribution or business relationships to be able to sell directly to markets themselves. Wanchese Fish Company had an established network of dealers and provides distribution to sell the majority of Ocracoke Seafood's volumes. On the retail side, though Ocracoke Seafood recognized that customers wanted local, they also saw the demand for offshore species that OWWA watermen did not catch, therefore, they adapted to also offer North Carolina caught offshore species (purchased from Wanchese) and were able to capture that market demand.

Ocracoke Seafood also partnered with North Carolina Sea Grant to develop a marketing and brand campaign, recognizing that their unique community business model, fishing heritage, traditional fishing methods, and freshness were aspects of themselves that they should brand and market. These activities are further discussed in Section 12.5 on expanding into value added development.

19.5 Support from OFI, state non-profit organizations, government and the community

OFI provided the most significant supporting role in developing OWWA and Ocracoke Seafood through leading an informal needs assessment with watermen and the larger community, developing the legal framework, and applying for grants for funding. As almost all watermen interviewed stated, it really would not have been possible without OFI and more specifically, Executive Director Robin Payne. Payne acknowledges OFI's role and when asked how this model could be adapted to other places in the world, responded that the "process must include not just 'starting' but also sustainability. Each country, small town etc. is going to face different challenges. There are ways around them, but it is a different thought process and the watermen themselves will not be the ones who can develop these important paths towards sustainability. So each will need an OFI or similar – an organization that is a marriage of economic development and cultural preservation" (R. Payne, personal communication, 2014). To be clear, Payne is a strong believer that it is crucial for watermen themselves to be involved in initiatives in order to achieve sustainability, but takes the point of view that they must have significant support in these efforts.

State organizations also played a strong supporting role via providing major grant funding. As mentioned, Ocracoke lies within a Tier 1 county, which positioned OFI well to receive funding as they work within an economically distressed area, which is considered more eligible for certain state funding. The North Carolina Rural Economic Development Center and Golden LEAF Foundation provided the funding for purchasing the fish house and all renovations. At the county level, The Hyde County Board of Commissioners also supplied a low-interest loan to OFI. Other state government entities, such as The North Carolina Sea Grant and North Carolina Department of Agriculture provided technical assistance. Many interviewees also mentioned the support of local and political leaders, such as Mr Alton Ballance, Mr Barry Nash, Mr Carl Clausen, Mrs Karen Willis Amspacher, Senator Marc Basnight, Mr Rudy Austin, Representative Timothy Spear and others as being crucial to fundraising and outreach efforts. Senator Basnight was said to play an especially supportive role by voicing his belief that OWWA and Ocracoke Seafood could be used as a model for many North Carolina watermen.

The larger Ocracoke community was also a major driver of support, with the community "almost 100 percent behind OWWA and Ocracoke Seafood" (M. Gaskill Jr., personal communication, 2014). Support was driven by the fact that restaurant owners and community members wanted to continue to have access to fresh, local

seafood while preserving their community's fishing heritage. This role was especially significant during the early stages of purchasing the fish house and the renovation, as community members led fundraising efforts, furthered donation outreach and contributed their time during the renovation process. Payne says for the watermen, this support was like "riding a wave of energy" (R. Payne, personal communication, 2014). Community members continue to play a supportive role by purchasing seafood from Ocracoke Seafood's retail shop.

Finally, wives of watermen play a supportive role in both Ocracoke Seafood and OWWA, helping to organize and volunteer at fundraisers. It was also noted that wives allow their husbands to use their email address when watermen themselves do not have email, receiving messages and passing them onto their husbands, thereby helping to bolster communication efforts.

20. SPINOFFS

With OWWA and Ocracoke Seafood now established as a successful model of a collectively owned fisheries business and association, groups wanting to start something similar have continually approached both entities. These groups include town councils, private fish house owners, watermen, government and preservation societies. OFI has and continues to share information and details on the process of development to these groups in order to aid in their efforts.

Recently, OFI launched a spin off project entitled the Community Square Project, which has the potential to provide resources for value-added products in the future. The project will establish a community kitchen to engage in healthy foods preparation and access, provide gardening and cooking education, prepare meals for the homebound and storage for food bank needs. Payne sees this project as the next step for OWWA and Ocracoke Seafood as the kitchen could help create value added seafood products and utilize fish waste and by-products. As of this writing, some of the watermen have agreed that with impending regulations and a lack of guaranteed supply, they do not yet want to move forward with creating value-added products, though this decision may evolve in the future.

21. CHALLENGES AND STRATEGIES IDENTIFIED TO HELP OVERCOME THEM

Both OWWA and Ocracoke Seafood are facing numerous challenges, which may ultimately constrain their activities and could lead to dormancy or failure. This section discusses the main challenges in each subsection as identified by the watermen and OFI, as well as strategies they have suggested in overcoming them to strengthen the organization.

21.1 Regulations

"By the time you learn all the regulations and become active in the politics, it's very challenging. It takes years of involvement in the regulatory process to become effective in engaging the politics. In many instances, this process takes a diverse knowledge base."

-Mr David Hilton

Every single waterman interviewed mentioned state regulations as the largest challenge, with many echoing Mr Ernie Doshier, a full-time charter fisher: "Commercial fishing is being regulated out of business" (E. Doshier, personal communication, 2014). Regulations can include quotas on the pounds of a species that can be landed, limits on the number of participants in a fishery, restrictions on the amount of fishing gear, trip or landing limits, closed seasons or areas, restrictions on the length and weight of fish that can be landed, and other measures. The US Coast Guard and the NC Marine Patrol enforce fishery laws (NC Catch, 2013). Most of these regulations came out of the 1997 North Carolina Fisheries Reform Act, which required management plans to be

developed for all significant commercial and recreational species. Though stakeholders agree that these plans are vital to sustain fishery stocks and ecosystems, West notes that North Carolina has often had to accept federal or regional plans that "ignore local distinctions in stock availability and health," which can be very area dependent. Furthermore, the plans "tend to ignore local fishing, the behaviour of fishermen and how they fish" (S. West, personal communication, 2014).

In terms of co-management arrangements, the Reform Act attempted to put some co-management principles in place. For instance, it established that the North Carolina Marine Fisheries Commission, which is responsible for approving and reviewing all Fishery Management Plans prepared by the NCDMF, must include two commercial fishermen on its nine-person team (Division of Marine Fisheries, 2014). The Act also stated that the Commission be involved in creating the North Carolina Coastal Habitat Protection Plans, which was the state's first attempt at regulatory co-management through soliciting public participation inputs to prioritize recommendations and by managing these plans via three different commissions (Kelly, 2004).

At the individual level, watermen are able to participate in the regulatory process in a few ways. The first is probably the most wide-reaching in terms of the number of watermen that participate, occurring at the state level when watermen provide comments during public commentary meetings held by the NCDMF on new and emerging regulations. The NCDMF then takes these comments into consideration when preparing new rules. The second, which can occur at the state, regional or federal level, is when watermen work with marine scientists to collect data that go into or inform fisheries management plans to ensure sustainable marine fisheries. Finally, watermen can serve on state, regional or federal advisory committees on relevant regulations (NC Catch, 2014).

The success of these co-management and participatory practices would warrant significantly more research, but many watermen and community members interviewed for this case study expressed disappointment. West explains that it does not feel as if co-management is really happening, instead there being an "us against them mentality", with 'them' referring to "scientists and managers who feel they have all of the information" (S. West, personal communication, 2014). Furthermore, these practices do not constitute a comprehensive co-management structure, which, as the Organisation for Economic Co-operation and Development (OECD) defines it, is an approach in which "government shares power with resource users, with each given specific rights and responsibilities relation to information and decision-making." In November of 2014, the North Carolina Watermen United, which OWWA watermen participate in, sent a letter to the NCDMF to inquire about transparency issues within regulations and practices around sea turtles, asking why local fishing communities have not been involved more and stressing the need for a turtle reassessment. This serves as a strong example of some of the gaps in co-management practices and how organizational forms are working to address these.

A number of watermen also noted the ongoing political tension and user group conflict between commercial fishers and certain recreational fisher groups in North Carolina. Though recreational and commercial fishers generally work very well side by side in small communities such as Ocracoke and recognize the importance of both sectors to their livelihoods, politically, there has been turmoil with a well-connected and funded group that represents some recreational fishermen. Many interviewed were of the opinion that this group was attempting to drive regulations for their own agenda (see Section 6.1 on House Bill 983). Furthermore, they felt that recreational fishers had an unfair advantage over commercial fishers, as the commercial sector must be accountable for every pound of fish they catch, whereas the recreational sector is not held to this level of accountability. Doshier, a recreational fisher himself, stressed,

"If you're going to do it for the one, you have to do it for everyone. Everyone must be held accountable for the same rules" (E. Doshier, personal communication, 2014).

In looking more specifically at how regulations have impacted OWWA and Ocracoke Seafood, watermen stressed that regulations have made it so they "cannot guarantee (catching seafood) in the supply chain" (H. Plyler, personal communication, 2014). This leads to longer-term questions in terms of the sustainability of the fish house, as the lack of product, especially on the wholesale side, may make it difficult for the fish house to continue to be profitable. One watermen questioned if the fish house would be able to sustain itself for the next five years, and asked, "if it gets to the point where (the fish house) is not feasible, what's the plan?" (E. Doshier, personal communication, 2014).

This is clearly a pertinent question, as challenges related to regulations not only directly affect Ocracoke Seafood's supply volume, but it also impacts the development of the business. Indeed, recent regulations were cited as one reason why Ocracoke Seafood has not been able to move forward with value added development. The frustration watermen felt in terms of regulations was palpable, "people want the product but because of regulations, closures and quotas, they cannot have that product on a consistent basis" (H. Plyler, personal communication, 2014).

To work with this significant challenge, leaders in the commercial fishing sector participate actively in the regulatory process. OWWA watermen have joined together to present a unified voice weighing in on relevant regulations by attending public commentary meetings with the NCDMF as discussed above. OWWA also works to educate the public about the regulations, how it will affect consumers and garners public support to sign petitions against the impending regulations.

Despite these efforts, OWWA leaders believe that OWWA watermen and watermen in the state in general "need to get more involved in the politics of fisheries management," not only educating themselves on regulations coming down the pipeline and attending public commentary meetings, but also understanding how regulations have evolved, what may happen in the future and how to be more engaged in the regulatory process, so watermen are not always playing a reactionary role (D. Hilton, personal communication, 2014). Leaders of OWWA are also trying to engage younger watermen in this process, sharing their knowledge of fishery politics that they have accumulated from years of experience. Another strategy identified in overcoming regulatory challenges was for fishery organizations like OWWA to work together via a state-level agency, such as NCFA, in presenting their opinions as one rather than presenting splintered opinions within their various regional organizations. This strategy would result in North Carolina fisheries presenting a more unified voice with larger weight behind it.

In the longer term, Plyler noted that overcoming regulations may need to work on a broader level with other non-fishing industries, as "fighting regulations really hasn't gotten (the watermen) anywhere." In his opinion, fishery organizations in the state need to identify groups "to validate what (the watermen) do" such as restaurant associations and tourist associations, to show that fisheries is "a part of the state revenue." In this way, legislators who "don't know anything about fishing, but know about sales tax" will start paying attention to the economic role of fisheries in the state (H. Plyler, personal communication, 2014). He suggests that working with government entities in these efforts, such as the North Carolina Department of Agriculture, could go a long way in promoting local seafood in the state.

With many watermen seeing regulations as an inevitable obstacle to their livelihood, some thought that it may make sense to research underutilized species or value-added products as potential market items, especially for those species that could be targeted in the winter when fishing activities are currently at a minimum. Others disagreed, citing issues within the value chain or regulations as being too significant to overcome.

21.2 Participation

"A small percentage of individuals carrying the water for the group is not sustainable. It needs to be a collective effort."
-Mr David Hilton

Another significant challenge that numerous watermen brought up was a lack of participation, which could lead to the group not acting in a truly collective manner and/or ultimately, no longer functioning. Leaders Plyler and Hilton and a handful of other watermen were said to participate strongly, but limited participation from the overall group was noted. For instance, participation at meetings was generally estimated to be about twelve of the usual people out of a total of about 35. Participation was said to be especially low in the summer, when many watermen were busy with the tourist season. Though there was general sentiment from those interviewed that they would like there to be more participation instead of "just a couple of people leading along and doing what they think is best" those interviewed were also quick to point out the strengths of their leaders, attributing the fact that OWWA and Ocracoke Seafood was operational because of them watermen (E. Doshier, personal communication, 2014). Reasons provided as to why participation was lacking included the age gap between the younger and older fishing generations leading to personality differences, the independent nature of watermen, apathy, frustration with the management model, an inability to see the longer-term benefits of working together and a lack of ownership of Ocracoke Seafood. Some of these reasons, which will be discussed further below, can perhaps provide some insight into how participation challenges can be overcome.

The leaders especially emphasized participation challenges. According to Hilton, "you always have those who are more involved than others" with leaders "always challenged by apathy and poor morale." Hilton believes this stems from an inability to see how the outside world will affect your livelihood; "The traditional way of living looks good on post cards," he noted, " but you need more than that"(D. Hilton, personal communication, 2014). Plyler echoed Hilton's sentiments, speaking of the age difference being one of the determining factors in participation, "young boys just don't get that this is the only option" and that they are "not willing to work together for the common good" (H. Plyler, personal communication, 2014).

One waterman, who admitted he has not been attending meetings nor is updated on the happenings of OWWA, spoke of himself as participating, but as "way far back at the stadium" (F. O'Neal, personal communication, 2014). When asked why, he noted lack of time and that he is not as dependent on these entities as other watermen. However, he stated that in the near future, he did want to participate more, perhaps even filling a leadership role.

A particularly interesting explanation provided for participation challenges was a perceived lack of ownership. Doshier discussed both OWWA and Ocracoke Seafood in this way, "With (OWWA) being a non-profit" and Ocracoke Seafood "run like a coop…nobody really has their personal money tied up into it" (E. Doshier, personal communication, 2014). For some of the watermen, this means there is no personal investment or risk, which leads to low interest in participating.

Watermen did not have many specific suggestions on ways to overcome challenges related to participation. Leaders described a more philosophical shift that needed to happen, with Hilton noting it was vital for all watermen to remember that they need each other, as they and the larger community would suffer if the fish house had to close. Plyler echoed this, nothing that he wanted "everyone to realize the importance of the fish house to everyone, not just one person" (H. Plyler, personal communication, 2014). Though he noted that this was not a new concept, he said that it has been extremely difficult to maintain.

Payne suggested that to increase participation, communication outside of meetings needs to be bolstered, suggesting that a system of "how to contact everyone" should be established. Additionally, Payne says, "In a rural community, not everyone feels comfortable coming to a meeting…watermen have been very good about detailing their needs and thoughts about Ocracoke Seafood, but in a group situation feel uncomfortable – so they remain quiet" (R. Payne, personal communication, 2014).

21.3 Leadership Development

"You have a core leadership group, and either they get worn out, retire or die, and then there is no second level leadership that can step in."
-Mr Hardy Plyler

Another linked challenge to participation relates to leadership development, as older leaders will face difficulties in finding a replacement with the skill-set required for the position. Plyler is an example of this as he has been managing the fish house since 2007 and as an older waterman, may step down in the near future. However, Hilton notes that there currently is no one who "has the skill set to replace Hardy (Plyler)" (D. Hilton, personal communication, 2014).

To overcome this challenge, OWWA is working to involve younger watermen in regulatory meetings, trying to appoint them to various boards and be representative of OWWA. In terms of its paid employees, Ocracoke Seafood has also recently hired a younger waterman this year to work at the fish house, thereby strengthening his knowledge and skills as he works alongside Plyler. It was stressed that leadership development must be done explicitly, "because the goal is sustainability, the first level of management must train individuals (young and old) to run the organization and the business" (R. Payne, personal communication, 2014). Without such training, Payne notes that the growth of Ocracoke Seafood could be limited.

From Payne's perspective, better defining and separating current leadership roles (and who is eligible to fill them) could help overcome this challenge and may also help in terms of divergent views. She also believes that an additional leadership position needs to be established, which would be a long-term business planning and growth leader that would sit on the Ocracoke Seafood Board. This role would be filled by an industry professional who is up to date on innovative marketing, technology and distribution aspects of the seafood business.

21.4 Divergent view challenges

"You put 30 fishermen in the room, it's like herding cats….they could have the same gear, target the same type of fish, use the same boat, and they'd still argue how to do it." –Mr David Hilton

Watermen brought up the difficulty in trying to get independently minded individuals to work together. This was not considered a significant challenge, but rather an inevitable issue that the group would have to continue to deal with. "It seems like everyone has a different idea on how to best run the fish house" (M. Gaskill Jr., personal communication, 2014). Despite differences in opinion, part of the challenge seemed to be that though watermen may individually disagree with the leadership, it is unlikely that those dissenting will bring this to the group as a whole. One waterman explained that in meetings, everyone is generally in agreement but "by the time you walk down the street and talk to someone else, people disagree," stressing that individuals need to "speak up" (E. Doshier, personal communication, 2014).

Part of the reason for this may be cultural, as it was noted that it was very rare for watermen to collectively raise issues together, especially in relation to confronting a fish house. Watermen did not provide specific ways to overcome this challenge, with one noting that he did not see this changing, unless an individual would step up to lead a subgroup. Again the lack of personal ownership plays a role, as it was mentioned that

even if the watermen want something to change, they do not feel they have a personal investment in it to push that change. Payne points out that if the watermen had the support of an industry professional (see above section, she recommends this leader to sit on the Ocracoke Seafood Board), the watermen may have more courage and conviction to voice their ideas.

22. CONCLUSIONS

It is hoped that this case study demonstrates how OFI, OWWA and Ocracoke Seafood have established an innovative model within the small-scale fisheries sector in North Carolina. Though it is a small-scale model, it is hoped that the lessons learned through the process and the success and challenges that have resulted can provide valuable insights to small-scale fishers worldwide, especially those living in small, isolated island communities.

The below points are provided from an outside researcher's point of view as potential ways to strengthen the organization for the future. These are provided only as possible strategies, with stakeholder feedback needed on each point before moving forward with any of them. Many of these points have to do with formalizing the organizational form more, with the thought that bringing a clearer structure to the form and roles/responsibilities of both members and leaders could provide a starting point towards addressing participation challenges and foster a greater sense of collective ownership amongst the watermen.

- More clearly define the role of OFI in OWWA currently and for the future. With objectives of these entities having shifted since 2006, creating a new MOU between OFI and OWWA could prove a clarifying exercise and helpful for the long-term.
- Better define the roles of both members and leaders in OWWA, including Representatives and Board of Officers. Specifically, the role of how OWWA watermen can influence Ocracoke Seafood's decisions needs to be more formally developed, documented (perhaps as an MOU between OWWA and Ocracoke Seafood) and communicated to all stakeholders.
- Communicate these defined leadership roles to all members, formalize the election process and seek funding to compensate leaders for their time, even if compensation is only minimal.
- Explore ways to strengthen the feeling of collective ownership over Ocracoke Seafood, which could include shifting the organizational structure to something the watermen feel more of a stake in. A third party stakeholder may be able to research this issue more in-depth and help identify key ways to assist here.

Ocracoke Seafood and OWWA have a significant amount of knowledge to contribute to small-scale fishery issues worldwide. If provided the resources (through outside organization funding or via grants), it could be beneficial for the group to engage further with small-scale fishery organizations at the national (for instance, Fish Locally Collaborative) and international (Slow Fish) level to share lessons learned and network more widely. Lessons learned could focus on how their innovative, hybrid organizational model evolved, along with their successes and challenges. In addition, OWWA has demonstrated success in providing a respected, unified voice on fishing regulations, and sharing how the group has done this and what successes they have had in the regulatory process would be beneficial to share with other small-scale fishing communities. Finally, the Working Watermen's Exhibit is a unique cultural asset that OWWA created, and speaking with other small-scale fishers about how this has been beneficial for their community and tourism sector could be inspiring for other fishing communities around the world.

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11. The role of informal fisher village councils (ur panchayat) in Nagapattinam District and Karaikal, India

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1. INTRODUCTION

This case study focuses on one of the key civil society actors in the fisheries of Nagai-Karaikal, Tamil Nadu, India, namely the fisher village councils (Tamil: *ur panchayat*). The lead questions for this case study are:

1. To what extent do village councils (*ur panchayat*) (a) *act* and (b) *interact* with each other as well as with state agencies to provide environmental, economic and social support to small-scale fishing?
2. How can their contribution be improved?

The field study, which was mainly carried out by a team of two, took place from October 18 to November 7, 2013. For understanding the variety of possible roles of *ur panchayats*, the researchers made a random sample of every tenth settlement along the coast. To this selection of six villages was added a seventh, so-called head village. The team spent 24-30 hours in each village, observing activities on the landing site, and speaking to a variety of inhabitants, including at least two members of the local *ur panchayat*. A short survey included questions on structure, activities, and style of functioning. The team also spoke to other dignitaries such as fisheries cooperative president, Gram Panchayat president, and school headmasters. The final days were spent visiting key fisher organizations in Nambiarnagar and Akkaraipettai, attending a fisher meeting in Tarangambadi, and conducting interviews with several government officials and non-government organization (NGO) leaders.

During the period of the study, two major issues with regard to fishing rights were on all fishers' minds: (1) the interventions of the Sri Lankan navy with regard to Indian fishers operating in nearby Sri Lankan waters; and (2) the permissibility of ring seine and pair trawl fishing in coastal waters. As both issues relate to the topic at hand, and illustrate some of the characteristics and action modes of *ur panchayats*, we pay them attention in Section 8.

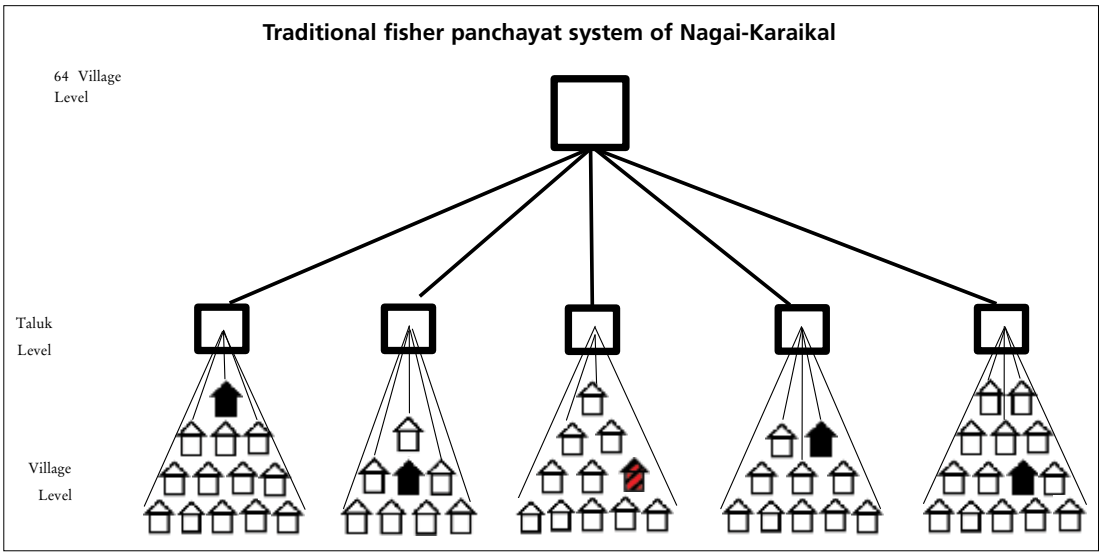
2. CHARACTERISTICS OF THE ORGANIZATIONS

The *ur panchayats* that are found along the Nagai-Karaikal coastline belong to a classical form of self-government in India. The panchayat system of which they are part dates back to pre-colonial times, and is closely intertwined with other forms of social organization such as caste and community. The fishing settlements of the Nagai-Karaikal coast, have preserved these institutions to an unusual extent. The fact that these settlements are generally of a single-caste variety, means that social and territorial units coincide.

Mandelbaum (1970) points out three meanings for the term 'panchayat': it is (1) the village council, (2) the general meeting which makes decisions, and (3) the process of consensual decision-making that is followed. He notes that the village meeting is "a council of peers" (1970:291), hereby emphasizing the egalitarian ethos that permeates panchayat proceedings. This spirit of egalitarianism,that coincides with what is often found in fishing communities throughout the world, typifies village life in the geographical region under consideration. In the following, the term *panchayat* refers primarily to the council that is 'in charge' of fisher affairs. It is to be noted that such councils are found in many other parts of the South Indian coastline too.

The *panchayats* of Nagai-Karaikal have historically consisted of at least three levels, all of which have carried into the present (see figure 1). They are nowadays strongest at the base or settlement (Tamil: *ur*) level, and this is the aspect to which we will pay most attention. The next level nowadays coincides with the *taluk* (or sub-district). There are five such groupings in the Nagai-Karaikal region (whereby we count Karaikal as one such unit), and each includes an average of 10 fishing settlements, with one *ur panchayat* in each grouping playing the role of *talai gramam* (head village). The final

layer includes the fishing population of the whole region, and is currently known as the Nagapattinam Miinavar Amaippu (Fisher Organization of Nagapattinam). Its jurisdiction coincides more or less with a traditional coastal territory, which is held to derive from Chola times (XIIth century). The traditional head of this organization is the fishing settlement Nambiarnagar; more recently, however, this position has been usurped by nearby Akkaraipettai (see map).



The sections below first discuss the *ur panchayats* as a form of self-government, highlighting their structures, range of activities, and contributions to small-scale fisheries. They then go on to trace the way in which these *panchayats,* and the societies of which they are part, connect with other civil society organizations (CSOs) and are linked to the realms of state governance. Emphasis lies on the *panchayats* operated by the Pattinavar fishing caste, only briefly touching upon the somewhat different set-up of organization prevalent in the, more rare, non-Pattinavar villages. Only one of the sample villages – Kodiyakarai – has a non-Pattinavar population, and its fishing affairs are dealt with not by an *ur panchayat* but by an association (*sangam*).

2.1 Ur panchayat structure

The *ur panchayats* in the sample range in size from 5 to 22 men, with an average age of 41 years (see table 1). Although all members belong to the Pattinavar fishing caste and live in their respective villages, not all of them are active fishers – some have in fact diversified into other occupations. In the past, many of the fishing villages of this region also possessed hereditary leaders called *naaddaar*, but these have almost ubiquitously been shrugged off: it is now generally the undifferentiated council that rules. None of the *ur panchayats* under study had functions such as president or secretary; the only exception is the appointment of one or two members to take charge of money matters.

TABLE 1
Comparison of case study sites

Name	Pop size*	Nr fishers*	Caste	Nr ssf *	Nr mb*	Migrants	UP nr	Aver age	Aver edu	%fishing
		471		140						
Keezhmoovarkarai	1 652 (1 700)	(550)	Pattinavar	(108)	1 (5)	50	6	39,5	6th	100%
		570		90						
Chinnangudi	1 741 (2 500?)	(587)	Pattinavar	(100)	0 (25)	300	5	37,1	10th	29%
		145								
Kalikuppam	627 (800)	(230)	Pattinavar	39 (30)	4 (6)	10	5	37,4	10th	100%
	check kar paper 2818	667		**122**	**45**					
Karaikalmedu	(4 000)	(989)	Pattinavar	(142)	(54)	200	10	42,4	5th	70%
		487		102						
Samanthanpettai	1 872 (2 000)	(647)	Pattinavar	(110)	10 (20)	30	10	42,5	3rd	100%
		341								
Vanavanmahadevi	1 147 (1 700)	(368)	Pattinavar	65 (55)	7 (9)	20	10	34	4th	90%
		721		50	61					
Kodiyakarai	1 963 (2 000)	(100)	Pillai	(100)	(127)	100	3+6**	57**	5th**	33%**

* First figure CMFRI 2010 (oral information 2013)
bold = figures AD Karaikal July 2013 (figures fishers 2013)
** Not UP but sangam. Only calculated for office bearers = 3 persons

The *ur panchayats* form the pinnacles of village society that are made up of various family groupings and residential units. In fact, their members are generally still selected as representatives of such entities, with various qualities guiding selection: level of education, experience in fishing, well-spokenness, size of following, and connections to the outside world. For purposes of taxation, the *ur panchayats* make use of a variety of membership lists. Traditionally these lists include the names of all adult fishermen; in some of the case study villages this has been broadened to include all male income-earners (*aal vari*), whereas in others the *ur panchayat* has taken recourse to the government's list of ration-card holders, the membership of fisheries cooperative societies, a list of vessel owners, the number of houses in the settlement (*viidduvari*), the types of nets owned, or a combination of all these. In some cases the right to tax is auctioned to a highest bidding local business man. The timing of taxes on individuals or households nowadays generally coincides with the government's distribution of welfare benefits (saving-cum-relief scheme; off-season relief schemes). Such taxation provides *ur panchayats* with a financial base – a prerequisite for any kind of self-government.

Although the hereditary system of *naaddaar* has generally disappeared, it has not been replaced by open elections. Rather, most *ur panchayats* opt for a system of nomination, in which past members play a major role. It is important to note that women are universally excluded from participation in *ur panchayats*, despite recent urgings by NGOs and – in rare cases – village women themselves. Women are generally also not deemed to participate in village meetings, but are represented through their menfolk. This women do not find to be entirely satisfactory. In two case study villages, women expressed dissatisfaction with the extent to which their particular needs, for instance with regard to sanitation around the home, are listened to.

Panchayataars' (council members) terms of office varies substantially, with some villages having set maximum terms of two or three years, while others allow for continuation, depending on public support and the candidate's individual disposition.

All villages, however, allow for the instant dismissal of *panchayataar*, which sometimes occurs even within months. Improper financial management is one of the most prevalent reasons. All *ur panchayats* provide for the public scrutiny of accounts at least once a year.

Ur panchayats rely largely on 'voluntary labour' for carrying out its tasks. The member of these councils are officially not paid (although they can profit from secondary benefits). Moreover, many of their decisions are implemented not by specially appointed staff, but by the village population itself. Still all *ur panchayats* possess a small, paid staff. The most important figure in this staff is what could be described as a communications officer, traditionally known *as kudipillai*, who conveys messages to the population by means traditional (the village crier) or modern (loudspeaker facilities). Many *ur panchayats* also pay a priest to take care of temple rituals. In addition, each village traditionally has people who play a role in rituals of marriage, coming of age, and death. Some *ur panchayats* employ additional staff for cleaning the landing site, or the settlement itself.

The array of sanctions has changed over the years, with corporal punishment largely having been replaced by monetary fines. These can be quite substantial, depending on the transgression at hand. Some cases are discussed below. In addition, the *ur panchayats* possess means of 'public shaming' and, in extreme cases, excommunication from village society. *Ur panchayats* also have the option of declaiming a stop on fishing, such as for the purpose of village meetings and other important social events.

In the end, *ur panchayats'* influence depends firstly on their jurisdiction over the fishing population. The legitimacy of their authority rests largely on a shared, historical identity of belonging to the same caste and community, the members of which one continues to depend on heavily in daily life. In this perspective, the *ur panchayat* is an expression of 'social contract', with authority delegated to its council for the common good. The increasing integration of village society in larger national and global wholes and the decline of its homogeneity, obviously puts pressure on the ability of *ur panchayats* to control their populations – the decline of their authority is clear particularly in urbanizing environments. The *ur panchayats* are gradually losing influence to other actors, such as political parties, government agencies, etcetera. Nonetheless the inhabitants of even the urbanized fishing villages understand that, if only for their protection against outside forces, the *ur panchayats* play a crucial role.

Ur panchayats' authority also leans on their continued control over coastal and marine space. Thus village lands are generally still held collectively under *ur panchayat* jurisdiction (change in the post-tsunami era with individual land titles). Other coastal lands, officially registered as *porombookku* (waste lands), are unofficially in their sphere of influence, with new users having to take account of *panchayat* claims. Beaches adjoining fishing settlements are also controlled by *ur panchayats,* as are adjacent marine waters. Although no *ur panchayat* in a right frame of mind would think of excluding other fishers from what they see as 'their waters' (as this would also lock their fishers in), all *ur panchayats* in this region claim the right – in principle – to regulate whatever fishing goes on there. Many current frustrations derive from this right being violated.

Up till now the general legitimacy of village *ur panchayats*, and their authority over local affairs have been assumed. Although other research along this coastline (Bavinck 2001) has demonstrated the possibility of crisis in such self-governed entities, none of the sample villages was severely factionalized. There is evidence, however, of *ur panchayats* in the study region being dominated by individuals (or groupings thereof), and of the availability of conflicting cliques with different priorities.

In Section 2 it is mentioned that village councils along this coastline are nested into larger entities at two levels, the first of which nowadays coincides with the boundaries of the administrative sub-division called *taluk*. Each *taluk* in this region counts an average of 10 fishing hamlets, and of these hamlets one is is known as the *talai gramam* (head village). The villages that possess this status are viewed as having more power, either because of their population count, or because of their economic wealth and influence. In case of sub-regional issues that need addressing, it is the head village that calls (or is requested to call) and chairs a meeting.

The Fisher Organization of Nagapattinam is traditionally said to have included 64 fishing villages, and stretched northward into what now belongs to Cuddalore district. Its effective range is now limited to Nagapattinam and Karaikal districts, and includes all 58 fishing hamlets along this coastline. Whereas Nambiarnagar is the traditional head village of the cluster, this position has now been usurped by neighbouring Akkaraipettai. Although the transition is still contested, the underlying causes are clear: Akkaraipettai includes the largest, and richest, trawl fisher population of the region; the fact that the current Minister of Animal Husbandry, Dairying and Fisheries actually derives from Akkaraipettai provides its *ur panchayat* with additional power and authority.

The sub-regional and regional organizations of *ur panchayats* come to life only upon necessity, and their powers are limited. Section 7, discussed how these organizations struggle to deal with some of the larger challenges affecting the fishing population of the region.

3. UR PANCHAYAT ACTIVITIES

Ur panchayat activities can be categorized in various ways, none of which are fool-proof or exclusive. This simple distinction with the following realms has been chosen: social concerns, fisheries management concerns (economic and environmental), and concerns of connecting with (or defending against) government (and other external agencies).

Social

Ur panchayats' prime responsibility – and the ultimate justification for their work – is social in nature and can be formulated generally as 'care for the settlement's population'. This concern expresses itself in various ways. From a financial viewpoint, the largest outlay any *ur panchayat* in the entire region makes is for the annual temple festival, which always lasts several days and draws crowds from the entire region. The costs of these Hindu festivals in the sample villages vary from Rs 500 000 to Rs 2 million per year. Festivals are partly a matter of status and identity. They also follow, however, from the conviction that the local female deity is to be suitably propitiated if she is to take care of the village population. Neglect can have harmful consequences, whereas lavish celebration is expected to have real economic and social benefits. Besides a local deity, each settlement also counts specific gods and goddesses relevant for fishing. Attention for these supplementary beings promotes safety at sea as well as the possibility of good catches. It is for all these reasons that the extravagant religious activities of *ur panchayats* cannot be dissociated from the inhabitants' general wellbeing, and from the hope and expectation of continued wealth from the sea.

Traditionally, as Mandelbaum (1970) points out, the caste-related panchayats of India have a role to play in protecting the 'purity' of their castes and its members. In this line of action, the more traditional *ur panchayats* of Nagai-Karaikal continue to discourage inter-caste and so-called love marriages, and watch carefully over the integrity of their womenfolk. For example, in a recent case involving three young men from Poombuhar

accused of intimidating a woman, the *ur panchayat* of Keezhmoovarkarai imposed a substantial monetary fine. In Vanavanmahadevi , *panchayataar* have a ritual role at weddings and testify to the amount paid as dowry (bridewealth).

They can also encourage or discourage rural-rural migration of fisherfolk by posing demands on those wishing to settle in a village for some time. Thus the *ur panchayat* of Vanavanmahadevi has the habit of questioning any would-be immigrant severely, afraid as they are of the wrong kind of people entering their village. The sangam of Kodiyakarai, on the other hand, imposes no restrictions on migration at all.

Dispute-resolution is one of *ur panchayats'* main responsibilities. In the fishing settlements of the region, it is generally understood that – with the exception of serious offences like murder – disputes are preferably handled by *ur panchayat* and not by the police (who are felt to bring about serious losses in terms of money and time). Fines are actually imposed on those who, without prior consent, do visit the police station. Here the function of defending the village population against the influence of state agencies – and of maintaining the authority of the *ur panchayat* - comes to the fore. It is interesting to note that the police often reverts cases back to the *ur panchayats* – an acknowledgement of the latter's role in dispute management . Of importance are also the cases where *ur panchayats* act to discourage violence between inhabitants. Thus in Keezhmoovarkarai, the *ur panchayat* had recently fined a drunken man severely for having drawn a knife in a quarrel.

The range of disputes handled by *ur panchayats* is wide and reflects the variety of quarrels and conflicts that permeate closely-knit rural communities. Box 1 provides an example of the cases observed by the research team on one particular occasion. Many problems brought for adjudication are economic in nature and have a strong bearing on fishing. These are discussed in the following section.

The majority of issues brought before the *ur panchayat* are local in nature. Others, however, involve parties outside the local settlement and are addressed in a different fashion. In the latter instance, other fisher *ur panchayats* in the region too are involved. In some cases, an *ur panchayat* goes no further than writing a letter (n.b. each *ur panchayat* has its own letter head) to another *ur panchayat* drawing its attention and requesting action on a particular case (such as assuring that so-and-so repays his debt). Other matters have broader implications and require joint *panchayat* sessions or the involvement of the so-called *talai gramam* (head village of the taluk). Where issues have a bearing on the region as a whole, a meeting of the Fisher Organization of Nagapattinam may be called. The introduction of ringseines is one such instance, which is discussed in Section 7.

Most of the functions discussed above belong to the *ur panchayat's* traditional array of tasks. To this set have been added a number of new ones. The fishing population of this region has generally recognized the value of education for children's ability to diversify into other employment opportunities. Education levels are therefore rising for boys and girls alike. *Ur panchayats'* role in this process is, however, sometimes striking. Thus, in Kalikuppam, the *ur panchayat* has linked itself firmly to the government-funded, elementary school in the village. Not only is it obliging parents to send their children to this, and not to other schools in the vicinity; it pays the salary of a supplementary teacher, contributes additional school materials, and helps make Annual Day a success. This village is exceptional in its promotion of education, but there is evidence that other *ur panchayats* too are in touch with schools in their vicinity and respond immediately to needs as they emerge in the context of parent-teacher associations.

BOX 1

In the morning of November 5th, 2013, the study team paid a visit to the ur panchayat of Nambiarnagar that congregates in a community hall on the main street. The ur panchayat officially consists of seventeen members, representing the five streets of the village. This morning, however, only seven members have gathered to hear whatever cases are brought forward. The hall has been arranged by the kudipillai, who otherwise plays a supportive role. A number of chairs are positioned at the front for the panchayataar, with petitioners coming forward to present their cases. Decisions are noted in a leather-bound record book. Jeyabal, a man of approximately 50 yrs, plays the lead role, with younger men sitting to the side. In the hour that was spent with them, the following cases are brought forward:

1. *A well-dressed woman, who turns out not to be the complainant but an intermediary, brings forward that a loan that was given for taking a share in a ringseine net; the money has not been returned. The panchayataar discuss but there are different accounts of to whom the money should go, so they decide to do more investigation.*
2. *A man comes forward to complain that he is not on the list of recipients of the Fisheries Department's subsidy scheme. He is scolded by one of the younger panchayataar: "How dare you have gone to the Fisheries Department without first coming here?" The ur panchayat decides to have the kudipillai make an announcement: tomorrow 10 am everyone who has not received money to come to UP with documents.*
3. *A woman grumbles that an earlier decision by the ur panchayat about the location of a garden wall is not being accepted by her neighbour. The panchayat decides to send the kudipillai to inform the neighbour to cooperate. If he doesn't, the panchayat suggests that it will personally oversee the construction of the wall.*
4. *A man complains that a loan which he gave to a person not living in the village has not been returned. One of the panchayataar reproaches him: "Why have you gone to ask for repayment again, while I myself promised to go after this! I hereby give you a Rs 3000 fine!" But Jeyabal intervenes: "let him apologize instead." The man stands, folds his arms before him in a gesture of obedience and asks for forgiveness.*
5. *A man comes forward. He represents a group of 4 vessel owners who have given catches worth Rs 520,000to an outside trader, who has not paid up. He is questioned: "Why did you give so much fish to the man without asking for a down payment?" The man: "We have worked with him previously, and he has always paid up." Panchayataar: "What do you expect us to do? If we send a letter to the trader's panchayat it will take time to get a response!" The man: "Please do send a letter."*

Sanitation is the other field in which *ur panchayats* are making a mark. While tsunami housing programmes tried to address the sanitation needs of individual households by providing toilets and drainage facilities, solid waste management has remained a problem in many fishing villages. Following on pilot projects initiated by NGOs in the post-tsunami period, two of the sample *ur panchayats* are now organizing (and paying for) the collection and disposal of solid waste, obviously contributing to the wellbeing of the local population. But such involvement is not universal, and women in Kalikuppam complain that the lack of the *ur panchayat's* interest in sanitation issues reflects its general disregard of women's concerns.

Fisheries management (including economic and environment)

With the majority of their populations depending on fishing and fish trading for a livelihood, the *ur panchayats* of the Nagai-Karaikal coast naturally involve themselves in fisheries matters. Dispute management was already discussed in the previous section.

Everyone in the region, including government officers, agrees that the disputes that take place over fishing matters – the quarrels over nets getting entangled or vessels damaged, the fish that has been bought but not paid for, the loans that are not settled – are brought to the *ur panchayats* for resolution, and nowhere else. Here again, if such disputes involve parties outside the village, other *ur panchayats* are consulted and involved.

The rule-setting behaviour of *ur panchayats* is structurally significant. Bavinck and Karunaharan (2006) have noted that *ur panchayats* along the Coromandel Coast have a strong history of regulating gears that they feel are harmful to the profession. Although, with the emergence of semi-industrial trawl fishing in the midst of small-scale fishing populations, this tradition appears to have declined in the Nagai-Karaikal region, it is still practiced. Thus four of the seven sample villages have banned the use of the snail net (*sanguvalai,* or *kachaavalai*), that is also prohibited along the northern Coromandel Coast (cf. Bavinck 1996, 2015). The use of this net is felt to interfere with the marine food chain and causes the disappearance of fish species that are important for fisher livelihoods. Additionally this net is expected to have a negative effect on aged fishers who depend on the most inshore fishing grounds.

The most significant evidence of *ur panchayats* concern for regulating harmful fishing gear derives, however, from the current debate on the prohibition of pair trawls and ring seines. Some villages have actually prohibited these gears, while others are more permissive. The discussion that takes place over these matters at the regional scale is fierce and still undecided. See section 7 for a fuller discussion hereof.

While prohibition of gears constitutes one form of regulation, the prevention of negative interactions with other gear types is another. Thus the small-scale fishers of Keezhmoovarkarai, who depend on longlining, have successfully intervened with nearby trawl centres to limit trawl fishing in the inshore zone. And in the 26-village *ur panchayat* meeting that took place in Tharangambadi on November 8, 2013, the same village successfully negotiated a clause that restricts ringseine fishing in the areas in which longlining is also taking place.

Keezhmoovarkarai also presents the clearest example of *ur panchayats* regulating the market at the landing site. After the cooperative of the South Indian Federation of Fishermen Societies (SIFFS) in the village was put on hold over a financial matter, the *ur panchayat* appointed a supervisor to structure the sales process and make sure that traders pay their suppliers within 24 hours. In addition it has employed some men and women to clean the marketing hall on a daily basis. For these services the *ur panchayat* charges traders 5 percent of the sales value.

Safety at sea is an issue of key concern for small-scale fishers: what if an engine fails or the men – for whatever reason – do not return to shore as expected? In these circumstances, ur *panchayats* take charge of organizing rescue operations. A recent event in Vanamahadevi provides a relevant illustration. Rough weather had caused two crew members of a fibreglass boat to be thrown overboard in February 2013. The *ur panchayat* immediately organized a search party, which, however, found no sign of the men. It then rented three trawlers to continue the search. The bodies of the men were finally found near Rameshwaram Island.

Interventions with government

The previous sections have described how *ur panchayats* manage their own affairs. With the development of state policies and influence, other aspects have, however, come to the fore. The relevance of the outside world for village affairs became most evident in the post-tsunami period, when relief and rehabilitation were important concerns. It is in this period that *ur panchayats* realized the relevance of having representatives

capable of negotiating with outside agencies, and replaced older, illiterate leaders with younger men who had been to school and knew how to talk to officials (Gomathy 2006; Bavinck 2008).

Interventions with government can be divided into two types. The first is directed towards maintaining village autonomy and protecting villagers from untoward interferences. The rule of discouraging the involvement of the police in village matters – mentioned above - is one expression hereof. *Ur panchayats* similarly guard their autonomy vis-à-vis other government agencies, such as the Fisheries Department. Thus in Nambiarnagar, the *panchayataar* scold a fisher for having approached the Fisheries Department directly, rather than having proceeded through the *panchayat* (see Box 1).

The other type of intervention is aimed at obtaining access to crucial government services. The Fisheries Department is the key agency for a variety of fisher welfare schemes, as well as for the distribution of fishing material and the realization of projects such as harbour sites. It is important also for matters such as the registration and licensing of boats. *Ur panchayats* are well aware of the identities of the persons who occupy positions such as of Fisheries Inspector and Assistant-Director, and approach them directly or indirectly via the fisheries cooperative president if needed. Box 2 (Karaikalmedu, November 4, 2013) provides evidence of the range of mediations that *ur panchayats* carry out with regard to various government departments.

BOX 2

The ur panchayat of Karaikalmedu, a large fishing village on the outskirts of the town of Karaikal, is well-organized. Its office, located on the temple square, contains an orderly set of files and a blackboard noting the prescribed fisher holidays of the year. The kudipillai also makes use of an advanced loudspeaker system to inform villagers of important matters. On November 4th, 2013, evening, the researchers visited the office and notes the following engagements with government departments. Four panchayataar, including two older leaders, are present.

1. *Two villagers come forward to ask a recommendation letter for the Electricity Board (EB). The EB requires proof of identity and residence in the village. The panchayat asks the kudipillai to draw up a letter that is immediately signed.*
2. *A young man has bought a fishing boat from his brother, but it has not been officially registered in his name. The Fisheries Department is now handing out ice boxes free of cost, but only to official owners of vessels. Could the ur panchayat provide him with a letter testifying to his ownership? The panchayataar verified whether the young man was registered with the village cooperative society, and then issued a letter immediately.*
3. *A man requested a letter testifying to his residence, so that he could apply as a member of the village cooperative society. This would make him eligible for various schemes of the Fisheries Department.*
4. *A group of men came in to complain about the delayed allocation of governmental relief funds regarding the 45-day closed season in April/May. One of the panchayat leaders explains that there has been some mix-up at the Fisheries Department, and that they should now re-apply for these funds. He will ensure that they receive the money.*
5. *Another group of residents complains of the fact that the money due under the Fisheries Department's saving cum relief scheme of 2011 had not yet been distributed. The panchayat orders the kudipillai to make a public announcement asking all eligible villagers to again submit their documents. The kudipillai is then to ascertain who has not received the stipulated fund; the panchayat leader will then make sure that it is obtained. However, he warns those who have gone directly to the Fisheries Department to complain about this matter not to do so ever again; in that case they would be fined by the ur panchayat.*

Other government agencies provide access to different services. Gram Panchayats are responsible for local roads, provision of water, and street lights. They also coordinate government schemes such as of the National Rural Employment Guarantee Act. Members of Legislative Assembly (MLA) and Members of Parliament (MP) are useful for tabling a variety of bigger village needs, whether it is a health facility, a school, solid waste collection, or a solution for the rising price of fuel. *Ur panchayats* constitute the prime fisher platform for deciding on and instigating such action.

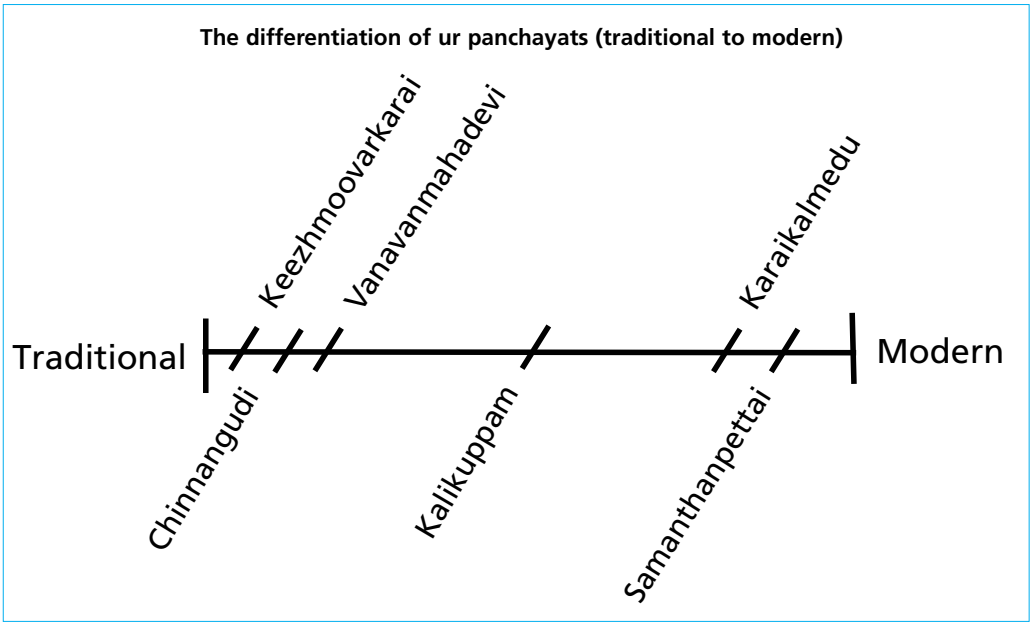
4. TYPOLOGY OF UR PANCHAYATS

Section 3 presented a cross-section of *ur panchayat* activity to argue that all tasks are represented in some way or other in the sample and can therefore be held to typify the whole. This having been said, however, substantial differences between *ur panchayats* were observed which need to be discounted. One can distinguish on the one hand a marginal category of non-conforming or failing *ur panchayats.* Then there is the regular category of *ur panchayats,* which is internally diverse. These are discussed below.

Kodiyakarai represents the category of non-conforming *panchayats* in the sample. The permanent inhabitants of this settlement do not belong to the Pattinavar but to the non-fishing Pillai caste, and have partially moved into fishing only in recent times. Their participation in fisheries is of an unusual nature. Besides themselves operating a number of trawl vessels and fibreglass boats, the 'fishers' of Kodiyakarai are mainly involved in managing a numerous, seasonal population of migrant fishers. Their fishing affairs are also not addressed by an *ur panchayat* but by a regular 'association' (*sangam*) with three office bearers and a small committee. This *sangam* has a limited ambit and highlights the interests of the permanent population. Although the Kodiyakarai sangam leadership participates in the panchayat circle meetings to which it is invited, the settlement and its sangam is an anomaly in the wider coastal setting that is dominated by the Pattinavar caste.

The marginal category also contains what might be termed the failing *ur panchayat*: the council that rules over a fiercely divided population and is therefore itself incapacitated. Although the sample did not contain any instance of this type, other research has demonstrated its availability along the Coromandel Coast (Bavinck 2001; Gomathy 2006). Such failure is not a permanent condition but a setback that can affect any *ur panchayat* in the course of time. Leaning so heavily on local consensus, *ur panchayats* become paralysed by the prevalence of factionalism and mutual distrust. As time moves on, however, such divisions may be overcome, resulting in renewed legitimacy and performance. This too is known to occur.

All the Pattinavar fishing settlements in the sample currently have a well-functioning *ur panchayat.* These 'regular' *panchayats* vary from each other, however, along the axes of structure, scope, and activities, and can be positioned on a scale ranging from 'traditional' to 'modern'. 'Structure' refers to the professional and educational backgrounds of the representatives on the council. 'Scope' pertains to the breadth of *panchayat* activity: its involvement in internal social matters and fisheries issues, and the settlement's connection with the outside world. 'Activities' distinguishes more traditional roles (such as interference with marriage patterns) with modern tasks (such as accessing government programmes). Figure 2 positions the seven sample *panchayats* on this composite scale.



On the left side of the scale are the *ur panchayats* of Vanavanmahadevi and Keezhmoovarkarai. They are 'traditional' in the composition of its council, that consists almost completely of fishermen. These *panchayats* take upon itself a wide range of tasks and play a strong role in community affairs. Their traditional concerns emerge from its interference with the marriage preferences of its members. They are also heavily involved in fisher dispute regulation and rule-making.

The *ur panchayat* of Sinnangudi is found on the other side of the spectrum. The dominant leaders here are well-educated and have largely moved out of fishing. Their interests have shifted to handling the relations between the village and the outside world, and in accessing relevant governmental programmes. The concerns of fishing concomitantly receive less attention. Still this *ur panchayat* assumes prime authority over local affairs. As one of only a few *panchayats,* it implements a public sanitation programme.

Other *ur panchayats* occupy middle positions on the scale from traditional to modern, thereby confirming their institutional dynamism and the very local centre of gravity. Whereas the more remote settlements tend to have more traditional *panchayats*, and vice versa, this pattern does not, however, always run true. Other factors – which lie beyond the scope of this study - seem to play an intermediary role in *panchayat* orientation.

5. INTERACTION WITH OTHER CSO-ORGANIZATIONS (TYPES)

This section highlights the relations between *ur panchayats* and the other civil society organizations in Nagai-Karaikal: self-help groups (SHG), cooperatives, NGOs, and other rights-based organizations. The relations between *ur panchayats* along the coast and their participation in so-called panchayat circles have already been discussed in Section 4 (and will return in Section 7). Two levels of interaction are distinguised: within (local) and beyond each fishing settlement (regional).

One mutual understanding underlies the relations with all other CSOs: the *ur panchayat*, which constitutes the legitimate representation of the local population, is the paramount authority at the village level, and all other agents bow in last instance to her. This pecking order implies that outside agencies must in principle obtain permission from the local *ur panchayat* in order to work in a particular settlement. Monitoring takes place on a continuous basis, the intensity of which depends on perceived relevance or threat.

The fisheries cooperative society – established at the insistence of government, and not a genuine cooperative at all – is particularly important as it channels a large number of programmes intended for the fishing population to the local level. In all sample villages, the fisheries cooperative president therefore constitutes a vital position and a stepping stone for persons interested in developing political influence. In some cases this position gains extra weight: thus in Keezhmoovarkarai, the cooperative president is also in charge of the local ration shop, and his control over the distribution of vital foodstuffs adds to his importance. In all cases, however, the *ur panchayat* views cooperative leaders and their activities as being under their control. Thus the leader of Sinangudi, a university graduate, explained in the presence of the cooperative president that the latter, who cannot be a member of the *ur panchayat* at the same time, is under *ur panchayat* control. The cooperative president acquiesced.

It uses cooperative programmes as important tax resource and provides sanction for cooperative distribution policies. With cooperative programmes being an integral part of village affairs, it goes without saying that it is the village crier who makes the necessary announcements to the cooperative membership. Thus on October 24, 2013, the *ur panchayat* of Kalikuppam sent a boy to publically announce that the money from the governmental saving-cum-relief scheme had arrived. It was to be picked up and donated immediately to the village fund.

The South Indian Federation of Fishermen Societies (SIFFS), which has recently helped establish a chain of genuine marketing cooperatives in the Nagai-Karaikal region, and is an outside agency of some weight, occupies a different position. Perceived as contributing real economic benefit to its (voluntary and therefore restricted) membership, the *ur panchayats* of villages in which SIFFS has been operating have tended to facilitate these marketing cooperatives, while simultaneously allowing other merchants to practice their trade too. SIFFS, on the other hand, has always made it a point to collaborate with *ur panchayats* (personal communication V. Vivekanandan 20/10/2013).

The women's SHGs found in the coastal region of Nagai-Karaikal are promoted and facilitated by a variety of governmental and non-governmental organizations alike, all of which require 'permission' from *ur panchayats* to conduct their affairs. *Ur panchayats* have generally tolerated the establishment of SHGs probably because they bring in funds and are generally not perceived as threatening. It is only a limited number of SHGs that engages in political activity and has challenged gender relations as they occur in the fishing settlements (see below).

The number of NGOs interested in and engaged with work in the fishing villages of Nagai-Karaikal has declined drastically since the post-tsunami period. Although some of the *ur panchayats* maintain contact with the NGOs that facilitated their villages' rehabilitation, this connection is irregular and no longer driven by strong donor concern. Only a few NGOs with permanent interest in the region remain. One of the oldest and best-known of these is Social Need Education and Human Awareness (SNEHA), which highlights gender education and addressing of coastal wrongs, such as the adverse effects of aquaculture and the commissioning of power plants in fishing areas. SNEHA's gender work is of particular interest, as it has occasionally tried to take on the patriarchal nature of the *ur panchayats* by demanding better women representation. The SNEHA director feels that because of its activities "panchayats are now at least consulting women on some issues" (interview 4/11/2013). Another observer points out (interview 3/11/2013), however, that "SNEHA is not welcome in most coastal villages because of its anti-patriarchal stance," with obstruction probably deriving from the *ur panchayats*. While maintaining her gendered critique of the *ur*

panchayats, the SNEHA director now also acknowledges the "need to work with the traditional governance systems of the fishing communities"(Rethinam 2012) for safeguarding the larger objectives of social justice on the coast.

6. INTERACTION WITH STATE AGENCIES

In its effort to rid India of the heritage of its past, the leaders of post-Independence India introduced an administrative setup that consciously ignored the institutions of caste. This has meant that the *ur panchayats* of Nagai-Karaikal are formally in limbo: they are not recognized or officially consulted by government. This attitude is confirmed by media reports and court cases regarding the excesses of caste panchayats (and so-called *katta panchayat)* in various parts of the country. At the same time, while maintaining an official distance, state agencies cannot ignore *ur panchayats* as they possess substantial power at the local level, potentially interfering with state activities.

But *ur panchayats* too have reason to be in touch with the state, either to ward off unwanted developments, or to tap into various state programmes, such as regarding individual loans or subsidies, or the provision of collective services such as roads, electricity connections, etcetera. For this purpose they depend on a new set of village-level leaders, such as the village's elected representatives (ward members and president) in the recently introduced Gram Panchayat system, and the fisheries cooperative president. They also make use of political contacts, such as the member of legislative assembly (MLA) or member of parliament (MP), who are themselves keen to maintain a local vote base.

For the purpose of ascertaining their views of *ur panchayats*, the research team met a number of senior government officials from different departments. All of them proved to be aware of the existence of the *ur panchayats* and recognized the need to involve them in affairs that affect the village. Two senior Fisheries Department officials in Nagapattinam and Karaikal districts maintained lists of the telephone numbers of the *ur panchayat* members in their areas of jurisdiction and confirmed that they were in regular touch. At the same time, however, they are also in contact with the presidents of the fisheries cooperative societies for the execution of various programmes. Thus the Assistant-Director of Fisheries in Nagapattinam explained that, although it is not part of official regulations, he always asks individual applicants for boat registration and other affairs to provide recommendation letters from their *ur panchayats*. He concluded: "*Ur panchayats* are facilitating our work. "

In recognition of each other's significance, the *ur panchayats* of Nagai-Karaikal coast collaborate in various ways and frequencies with state agencies such as the Fisheries Department. Some examples from this study are:

- The Deputy Director of Fisheries in Karaikal explains that he immediately sends all circulars that are relevant for the fishing population (weather alarms/notices on government schemes, etc] to the ten *ur panchayats* in his district. They then are in charge of announcing the content to the inhabitants via microphone/ village crier. He also has all of the telephone numbers of *ur panchayat* members in his possession. If he wants to identify whether a person is actually living in a particular village, he requests a guarantee letter from the respective *ur panchayat*.
- The Assistant Director of Fisheries in Nagapattinam engages in the same set of practices, explaining that information flows between Department and *ur panchayats* go both ways. He too asks for guarantee letters from the various *ur panchayats*, also in case of the registration of fishing vessels. He concludes that "*ur panchayats* are facilitating our work."

- The fishing harbor of Karaikal, the home base for 300 medium-size trawl and ringseine vessels, was completed in 2012. The research team visited the site on October 19, 2013, and was informed by its fisher guide that the *ur panchayats* from adjacent Karaikalmedu and Kizhinjalmedu are *de facto* in charge of the harbour's daily management. They have auctioned off the right of taxation on trade and transport in the harbor area, and have appointed two auctioneers and a cleaning unit to manage hygiene. The Deputy Director of the Karaikal Fisheries Department confirmed this state of affairs (interview 6/11/2013). He has officially proposed government, however, to rearrange this management committee to include representatives from all seventeen fishing cooperatives in the district. This would distribute authority and financial receipts more equally in the region, but also centerstage the cooperatives at the expense of the *ur panchayats*.
- Tragic events bring together the members of *ur panchayats* and representatives from a variety of state agencies. On October 24, 2013, the crew of two small-scale fishing boats fishing in the neighbourhood of the international boundary line encountered a Sri Lankan navy vessel, which apparently rammed them. Although their boats were damaged and two crew members suffered injuries, the small-scale fishers managed to escape and return to shore. They had announced their arrival in advance by phone, and were met by the local *ur panchayat* of Vanavanmahadevi as well as the Fisheries Inspector, the Gram Panchayat president, the Village Administrative Officer, a set of regular police officers, officials from the Central Intelligence Department, as well as ambulance personnel and a television crew.

The examples above illustrate the many tacit relations that exist between state agencies and the *ur panchayats* of the Nagai-Karaikal coastline. These relations are built not on principle but on an understanding of the realities of daily life: government officers realize that if they want things done, it is best to involve the *ur panchayats.* The members of *ur panchayats*, while distrusting government, have recognised long ago that its powers are inescapable and its services useful for their populations. As for fishing, they understand that there are certain matters that they cannot address on their own, and that they need the support of government. The *ur panchayats* are naturally wary, however, of efforts to bypass their authority, whether they occur from within or without. Government officials on the other hand have to balance the execution of official duties with unofficial realities.

The relations between *ur panchayats* and elected bodies, such as the Gram Panchayats, largely follow the lines sketched above. They contain an extra dimension, however, caused by electoral dynamics. Where the population of a Panchayat Village consists largely of fishers, they will have a majority of the ward members and often also appoint the president. This is favourable for their access to regular government services (such as pertaining to roads, water, and electricity), but also to separate schemes such as provided by the National Rural Employment Guarantee Act. For example, the Panchayat President in the village to which Vanavanmahadevi belongs, originated from this fishing hamlet. This provided multiple benefits, and also helped ensure that, on the occasion of the accident of Oct 24th, 2013 (see above), the Fisheries Minister and a variety of officials were quickly informed. However, the Panchayat President in the panchayat village to which Sinnangudi belongs, however, was a dalit from an adjacent hamlet who had a different political support base and to whom access was therefore less straightforward. The *ur panchayat* leaders of Sinnangudi had found a way to circumvent him, claiming to have good access to a higher officer who gives them 'pukka respect'.

7. CURRENT ISSUES: SRI LANKA AND THE BANNING OF RING SEINE AND PAIR TRAWL

This section sketches the role of *ur panchayats* with regard to three current 'hot issues': the conflicts over fisheries in northern Sri Lanka, and the operations of pair trawlers and ring seiners in local waters. None of these issues is particularly new. Although the Sri Lankan conflicts centre on the Palk Bay, fishermen from this adjacent region also have a long history of fishing in Sri Lankan waters; recently, however, the Sri Lankan navy has started impounding Indian fishing craft and arresting their crews in a large way, leading to dismay among Indian fishermen. Pair trawling was introduced to Tamil Nadu in the late 1980s but prohibited by the Fisheries Department in the year 2000. It is, however, still carried out by large operators under the patronage of politicians and administrators from harbour towns like Nagapattinam. Ring seining has come to this coastline from Kerala, where it has been carried out since the 1980s. Although ring seining too is officially banned, it is practiced by collectives of small-scale fishermen and some trawl operators alike.

The difficulties faced by trawler and small-scale fishermen in Sri Lankan waters are obviously beyond the purview of *ur panchayats*. Not only is the geographical distance prohibitive; the Sri Lankan navy naturally does not attend to hamlet-level authorities from a neighbouring country. Still there are two ways in which *ur panchayats* and other fisher organizations, like the trawler owner associations, feel that they can exert influence: (1) by pressuring Indian authorities to defend their interests, and (2) by negotiating an agreement with Sri Lankan fishermen. In both cases it involves collective action at higher scale levels.

The period of research coincided with a particularly intense set of conflicts with the Sri Lankan navy, and many small-scale fishermen had temporarily decided to avoid Sri Lanka. The study team thus met a young fisher in Kodiyakarai who, at the advent of his wedding, had been forced to promise his prospective in-laws that he would not cross the border into Srilankan waters.

In one case, an *ur panchayat* negotiated with government officers to provide relief to some of its fishers who had been attacked and suffered injuries. Two fibreglass boat fishing crews from Vanavanmahadevi had apparently been rammed by a Sri Lankan navy vessel on October 24, 2013, and limped back to shore. Word had been passed about the incident and a number of injuries that were sustained, and the *ur panchayat*, together with Gram Panchayat officials, made sure that the authorities and the press were suitably informed. They had also arranged for an ambulance to come to the shore.

In August 2013 the trawler associations of ports in the six districts that are affected by the Sri Lankan conflict organized a meeting in Nagapattinam to discuss collective action. One of its outcomes was a work stoppage of more than a month by the entire fishing population of Karaikal, intended to draw the attention of the press and the authorities to their desperate situation. All *ur panchayats* are said to have endorsed this strike, that included trawl as well as small-scale fishermen. The same 6-district group met again in September to discuss the follow-up that included strikes in other districts along this coastline. It is clear that the Sri Lankan conflicts affect trawl fishermen more than small-scale fishermen, and that the former take the lead, with moral support from *ur panchayats* in the Nagapattinam-Karaikal area, in developing a political voice. This includes taking part in the fisher dialogue meetings that are being sponsored by both governments at irregular intervals.

The problems of pair trawling and ring seining are enmeshed with the Sri Lankan conflicts, as both fishing techniques are forcefully protested against by Sri Lankan fishermen. But these techniques are also heavily disputed by small-scale fishermen in the Karaikal-Nagapattinam region. The nature of the dispute differs importantly from one of these gears to the other, however. Pair trawling in this region is practiced only by

large trawl owners with political support: its locus lies in harbour towns. Ring seining, however, is largely carried out by groups of small-scale fishermen, and results in social conflicts within the small-scale fishing population. Whereas pair trawling fishers blame ring seiners for the problems in fishing and the other way around, ring seining tends to be a divisive issue within the small-scale fishing population. Table 2 contains provisional figures on the current scale of ring seining in Karaikal-Nagapattinam.

TABLE 2
Ring seine activity in Karaikal-Nagapattinam (source: research notes)

	Villages with ring seines	Villages without ring seines	Villages with ring seine banned	Villages planning ring seine activities next year	Total
Ring seine activity	19 (33%)	39 (67%)	5 (9%)	11 (19%)	58

Table 2 demonstrates that although the number of fishing villages in which ring seining is currently occurring still makes up a – sizeable - minority, it may well develop into a – slight - majority in 2014. The technique is extremely attractive among small-scale fishers for the expectation of large earnings. The high returns that are realized from ring seining stand in contrast to the decline of earnings from most other kinds of fishing in the region. Still many fishermen, and their *ur panchayats*, have large reservations about ring seining, arguing that it results in a decline of total biomass and benefits a few to the exclusion of many. It is for this reason that a number of *ur panchayats* have actually banned the use of the gear. But *ur panchayats* are also gathering at higher district- and 64-village levels to discuss the matter.

A 64-village *ur panchayat* meeting was held in Nagapattinam in May 2013 to discuss the future of pair trawling and ring seining in the region. While the gathering decided to prohibit pair trawling with immediate effect, ring seiners were given three years to phase out their operations. These decisions were put to paper, with all delegations adding a signature to the agreement. Implementation is proving hard, however, with the proponents of ring seining gaining rapidly in number. The head village of a taluk of the same name, Tarangambadi, therefore held a meeting on November 8, 2013, about the fact that its fishers would like to commence eight new ring seines in 2014. This meeting was attended by representatives of the constituent *ur panchayats;* it decided to allow the new ring seines for two years (until the deadline stipulated by the 64-village agreement), but only in locations where it would not interfere with the operation of other fishing gears. The question is, however, whether ring seining – once introduced and rooted - can still be reversed without strong government action.

8. CONTRIBUTION TO SMALL-SCALE FISHING

The previous sections presented the *ur panchayats* of Nagai-Karaikal as multi-facetted organizations having a strong presence particularly, but not exclusively, at the hamlet level. Here they act individually and in concert with other CSOs to realize objectives, which are intricately linked to ideas about the wellbeing of their respective populations. Their self-defined role – that is generally recognised by other parties - is one of umbrella authority. Also noted, however, were variations in the way this role is exercised and created a typology of traditional versus modern *panchayats*. The fact that government does not officially recognize *ur panchayats* as actors on the coast affects their current functioning intensely.

The Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (FAO, 2015) emphasize that "small-scale fishers, fish workers and their communities have secure, equitable, and socially and culturally appropriate tenure rights to fishery

resources (marine and inland) and small-scale fishing areas and adjacent land" (Article 5.3). Major shifts in the rights of fishing communities to coastal lands have, however, taken place in the post-tsunami period, with many communities having been shifted away from the coast, and property rights to housing land being individualized. These changes must be viewed in the context of larger coastal developments as well as government policy, which includes the coming into force of the new Coastal Zone Notification Act. It is in the context of these bigger events and pressures on the coast that *ur panchayats* must now operate. It is significant that a village leader to whom the research team was talking anxiously inquired whether it was collecting data to move the village, which had already suffered a post-tsunami relocation, away again.

The Constitution of the Republic of India assigns the jurisdiction over fisheries jointly to central and state governments, with the latter being in charge of fisheries within territorial waters. Although the Tamil Nadu Marine Fishing Regulation Act (1984) officially relegates semi-industrial trawl fisheries to seas beyond 3 nautical miles from shore, and thereby offers token relief to small-scale fishers operating in the inshore zone, it provides no recognition of the *ur panchayat* role in fisheries. However, this case study has noted that this official vacuum is offset by manifold unofficial connections. The lack of official legitimacy, however, has impeded *ur panchayats* in what they see as their core tasks. Their contributions, summarized below, must therefore be viewed in the light of long-standing governmental disregard.

The *ur panchayats* of Nagai-Karaikal are ruling over increasingly heterogeneous populations. While most of the inhabitants of the fisher settlements along this coast are still involved in fishing, a movement into other occupations is gradually occurring. The increasing importance given to children's education suggests that this trend will also continue into the future. More important for the present, however, is the fact that the fishing settlements of this region – other than in the northern part of the Coromandel Coast – include small-scale as well as semi-industrial fishers. The combination of these professional categories in single settlements can be expected to affect the *ur panchayats* with regard to their decision-making on fishing issues. As trawl fishers generally belong to the village elite, they are well represented in many *ur panchayats* and less directly involved in the concerns of small-scale fishing households.

Environmental contributions

Ur panchayat members express concern over trends such as the decline of fish catches and coastal erosion, as their populations are obviously affected. Opinions vary on the origins and addressing of such phenomena, however, and *panchayat* members realize that many factors are actually beyond their control. There is a living practice, however, of regulating the use of fishing gears that are felt to be environmentally harmful. Many *ur panchayats* in this region have therefore prohibited the use of the snail net, and are pleading for a regional ban on the use of pair trawls and ring seines. Trawl fishing – which is generally perceived as a destructive gear type - is sometimes negotiated on a local basis.

Although *ur panchayats* are relatively effective in implementing gear regulations at the local level, their sub-regional and regional organizations have difficulty in negotiating and implementing larger agreements, particularly if gear types are profitable and already in use. Previous attempts to harness the use of ring seines and pair trawls, for example, have failed, and, although the Fisher Organization of Nagapattinam has passed a resolution phasing out the use of these gears by 2016, it is unclear whether this effort is going to be successful. Fisher leaders frequently point out the need for governmental support for measures of this kind. Although the Department of Fisheries

has actually prohibited the use of these ring seines and pair trawls, its officers feel incapable of implementing stronger regulatory action. There are currently no signs of this stalemate being broken.

Economic contributions

Ur panchayats make economic contributions to the collective as well as to individual inhabitants. By making decisions on issues such as the entry of seasonal migrants, the regulation of gear types, and the operations of various trader categories, they affect the structure of the local fishing economy and thereby the activities and income of their members. By keeping abreast of and channelling government welfare schemes and other programmes, *ur panchayats* are making a major impact on their settlements' annual incomes. At a more comprehensive level, *ur panchayats* can be argued to create institutional barriers to resource capture by powerful external agents.

The dispute-processing activities of *ur panchayats* frequently have a bearing on prevailing conflicts over economic goods and transactions. Their activities can be argued to reduce transaction costs, provide acceptable and appropriate solutions, and facilitate economic dealings for disputants, better than their government equivalents do. In fact, government officers note that fishing disputes at the local level are generally dealt with by *ur panchayats* and not by outside agencies.

Social contributions

Ur panchayats derive their continued authority from the perception that they operate – in principle at least – with the common good of their populations in mind. Whether the issue is one of defending the settlement from outside threats, the gaining of collective access to external opportunities, or the addressing of internal problems, *ur panchayats* are expected to take a stance. Examples are provided in boxes 1 and 2 of how *ur panchayats* act to resolve disputes of disparate nature and assist inhabitants in overcoming a variety of daily problems. Also noted were their role in religious matters, and their practice of intermediating with outside agencies.

There are a few fields recognized by the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in which *ur panchayats* make special contributions. The first of these is with regard to the diversification of livelihoods (Art. 6.8) and the importance of education (Art. 6.14 and 6.15). Recognizing the fact that schooling may provide opportunities for children outside of the fishing profession, *ur panchayats* are – to a greater or to a lesser extent - encouraging school performance. Some *panchayats* are exemplary in crafting special links with local schools for this purpose.

Public sanitation and health (Art. 6.2) is a second field in which *ur panchayats* have made a special mark. Following on the model projects established by NGOs in the post-tsunami period, some *panchayats* have developed, and funded, their own public sanitation programmes.

Seasonal migration – another point of attention in the Guidelines (Art. 6.10) is a regular feature of the marine fishing profession in South Asia, and it is also with this compulsion in mind that fishers in the Nagai-Karaikal region establish social networks along the coast. Some settlements (like Kodiyakarai) encourage large-scale seasonal migration, whereas others (like Vanavanmahadevi) discourage it. In most cases, *ur panchayats* will establish a measure of control over migration, also to ensure social harmony and acceptable fishing practice. Migrants have a lesser say in *ur panchayat* matters than old-time inhabitants, but generally become accepted with time.

Disaster risk management (Art. 9) is an old concern of the fishing populations of this region, pertaining to safety at sea (Art. 6.16 and 6.17) as well as to the destruction of coastal habitats (Art.9.3). After the tsunami of 2004, *ur panchayats* noted the concern

for safer housing locations. When necessary, *ur panchayats* also take care of search and rescue operations.

9. AREAS FOR IMPROVEMENT OF PERFORMANCE OF UR PANCHAYATS

This study on the contributions *ur panchayats* make to small-scale fishing in Nagai-Karaikal region also identified fields in which *ur panchayats* could improve their performance:

1. *Ur panchayats* are strongest at the hamlet level and weakest at the level of the region. This impedes their ability to deal with larger challenges, such as the spread of ring seines and pair trawls, but also the addressal of broader issues such as overfishing, coastal erosion, urban sprawl, etc.
2. *Ur panchayats* are weak in long-term collaborations with government agencies. This is a result firstly of their non-recognition by government. It is also fed, however, by systematic distrust of government intentions.
3. *Ur panchayats* have a proclivity for reactive rather than pro-active action, and possess little long-term vision. This is evidenced, for example, in the general acknowledgement of declining catches, but limited ideas on the content of more effective fisheries management. The voluntary nature of *panchayat* is a curb on further professionalization.
4. Political culture in South India and the widespread incidence of corruption has undermined trust in the integrity of leaders, also within the *ur panchayats.* Possibly as a result hereof, there is reluctance in *ur panchayats* to delegate authority to individuals, and an inclination to remove leaders at any sign of irregularity.
5. *Ur panchayats* are systematically weak in representing the interests of women. This can partly be traced to the fact that political representation is viewed as a male responsibility. The post-tsunami experience has demonstrated, however, that gender equality cannot be imposed from the outside and must grow, if at all, from within. Here the principles of non-discrimination (Art. 3.1.3) stand in opposition to those urging the respect of cultures (Art. 3.1.1).

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12. Concluding remarks

The case studies in this publication provide a rich source of material for understanding the struggles and challenges that fisherfolk organizations face and how they have been able to overcome these. Moreover, they provide valuable lessons that could be taken on board when organizing still unorganized fisheries stakeholders at different stages of the value chain, as well as in strengthening already existing ones. Among these lessons are:

- Fishing is more than a source of livelihoods. It is a source of cultural identity and heritage. Threat to the loss of fishing heritage has galvanized communities to undertake collective action to preserve it, as demonstrated by the case studies from Costa Rica and the United States of America. The need to pass on the fishing tradition and heritage is driving the increasing focus on the participation of the youth in fisherfolk organizations and collective action.
- The idea and inspiration to organize may come from different sources. They could arise from the need of the fisherfolk themselves, but they can also be an initiative coming from non-government organizations, research and academic institutions, religious organizations, or from the government. The case study from Norway has shown how government action can dramatically change the balance of power in favour of fishers when it passed the Raw Fish Act 1938. The act granted the fishers' cooperative sales organizations the exclusive right to decide the raw fish price.
- Organizations are important in operationalizing the sharing of responsibility on fisheries management between government and fisherfolk under a co-management arrangement. Capacity development of fisherfolk to take on this responsibility and maintain their interest and commitment to the organization has to be creatively designed and implemented, as demonstrated by the case study from Aceh, Indonesia. Despite the capacity development efforts, the organizations, when they become established and are going strongly, could still become the victims of elite capture and vested interests of some individuals within the organizations. These negative experiences could weaken the organization and lead to the loss of interest of members.
- Organizations have proved to be effective in enabling access to traditional and new markets and a fair price for their products. Furthermore, fisherfolk organizations are going beyond these economic concerns, to issues of resource sustainability and participation in resource management and decision-making processes. Social and environmental objectives are increasingly being integrated into the mission, purpose and activities of fisherfolk organizations. New institutional arrangements for participatory resource management are being created, such as marine extractive reserves in Brazil and the marine areas for responsible fishing in Costa Rica.
- Fisherfolk organizations are serving as platforms for learning for students, academics, fellow organizations and cooperatives, and fishing communities, with regard to organizational development and strengthening.
- Weak leadership, lack of management skills, and poor business and financial literacy are still huge challenges faced by fisherfolk organizations. Where members have seen the need for the organization to survive despite a near-collapse, champions within the organization have risen to the occasion to put things right and move the organization forward.

- Whereas an enabling environment is important for organizations to flourish, the absence of a legal framework is not a barrier to collective action as long as there is democratic space that allows people to exercise their right to organize.
- There is a revival of and interest in customary institutions and practices because of their relevance in conflict resolution, the administration of justice, authority over coastal space, and as mediator between government and fisherfolk.
- Mainstreaming gender issues and promoting the participation and leadership of women in fisherfolk organizations need to be improved. In this regard, the barriers to women's participation need to be identified and addressed. In addition, the participation of women in customary institutions and practices needs to be investigated.

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Towards the formulation of a capacity developement programme

Workshop report and case studies 4–6 November 2014, Barbados

This document provides a summary of the presentations, discussions, working group sessions and recommendations of the workshop "Strengthening organizations and collective action in fisheries: towards the formulation of a capacity development programme," held in Barbados on 4–6 November 2014. The document also includes in-depth case studies of fisher organizations and collective action in Barbados, Belize, Brazil, Costa Rica, India, Indonesia, Norway, Tanzania, Timor Leste, and the United States of America.

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