

SAMUDRA Monograph

Small-scale Fishing in Central American Indigenous People: Governance, Tenure and Sustainable Management of Marine Resources



With the support of:



Pueblo Ngöbe
Bugle, Costa Rica

UPASABO
Unión de
Pescadores
Artesanales
Bocatoreños



International Collective in Support of Fishworkers
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¹ This research has been coordinated by Coope SoliDar R.L. (Vivienne Solís Rivera y Marvin Fonseca Borrás) with the support of ICSF (Sebastian Mathew and Ramya Rajagopalan) the technical support of Alejandro Muñoz Rivera. Central American researchers and institutions have participated in it: Costa Rica: Rigoberto Carrera Santiago. Panamá: Martha Machazeck. Nicaragua: María Luisa Acosta. Honduras: Gerardo Yanes.

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Governance, Tenure and Sustainable Management of Marine Resources

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Acronyms and Abbreviations

CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women
FAO	Food and Agricultural Organisation of the United Nations
FUDNAND	Fundacion Parque Nacional Nombre de Dios
GCIN	Grand Canal of Nicaragua Interocceanic
HKND	Hong Kong Nicaragua Development
ICSF	International Collective in Support of Fishworkers
INCOPESCA	Instituto Costarricense de Pesca y Acuicultura
MPA	Marine Protected Area
ODECO	Ethnic Community Development Organization
OFRADEH	Organizacion Fraternal Negra Hondureña
OSPESCA	Organization of the Fisheries and Aquaculture Sector of Central America
RACS	La Región Autónoma del Caribe Sur
RECOTURH	La Red de Comunidades Turísticas de Honduras
TIICAS	Consortium Territories of Indigenous Peoples and Conservation Areas local communities
UN	United Nations
UNDIRP	United Nations Declaration on the Rights of Indigenous Peoples
UPASABO	Union of Fishermen Bocatoreños

EXECUTIVE SUMMARY

This research develops four case studies on small-scale fisheries in Central America located within indigenous territories. The Ngöbe Bugle Conte Burica Territory in the south of Costa Rica, the Garífuna territory in Nueva Armenia Honduras, the Rama territory in Nicaragua and the Ngöbe Bugle territory in Bocas del Toro, Panamá.

The cases are a first approach to discussing and analyzing relevant social and human rights issues related to conservation of marine resources and fisheries management in these territories. The cases discussed between other issues of interest, the relationships between marine protected areas under different governance models and issues related to the strengthening of the small-scale fisheries of these indigenous populations and marine fishing territories. They highlight sustainability, governance, land tenure and access to fishing resources, gender, traditional knowledge importance and new challenges as climate change.

Each case was developed with a particular methodology according to the researcher's proposal and the experience of their organizations with this indigenous fishing population.

We promoted a methodology based on respect to the traditional decision-making bodies in each case and the previous informed consent. Prior informed consent was requested in Honduras, Costa Rica and Panamá and there was an agreed link established with local organizations in each country to define a clear working route for the research approach and possible follow up.

The Nicaraguan case study was based on secondary sources and previous research done by the researcher in charge, since she was part of the team for the Rama territorial rights defense.

The information shows a great diversity and socio-cultural richness in the Central American region related to indigenous peoples and small-scale fisheries; also the importance of small-scale fisheries in the survival of

these communities and their cultural identity. Cultural identity is linked to the sea and the coast which makes the human rights integral approach the only way to follow towards social and environmental sustainability of these communities.

Organizational limitations are a great obstacle to the improvement of the living conditions of these communities; this issue becomes complex in the context of the existence of consuetudinary policies and norms, which should be respected by States.

Women and youth roles are of great importance in these communities especially on issues related to food security and knowledge transfer and education.

Urgent issues related to tenure and access to the sea and land, access to health and basic services, remain unresolved, and make these indigenous fishers highly vulnerable. Together with geographic isolation, communication and education weaknesses, health issues associated to fishing, and diet suggest that they are indeed the most vulnerable and marginable groups of all in this region.

In the context of the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the context of Food Security and Poverty Eradication (SSF Guidelines), the extremely high vulnerability of these communities to climate change makes the governmental support to these indigenous fishing communities for adaptation strategies urgent and highly needed.

INTRODUCTION

Small-scale fisheries include traditional, artisanal and subsistence fishing, using mechanization as well. They generally tend to use manual and traditional arts of fishing and small nets, traps, lines of hooks and spears. Biodiversity of the catches in this type of fishery may be high and includes a greater and higher variety of species than large-scale fishing; also a greater variety of small populations of fish or other marine organisms distributed in numerous management units. Fishing activities of the small-scale fleet tend to predominate in developing countries; however, they are also common in the coastal areas of developed countries, such as the Atlantic coast of the United States and Canada (Berkes, 2003).

The small-scale fisheries are essential for economic vitality and food security of many coastal developing countries; it is reported to have offered employment at least to 50 million fishers worldwide (Allison and Ellis 2001, Berkes *et al.*, 2001). As pointed out by to Food and Agriculture Organization of the United Nations (FAO), the resources on which these fisheries depend are often threatened. Moreover, most small-scale fishing communities must deal with various problems such as human population growth, migratory movement and increased competition with industrial fishing on a large scale leaving many fishermen with few or no alternative employment (FAO, 2005).

Small-scale fisheries are often characterized as “an occupation of last resort” and fishermen as “the poorest of the poor” (Pauly *et al.*, 1997). The proposed solutions to the problems of poverty and resource degradation have focused on the need for making small-scale fishing a more economically efficient activity, while research is done to promote the conservation of marine resources through a combination of management to regulate access to resources, policies and incentives for current actors in the activity to abandon fisheries. These policies have generally been based on an analysis of the fisheries sector that has not addressed the broader role of fisheries in the coastal economy. Such policies and studies have also been based on a vision of “balance” of fishery resources where fishing capacity corresponds to the productive capacity of resources; with the aim of achieving maximum sustainable yield (Allison & Ellis 2001).

Attempts for capture capability to match resource productivity through a combination of production and technical measures imposed by the state have a high failure rate. This can be attributed in part to the high degree of short-term variability of fish stocks, making this an unpredictable behavior. Management tools made “top-down” (i.e. from the authorities to users) tend not to be sufficiently sensitive to trends and the ups and downs experienced by fisheries (Allison and Ellis 2001).

In the fisheries sector, the 1995 FAO Code of Conduct for Responsible Fisheries, and more recently, the Voluntary Guidelines for Sustainability Sustainable Small-scale fisheries in the context of Food Security and Poverty Eradication with its provisions to protect the livelihoods of small-scale fishermen, provide the necessary actions for the maintenance or expansion of the framework of action of this sector.

Despite these, small-scale fisheries have been largely neglected during the development of policies and approaches to environmental and economic management worldwide. Part of this behavior has its roots in the lack of basic and reliable information, both on technical issues of fisheries (ex. landings, fishing effort, the spatial distribution of fishing activities, etc.); as well as cultural and social issues (identity, language, etc.) required for the formulation of successful guidelines for management (Berkes *et al.*, 2001).

GUIDELINES THAT TAKE INTO CONSIDERATION SMALL-SCALE FISHING AND ITS DIFFERENTIATED NEEDS

The Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) are the first international instrument dedicated specifically to small-scale fisheries and represent a global consensus on steps needed to improve small-scale fisheries governance and development. They were developed through a participatory process that included fishing organizations and other civil society actors.

It represents a global consensus on steps to improve governance and development of small-scale fisheries from an integral perspective, promoting actions, from diverse sectors, always based on respect for human rights principles.

The strong and active participation of all stakeholders is urgent for its effective implementation by governments, since this is an instrument of voluntary compliance. It is also critical to generate information evidencing that we mostly work with the most vulnerable and marginalized sector of small-scale fisheries. In this regard, countries in Central America, through the Organization of the Fisheries and Aquaculture Sector of Central America (OSPESCA), took the agreement to initiate a regional process to promote and implement these guidelines (OSPESCA, 2012).

Throughout the entire Guidelines document the importance of small-scale sector is recognized and so is the need to address with special attention the marginalized and vulnerable groups. As it is mentioned in the preamble of the document of the Voluntary Guidelines to ensure the sustainability of small-scale fisheries in the context of food security and poverty eradication:

“Small-scale fisheries represent a diverse and dynamic subsector, often characterized by seasonal migration. The precise characteristics of the subsector vary depending on the location; indeed, small-scale fisheries tend to be strongly anchored in local communities, reflecting often historic links to adjacent fishery resources, traditions and values, and supporting social cohesion. For many small-scale fishers and fish workers, fisheries represent a way of life and the subsector embodies a diverse and cultural richness that is of global significance. Many small-scale fishers, fishworkers and their communities—including vulnerable and marginalized groups—are directly dependent on access to fishery resources and land. Tenure rights to land in the coastal/waterfront area are critical for ensuring and facilitating access to the fishery, for accessory activities (including processing and marketing), and for housing and other livelihood support. ... Where poverty exists in small-scale fishing communities, it is of a multidimensional nature and is not only caused by low incomes but also due to factors that impede full enjoyment of human rights including civil, political, economic, social and cultural rights” (FAO, 2015)

In addition to the above, in paragraph 1.2 of the Guidelines it emphasizes the needs of developing countries and the need to ensure adequate distribution and benefits to vulnerable and marginalized groups who develop this productive activity in which priority sectors are indigenous peoples who develop fishing. This point is taken up in the guiding principles 2 and 6 of the document:

2: “Respect of cultures: *recognizing and respecting existing forms of organizations, traditional and local knowledge and practices of small-scale fishing communities, including indigenous peoples and ethnic minorities encouraging women leadership and taking into account Art. 5 of the Convention for the Elimination of all forms of discrimination against women. (CEDAW). (FAO,2015)*

6: “Consultation and participation: *ensuring active, free, effective, meaningful and informed participation of small-scale fishing communities, including indigenous peoples, taking into account the UN Declaration on the Rights of Indigenous Peoples (UNDIRP) in the whole decision-making process related to fishery resources and areas where small-scale fisheries operate as well as adjacent land areas, and taking existing power imbalances between different parties into consideration. This should include feedback and support from those who could be affected by decisions prior to these being taken, and responding to their contributions. (FAO, 2015)”*

The theme aimed at favoring the application of these Guidelines to marginalized and vulnerable groups, are also taken up in the following points adopted by governments in 2012 document:

5.4. “States, in accordance with their legislation, and all other parties should recognize, respect and protect all forms of legitimate tenure rights, taking

into account, where appropriate, customary rights to aquatic resources and land and small-scale fishing areas enjoyed by small-scale fishing communities. When necessary, in order to protect various forms of legitimate tenure rights, legislation to this effect should be provided. States should take appropriate measures to identify, record and respect legitimate tenure right holders and their rights. Local norms and practices, as well as customary or otherwise preferential access to fishery resources and land by small-scale fishing communities influencing indigenous peoples and ethnic minorities, should be recognized, respected and protected in ways that are consistent with international human rights law. The UNDRIP and the Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities should be taken into account, as appropriate.” (FAO 2015)

5.5. “States should recognize the role of small-scale fishing communities and indigenous peoples to restore, conserve, protect and co-manage local aquatic and coastal ecosystems.” (FAO 2015).

Central America and its indigenous people fishers

In the case of Latin America and especially in Central America, artisanal fishermen have managed to feed a segment of the human population that otherwise would have been difficult to think had managed to survive. In this Latin part of the American continent, often-negative judgments and prejudices that are oriented towards fishermen are based on ignorance about their culture, life and activity. These prejudices have made this group vulnerable and marginalized from the rest of the society (Alcalá Gabriela, 2011).

In Central America (including the Republics of Belize, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama) artisanal fishermen move in a diverse and changing territory based on traditional knowledge—also called ecological knowledge, which has allowed them through history, to develop their productive activity effectively and efficiently. Artisanal fishermen in Central America develop the activity in the sea, lakes and rivers. Tenacious women, men and young along the entire production chain practise artisanal fishing. The sector has achieved a relationship with their environment that goes beyond survival, to address issues of the future such as: conservation, sustainable use and climate change adaptation (CoopeSoliDar R.L, INCOPECA and Procasur, 2015).

Yet many of the fishermen in the Central American region have been left out of institutional formality, generation and impact of public policy, which would have allowed them to contribute and guide those legal instruments towards environmental, social and economic sustainability necessary to guarantee the

exercise of their human rights. A majority of artisanal fishermen in the region practice their fishing activity in an informal way, so they become unfairly illegal fishermen and are active daily at high risk of being caught by the authorities, giving rise to anxiety and despair in families that depend on this activity to survive.

The latest structural survey of artisanal fisheries and aquaculture in Central America (2009-2011) concludes that there are 135,400 fisherfolk in Central America, 3003 farmers and 307 state actors, universities and secondary education centers all as part of a fisheries sector important for the region. Artisanal fisheries in Central America are fundamentally oriented to marine fishing with almost 80 per cent fishermen fishing in the Pacific and Caribbean region, and another 20 per cent fishing in inland waters. (OSPESCA, 2012).

This survey does not differentiate between fishers of coastal populations and indigenous peoples, however, this information is important to understand the percentage of artisanal fishers who are also indigenous peoples. This productive activity is important in the livelihoods of these communities that have important cultural diversity in the region.

Concerning this issue, in the Central American Workshop “Towards a regional action plan for the implementation of the Voluntary Guidelines to achieve sustainability of small-scale fisheries in the context of food security and poverty eradication”, held in Puntarenas, Costa Rica (December 2015), CoopeSoliDar R.L., ICSF: Rigoberto Carrera, representative of Costa Rican indigenous peoples mentioned how in different spaces the indigenous peoples have been invisible:

“Our indigenous communities are also fishermen and we need the marine resources to survive. We hope that we are taken into account in these processes that is now discussing fisheries. Although Costa Rica has 24 indigenous territories, it is just I at this meeting. We all have the right to be taken into account. Union and strength are important to achieve results” (CoopeSoliDar R.L. - ICSF 2015).

The studies presented in this summary, are the first effort to document the situation of indigenous peoples in Central America, especially those involved in artisanal fisheries. The study provides an analysis of issues of governance, tenure and access to resources, gender, use of traditional knowledge and sustainable management.

Concerning this research

This study develops four case studies of small-scale fisheries developed by indigenous peoples in Central America: Honduras, Nicaragua, Costa Rica and Panama. Each of the cases selected analyzes issues of social relevance and human rights for the management and conservation of marine fishery resources. Addressed, in some cases, are the situation and relationships experienced between marine protected areas under different models of governance and fundamental issues for the continuity and strengthening of small-scale fisheries of these indigenous peoples both in mainland and marine fisheries. The studies provide information on issues of marine spatial planning, governance, tenure, gender equality, health, education, sustainable management, traditional knowledge and adaptation to climate change between others.

It is expected that this study will contribute to a better understanding of these fisheries and provide inputs to the political, technical, public institutions and non-governmental organizations involved in fisheries issues on the importance of incorporating the needs of indigenous peoples, involved in artisanal fisheries when discussing governance, fisheries management and ways towards sustainable use of continental and marine resources, especially within the framework of the SSF Guidelines.

The analysis has as an objective to share lessons learned to support the importance of a vision based on human rights for the sustainable use, conservation and management of marine and coastal resources in fishing communities in Central America, where the rights of vulnerable marginalized indigenous peoples and local fishing communities are recognized.

The study demonstrates the importance of a participatory research approach for action, planning and conservation of coastal marine resources, which has promoted the input and recognition of traditional knowledge; as well as other customary actions towards conservation and management of coastal marine resources that have been legally recognized in different countries.

The cases analyzed provide specific concerns geared to deal with and adapt to climate change and natural impacts on indigenous or ladino fishing communities and the importance of the development of fishing public policies that address those issues related to risk management, mitigation and adaptation to the impacts of climate change, in strict consultation to the bases, respect for cultural and social differences of these peoples.

Methodology

Each of the cases in the four countries developed a differentiated and flexible methodology according to the experience and vision of researchers and their organizations. In each case, a respectful code of conduct based on traditional needs was developed, and, where necessary, the methodology had prior informed consent of and also consultation with the decision-making bodies of indigenous peoples.

In the case of Honduras, Costa Rica and Panama, prior informed consent was requested and the establishment of an initial contact between local organizations and organizations that supported researchers was established as a starting point. In each case, a clear roadmap of work on the scope of the research was developed.

In the case study of Nicaragua, the document was drawn from secondary sources and research previously conducted by the researcher, who has extensive knowledge of the territory and the struggles and needs of the indigenous community analyzed. The information is ordered based on the subjects of interest in the regional study.

The present review was complemented in most cases with practical and field information through field visits to the area and group interviews, which allowed addressing issues of particular local and regional interest.

As mentioned, each case developed an adaptive methodology that responded to the specific conditions in the area. All cases are linked methodologically by research subjects requested by ICSF—human rights for the management and conservation of fishery marine resources, marine spatial planning, tenure governance, gender equality, health, education, sustainable management, traditional knowledge and adaptation to climate change.

The final document in the annexes incorporated the main findings and lessons learned from each case study and each document. We now describe briefly how each country methodologically developed the case:

Costa Rica

This study began with an exercise of prior and informed consent in the territory of indigenous Ngöbe Bugle Conte Burica in the Costa Rican South. It was organized and developed by a young Ngöbe Bugleresearcher who carried out the research study. The methodology was developed in three stages:

1. Prior informed consent exercise with traditional authorities and local government

2. Information was collected and key leaders and organizations to be interviewed were identified.
3. Document preparation
4. Devolution of information and research to the community

The Council of elders of the Ngöbe people defined the procedure for conducting interviews and the contents of the interviews. Interviews were done to suggested people of the coastal and river nearby communities (see Box 1).

Box 1: Prior informed consent agreements with the Ngöbe Bugle in the territory of ConteBurica:

1. That the process is accompanied by the organizations
2. The study would bring in the issue of indigenous worldview and use of continental and marine territory
3. To learn about ongoing initiatives and raise a position from the Council
4. A longer process
5. It should be a valuable study
6. Return of the information to the community
7. That the study even if small will have a broad approach
8. Let the people of Punta Burica and other leaders be involved.

Honduras

In the case of Honduras the representatives of CoopeSoliDar R.L. and RECOTURH, which defined the methodological approach, conducted a field visit to the research site.

The following methodological steps were performed:

1. Recovery of information and documentation concerning the territory of the Garifuna village of Nueva Armenia
2. Development of a semi-structured interview that responded to the main research questions
3. Realization of the interview to the executives and members of the Association of Fishermen of the Garifuna Community of Nueva Armenia

4. Interviews were conducted to: key organizations and institutions related to fisheries in New Armenia, comanagement Foundations of the Protected Areas: Parque Nacional Nombre de Dios FUDNAND and the Cayos Cochinos Marine Reserve -the Cayos Cochinos Cayos Cochinos Foundation; Municipal Environmental Unit of the Local Government of Jutiapa, Atlantis and other key stakeholders
5. Preparation of the final document of the case study

As part of the specific actions taken during the interview process with the fishermen of New Armenia, they were invited to participate in the Regional Workshop of the FAO Voluntary Guidelines in Costa Rica, Puntarenas 2015.

Nicaragua

The Nicaraguan case study was prepared as follows:

1. Summary of bibliographical information on the area analyzed.
2. Previous research done on the legal issues of territory and human rights reviewed.
3. Analysis and field observations derived from the experience of the researcher and author.
4. Preparation of the case study

Lead researcher has worked in the past 23 years with indigenous peoples and afrodescendants on the Caribbean coast of Nicaragua, and specifically with the Rama Indigenous People for the last 18 years.

Her experience was derived from the process of demarcation and titling of Rama and Kriol Territory conducted from 2004 to 2009. During this period, the author traveled throughout the country as part of a multidisciplinary team that investigated all social, economic and geographical aspects of Rama indigenous people, including communal fishing activity in Rama Cay.

The experience of the author culminated in the diagnosis of the territory Rama and Kriol, based on obtaining the title of Rama Indigenous People and Afro-descendant communities in their traditional territory. The previous field diagnosis has been the cornerstone on which this research is based.

Panamá

The development of the Panamanian case is based on previous work developed by CoopeSoliDar R.L., with the Union of Fishermen Bocatoreños (UPASABO), and the desire that the issue of indigenous peoples and their

fishing activities could be placed in the context of the vision of conservation and development of the territory where they live.

The case study was based on the following methodological steps:

1. Coordination with the President of the Federation of Fishermen of Panama and President of the Union of Fishermen Bocatoreños (UPASABO), Ms. Martha Macheleth was performed.
2. In conjunction with the technical team of CoopeSoliDar R.L., selection criteria for the case study were identified.
3. Field work and gathering information through focus groups; after coordination with local leaders fieldwork was conducted between 18 - Jan 23, 2016.
4. Synthesis of Focal team work. At the end of the field trip, the technical team of CoopeSoliDar R.L., together with Martha Macheleth, conducted an exercise of analysis of the main results and perceptions raised at the meeting. This exercise allowed framing perceptions of the national reality of Panama.
5. The information collected through the artisanal fishermen interviews, was supplemented with secondary information.
6. Development of case study document

DISCUSSION AND RESULTS

Considerations for learning concerning the main research issues:

A. Governance of Central America Small-scale fisheries:

Governance issues related to indigenous peoples fishing territories have been little debated in the region, especially issues concerning human rights of indigenous peoples and their right to take decisions concerning these territories. These issues are difficult to negotiate that some have even had to go to the international courts.

A recent study by the Silvel Elias (2016) Consortium Territories of Indigenous Peoples and Conservation Areas local communities (TIICAS) mentions that areas of indigenous conservation and local communities in Mesoamerica are real examples of effective governance of territories and natural resources. This study mentions that communities have managed to define formal and informal rules, have achieved some degree of participation in decision-making and accountability mainly through their own territorial governments, a common and historical territory, local regulations and promotion dialogue and develop management-oriented policies against national governments that often go against their ancestral rights and participation.

There are actions in fact where fishing villages and indigenous peoples have taken over the lack of government presence in the governance of their marine territories. These exercises are important and reflect the reality of Latin American people historically, where participation in itself, not as a right yet but as a reality, must be viewed as a good practice for learning. Today these examples and people through interesting initiatives that combine conservation with development allow hope for the implementation of the SSF Guidelines towards sustainability of small-scale fisheries in the context of food security and poverty eradication Guidelines.

The region experiences very extreme situations; where the rights of the fishing communities to their territories are not recognised, like the Ngöbe Bugle marine territory in Punta Burica, Costa Rica, has not yet been recognized as a territorial right for these peoples. On the other end, a good example of effective community governance is the case of Rama and Kriol communities in Nicaragua (see annex).

In the case of the Honduran Garifuna communities, the rights to be participants in the decisions taken in these territories where these peoples have developed

their actions and identity have been recognized by constitutional law. According to the legal framework—in good theory—human rights are recognized. Practice though shows that its implementation, and what is worse, the exercise of their rights is far from reality.

In the case of the Honduran Garifuna people, they mentioned the right to the exclusive use of 2 Cays used in historical form, but mentioned several fishing control measures imposed for years by co-management organizations of the protected areas that were not consulted with them. These non-governmental organizations (Cayos Cochinos Foundation and Nombre de Dios Foundation) were interviewed and they recognize at the moment the importance of gradually promoting participation and governance of these peoples on actions for sustainable use and benefits arising from the use of their territories.

Interestingly, the issue of regional decision-making concerning the use of regional resources like lobster has important impacts on local resource use for indigenous peoples in the Panamanian keys. From the perception of fishermen, since there is no differentiated analysis of the situation of indigenous fishermen living in Cayo de Agua and Cayo Tigre, a measure such as the regional lobster ban taken by the authorities of each of the countries, including the government of Panama, threatens the survival of these peoples who depend solely on fishing for survival (see Annex).

B. Access rights of indigenous people and local fishers in Central America

The recognition of a safe and equitable access to natural resources for food security access, nutrition and sustainable livelihoods that the Guidelines raise is of fundamental importance for fishing communities, particularly for vulnerable and marginalized groups as indigenous peoples.

Tenure systems define and regulate how people, communities and others, such as associations, cooperatives and companies gain access to natural resources through both formal and informal law arrangements. The governance of tenure affects how these parties are able to acquire rights and/or protect existing rights to use and manage these resources.

As seen in the case studies, many of the tenure problems arise because of weak or poor governance, and quality of governance affects attempts to solve the problems related to tenure. The existence of improper or unsafe rights to access and use natural resources often result in extreme poverty and hunger, not only for the facilitation of overfishing, but also by reducing incentives for responsible stewardship. The eradication of hunger and poverty, as well as sustainable use

of the environment and the continued provision of ecosystem services depends largely on how people, communities and other groups or organizations gain and maintain access to land and other natural resources and, in the case that concerns us, fishing.

In the fisheries sector, ineffective management of tenure is an important issue concerning sustainable and efficient use of natural resources as we can see from these research examples. Consequently, livelihoods and food security and nutrition are at risk because many fishing communities suffer from insecurity regarding access to resources on which they depend. While access to fisheries resources is a key consideration, it is important to understand that fishing communities also depend on access to other services and resources such as land, housing, markets, financial resources, information systems, and legal and social services such as education, health care, and sanitation.

Fishing communities need safe use of fishery resources and land in coastal areas to secure and facilitate access to fisheries, for accessory activities (including processing and marketing) rights, and housing and other livelihood systems. This is even more critical for the fishing communities that are likely to be marginalized and / or the poor sectors of society and especially for indigenous peoples as those that are discussed in this document.

Fishing tenure rights are often treated as “use rights” and exist in many different forms that consist of several packages of rights that confer both privileges and responsibilities. They can be formal or informal, legally recognized or customary (or traditional).

The development of formal agreements for tenure in fisheries has tended to focus on fishing access and utilization of fisheries resources, and in this context the terminology of “rights” is often used more often than the concept of “tenure”. The fishing tenure rights are often seen as part of a framework of governance and fisheries management in general.

Because wild fish resources are common property (i.e. not owned by individuals or groups) that live in the water, where they are difficult to see and rarely kept within limits, it is often more difficult to determine who is entitled to them or have the right to harvest that for terrestrial resources. This is why the discussion to date has tended to focus on who can “use” (not “own”) the resources that form the stocks.

There is a common misconception that raises the belief that management regimes based on fishing rights leads to the privatization of resources. Most coastal resources probably already have some sort of management

system (often collective). These may be the common arrangements applied by local fishing communities or systems that have been replaced by the central administration. Customary tenure rights of a community include the collective rights of its members to natural common property and individual rights to specific parcels of land or natural resources. Informal tenure rights are rights that lack formal tenure officially protected by the state and often arise spontaneously, for example, in areas affected by migration.

While formal tenure rights have been implemented in fisheries over the past 25 years, there is a much longer history of the customary and traditional tenure systems of fishing communities', this history dates back in centuries. These have tended to exist in the form of fishing rights in certain areas, namely access or rights to use the space, and often found in relation to land tenure, so it is important not to see fishing tenure in isolation but in a broader context, including land tenure and livelihoods of local people. This is the kind of law that is referred to in the case studies presented in this research.

Many formal tenure systems are based on rights that were initially customary. In some countries, customary tenure rights have received formal legal recognition equivalent to other statutory tenure rights. However, in other countries, these tenures lack legal recognition. When this happens, holders of rights of use or possession often cannot easily defend their customary rights in cases where competition with other resource users are given.

The expansion of tourism, ports, coastal infrastructure and industrial progress have increasingly led to situations of dispute or litigation by groups interested in using these areas and traditional resource users of coastal areas, which have usually been held by fishing communities (ICSF, 2012). Management systems based on fishing rights is based on the notion that fishing will generate more benefits and will be done more sustainably if users have more robust rights. Therefore, management of fishing rights is based on a concept that focuses on the privileges, rights and responsibilities in the form of common, collective or individual rights related to fishing activities.

The studies analyzed show that both land tenure and access to fisheries are fundamental problems that arise in fishing communities in Central America and more particularly in relation to indigenous peoples, who represent the most vulnerable sectors of these small-scale fisheries.

This problem is even higher in cases of indigenous peoples living like the Ngöbe Bugle population in Cayo de Agua and Cayo de Tigre in Panama, that live exclusively on fishing.

In all cases analyzed (see appendix), the mainland and marine territory are issues of conflict and struggle for these populations. In the case of Costa Rica, according to the Council of Elders of the People Ngöbe Bugle, concrete detail on the mainland granted by the Costa Rican State is still unknown. What is clear is that the population and the indigenous people have been displaced from its marine territory, where in the past they obtained the salt and fish. The sea was guaranteed as a means of communication or transport, through cabotage also. The issue of cabotage, even today, remains a central issue for this population, since the sea is the fastest means of egress to population centers where, for example, better health services and other basic services are provided.

Following the Costa Rican case, most of the resources of the rivers on the mainland have been reduced by the little control of illegal and unsustainable fishing by non-indigenous invaders, affecting very seriously food security in the locality. This situation reduces conservation of fishery resources and thus food security in the community.

In the case of Costa Rica, the situation is aggravated by the initiatives that are promoting the creation of marine protected areas. When local authorities were asked about this possible conservation initiative, though some of them remembered to be present in a few meetings, they mentioned that information was unclear and most mentioned disinformation about the actions to be taken and how it could affect their territory. They did not have clarity on the objectives of this marine conservation project developed by a non-governmental organization in particular.

In the Nicaraguan case, it is interesting to consider that the recognition of the marine and continental territory of this Rama people under discussion was the product of a very strong international and human rights fight. This case is undoubtedly an example of good practice recognized internationally which was obtained because of an excellent technical legal support for the people of Rama and Kriol in its territorial struggle. The discussion was positioned at the international level and achieved that the government delivered and recognized the title of their traditional land and sea territory in 2009, which meant a breakthrough for legal certainty.

Currently, despite the legal recognition, through the adoption of Law 840 (Special Law for the Development of Infrastructure and Nicaraguan Transportation pertains to the Canal, Free Trade Zones and associated infrastructure), creates uncertainty again because it affects the real possibility of the Rama people to use and enjoy their territory as was supported by human rights and international policy instruments.

In all cases analyzed, indigenous peoples mentioned the use of the sea and land within a comprehensive Cosmivision of their development, which is why a situation like the one lived by the Ngöbe people that live in the Panama keys comes to worry and is an important event addressed to ensure social, cultural and environmental well-being of these fishermen. In the Cayo de Agua, the vast majority of indigenous fishermen have sold their land to foreigners interested in tourism issues. In the field, an important difference is observed in the quality of life of the inhabitants of both Cays. In Cayo de Agua, most of the population now has no right to land and so the living situation and poverty of the community is critical. In the case of Cayo Tigre, the possibility of cropping provided by the right to land allows greater food security and resilience (see Annex).

In Honduras, although territorial rights of these communities have been recognized as in the case of the Garifuna people, in reality, they have initiated the sale of land off the coast. There is interest in buying enhanced by the tourism value of the Honduran Caribbean. The representatives of the Garifuna people interviewed mentioned several times the case of the “Reality Shows”, which are developed in the Cays and often impede their access to fishing areas. Also the distribution of large sums of money mentioned for these activities without any benefit to the original inhabitants of these territories was a concern.

In all cases analyzed by this research, the issue of the presence of non-indigenous in the historical and traditional territories was mentioned as a big problem. This issue seems to be a present conflict and there is a feeling that governments have not been able to guarantee respect for the territory of these peoples. Without access to land ownership and often to the sea (as in the case of Costa Rica), even if they can fish, it breaks the fundamental link that provides food security and reduces vulnerability.

C. Gender, traditional knowledge and small-scale fisheries in Central America

There have been few studies on the role of women in fisheries, and even fewer studies of knowledge they have on their fisheries and the marine environment. However, in fishing communities throughout the tropical world, women and, to a lesser extent, children, youth and elderly, play an important role in food production, processing, preservation, and preparation and in the realization of complementary agricultural work and other economic activities, and engage in trading activities.

Some bodies of local knowledge may have complementary male and female, and both components are required to understand a particular aspect of fisheries production. (Ruddle 1994).

Significant sets of local traditional knowledge are overlooked when research focuses only on male heads of household or on active fishermen. The four main types of differences between gender in traditional knowledge systems indicate that women and men:

1. Have different knowledge about similar things
2. Have knowledge about different things
3. Have different ways to systematize information
4. Have different ways of preserving and transmitting knowledge

Also in Central America, women are involved in the diversification of the fishing sector. This has important implications for food security, food sovereignty and management of coastal and marine resources. Women who participate in such activities are important in providing access to fish for their families. The fish is caught, processed, consumed and sold by women throughout the region in various ways.

In Costa Rica, for example, women provide important services for fishermen, who can return to the sea in important productive moments because women do “untangling the line” “the *lujado*”.

Traditionally also shellfish harvesting is done by women and young people (CoopeSoliDar R.L., 2012).

There are no disaggregated statistics available on the number of women who are related to fishing and Central America and it is difficult to see women taking part in decision-making even when they have knowledge about the sector. The importance of women’s work in fisheries is little recognized and fisheries policies and strategies do not consider the issue as relevant. The little information that exists does not recognize the multidimensional nature of women’s work in this sector and usually difficult and discriminatory conditions.

In 2011, the structural census OSPESCA considered only the familiar context of small-scale fisheries and that statistic includes women. It fails to recognize the role of women in bringing new ideas and efforts on development issues, conservation, sustainable fishing, and adaptation to new challenges such as climate change. This census (OSPESCA, 2011) mentions that the small-scale artisanal fisheries in Central America is done mainly by men (92.5 per cent of

regional activity) and limits the contribution of women to just 7.5 per cent. Women's contribution in the sale, administration, processing and fisheries organizations is not considered.

This research on fisheries and indigenous peoples in Central America reveals that in the case of indigenous peoples these lags in recognizing the contributions of women are even more evident, even though photographic records of the communities visited work evidenced women actively taking part in the process of the production chain and food security of the communities.

In the case of Nicaragua, historically, indigenous women have played a triple role in the community—a reproductive role, a productive, and more recently a role in the political management of representation within and outside their communities, and in the formation of cooperatives, women's groups organized by gender and traditionally around activities in churches (Maria Luisa Acosta, 2016).

Often this takes time and risk for them. The feeling of fishermen facing the situation of women is expressed as follows:

“It hurts to see women selling fish that goes to serving and developing others, at a very high cost.”

In the case of the Rama and Kriol community, although fishing is generally considered a male activity carried out individually or in pairs, at certain times women in the Laguna or Bluefields Bay fish cichlids. Fishing in this case is also an activity for their own consumption and for Rama it is also an important commercial activity. Women mainly sell much of the catch within their own communities and in the city of Bluefield.

In the case of Ngöbes peoples of both Costa Rica and of Panama the role of women in the fisheries is not recognized. Women's participation is not mentioned as an important issue not even for marketing. We must mention though that in some cases, women develop the activity as a way of survival and provide food for the family as mentioned in the interviews.

In the case of New Armenia and the fishing Garifuna village, the concern was linked to the issue of cultural identity loss, pregnancies in very young women and minors (14-17 years), which associated the lack of opportunities for youth work and accelerated the vulnerability of this sector to drugs and prostitution. In this case, fishermen still think that community fishing is an option for the poorest sectors of the population.

A study was developed in the communities of Rama Cay and Zompopera or Tiktik Kaanu, it shows that at the community level Rama, historically women have been assigned the role of preserving and transmitting the customs and traditions. Indigenous women also contribute significantly to the activities of community organization, which in recent years have shown increased participation and leadership. With regard to the dynamics of family economy, women harvest and also sell surplus products of both agriculture and fisheries.

Specifically, women participate in the capture of oysters, scallops, cockles and almost exclusively in mojarras collection, as well as in one of the main economic activities of the families of Rama. The marketing of marine products in Bluefields, also has limitations, as the prices are controlled by intermediaries (middle man). Besides this, there are issues such as lack of transportation and seasonal availability of certain products.

Also in the Nicaragua case, in the months of February and April the chacalines (*Cambarellus*) are dried and subsequently sold inside and outside the community; and in the months from July to September and in November, shrimp (*Caridea*) are trapped, likewise, oysters and clams, which are found practically all year. The marketing of these products is carried out primarily by women, contributing almost all year with the family and community economy; however, many of their efforts are still invisible.

D. Linking traditional and scientific knowledge

Fisheries scientists and managers, but perhaps particularly fisheries-dependent communities, are confronting major challenges. The changes happening all over the world are so numerous, dynamic and multifaceted that the physical-chemical environment, the estuaries and benthic environments, the population and species diversity and, more generally, the marine ecosystems we see today are not the same as those that existed even in the recent past. If we are to stop the degradation, understand the productive capacity of these environments and begin the long, hard process of achieving recovery, we need to understand what was there in the past, the interactive social-ecological processes that are driving the decline, what is left, and how these altered ecosystems work (Haggan *et al.* 2007).

It is now critical that we do everything possible to improve our marine environmental information base and share our expanded knowledge with those interacting with marine ecosystems to increase our collective capacity for stewardship and enhancement. Fishers' knowledge may often be the only source of information on the history of changes in local ecosystems

and on their contemporary state. When such knowledge is of sufficiently fine scale, it helps us design ways to protect stock remnants and critical habitats (Haggan *et al.* 2007).

Fishers' and marine hunters' knowledge about the sea has sometimes proven a fast and inexpensive shortcut to information essential to our scientific understanding of the marine environment, even when that knowledge is from the distant past. Juxtaposing their observations and interpretations with the results of scientific work can provide important insights for scientists and managers, as well as for fishers themselves. As with science, concerns that fishers' interpretations of observations may be mistaken should not preclude paying attention to the observations themselves (Haggan *et al.* 2007).

Some of the information possessed by fishers in developing and developed countries may well never become available to science if we depend solely on conventional research to obtain it. Conversely, if natural and social scientists and fishers do not begin working together more effectively, we are unlikely to protect the fish that remain, let alone enhance the potential for recovery (Haggan *et al.* 2007).

The use of traditional knowledge can be a powerful conservation tool, providing community support for conservation plans and enabling the inclusion of customary ecological management practices in their design (Pacific Fisheries Resource Conservation Council 2011).

There are good ecological, economic and legal reasons for using traditional knowledge in natural resource management. There are also many challenges relating to issues of culture, jurisdiction, institutional structure, perceived credibility and value, world view, and power (Pacific Fisheries Resource Conservation Council 2011).

There are good ecological, economic and legal reasons for using traditional knowledge in natural resource management. There are also many challenges relating to issues of culture, jurisdiction, institutional structure, perceived credibility and value, worldview, and power (Pacific Fisheries Resource Conservation Council 2011).

The use of traditional knowledge has the potential to increase stakeholder participation, heighten awareness of benefits from effective management regimes and increase stakeholder buy-in, thus enhancing the long-term sustainability of marine protected areas. By engaging fishers' traditional knowledge in the management of marine resources, the expected outcomes

are often linked to increased participation, compromise, responsibility and empowerment of stakeholders in the management process. Incorporating traditional knowledge, customs and beliefs are also considered an important means of increasing the effectiveness of communication, environmental education and monitoring programs (Gerhardinger *et al.* 2009).

The dominance of the culture and worldview of Western science, technology and governments involved with fisheries, makes it difficult for other cultures and knowledge systems to be able to influence management decisions. The supposed superiority of Western practices is rooted in basic assumptions made by managers and scientists, who may not be aware of this or how marginalized traditional knowledge is. The promotion of traditional knowledge may actually reinforce power imbalances such as it is often defined as more empirical scientific knowledge, and are regarded as “incorrect” when they disagree with Western science. This is illustrated by the common view among scientists that traditional knowledge must be evaluated against based on western scientific paradigms before being considered valid and useful (Council of Resource Conservation Fisheries Pacific, 2011) knowledge.

A topic related to this problem is to control the data. Knowledge is power, and local actors, holders of traditional knowledge, may be very reluctant to share information if in doing so they think they will lose control over how this information is used and interpreted. Concerns about intellectual property rights and ethical issues regarding how the holders of traditional knowledge are involved (for example, finding permission, the offer of compensation, the level of participation in decision-making) provide additional complications (Conservation Council Fisheries Resource Pacific, 2011).

Traditional knowledge is particularly important among indigenous fishermen. This research suggests that there is still little progress in the use of this information. Use of the traditional knowledge, together with actions to share power in decision-making for fisheries management, could bring significant benefits for the sustainable development of small-scale fisheries in the context of food security and poverty reduction.

The Nicaraguan case of Rama and Kriol evidences knowledge about the use of heterogeneous resources that allow its full use environmental and cultural well-being within this territory. It mentions how important shark fishing is limited only to 5 families in the community based in this knowledge, or how turtle use is associated with customary policies based on sustainability and culture in the fisheries.

Little has been done to integrate this knowledge into public policy on issues of fisheries use in Panama. For example, residents of the Cays of origin Ngöbe Bugle expressed dissatisfaction and lack of participation in the adoption of a regional Caribbean lobster policy mentioned above in the section on governance.

Non participatory policy has a direct impact on the impoverishment of these communities which are absolutely dependent on their fishing activity. According to fishermen, fishing for lobster in their territory is done only during a certain time period, as there is a natural ban on fishing lobsters during windy or rainy season, which are considered as non-fishing days. This knowledge has little or no consider in policies that are made from capital cities (see Annex).

Communities such as the Costa Rican case have had such a great cultural erosion and a major impact on the loss / access to their marine territory that this knowledge is not only now absent in much of the population, but there has been an almost irreversible deterioration of the biological basis that supports the fisheries in rivers and coasts in the territory too.

The traditional knowledge of indigenous peoples fishermen is linked to its territory. The Nicaraguan case shows that depending on the route of the Grand Canal Interoceanic of Nicaragua this will impact close to 52 per cent of the lands of peoples of Rama and black communities of Kriol in the RACS. This project will divide the territory and the fishing, hunting, cropping places are, having a big impact on the lifestyle of these communities (see Annex).

E. Climate Change Adaptation and Small-scale fishing in Central America

FAO's 2014 report on the state of world fisheries and aquaculture states that "global reviews of climate change impacts on fisheries and aquaculture systems carried out in 2009 revealed a paucity and patchiness of relevant information". Sadly, this is not a surprising result.

Vast areas of marine habitat have never been studied scientifically in any detail. Most will remain unstudied because there simply is not enough money and scientific personnel to do the job. In addition, our marine ecosystems are changing rapidly in response to the effects of overfishing, climate change and other anthropogenic and natural forces impacts. Vital knowledge about local areas and about the history of fish and fisheries in these areas, knowledge that is critical to the recovery of our marine ecosystems and the communities that depend upon them, resides in the heads of indigenous, artisanal and commercial fishers and hunters around the world. When given the opportunity, fishing

experts from these groups have made researchers aware not only of ecological processes but also of customary tenure and local management systems that have been eroded through the interactive effects of external management interventions and resource degradation. In some areas, these insights have fueled the development of innovative, community-based management initiatives that have helped local fishers and their communities bring about the recovery of marine ecosystems (Hagan *et al.* 2007).

Those intimately familiar with an area are also in the best position to notice changes, and therefore traditional knowledge may have an important role to play in adapting fisheries management to climate change. The potential for traditional knowledge may be especially relevant given the current shift to ecosystem-based approaches (Pacific Fisheries Resource Conservation traditional knowledge, Council 2011).

Adaptation to climate change can be planned (based on climate-induced changes) or autonomous (spontaneous reaction to environmental change). It can include a variety of policy and governance actions, specific technical support or community capacity building activities that address multiple sectors not just capture fisheries or aquaculture farmers. Adaptation may involve adjusting capture fisheries efforts to sustainable levels to support the resilience of the natural system. Setting catch limits based on changes in recruitment, growth, survival and reproductive success can be done via adaptive management, monitoring and precautionary principles. If new fisheries opportunities become available, adjusting to new target species may also require changes in vessel or gear types. This may entail high transition costs and, if not properly managed, may lead to maladaptation in the form of fishing overcapacity (FAO 2014).

This research provides valuable input on how the changes in the Central American marine ecosystems are clearly perceived and with them, the increasing vulnerability of indigenous peoples fisheries.

The Ngöbe villages Cayo Cayo de Agua and Tigre in Panama, recognized the increasing tides; however, have not yet observed any impacts of climate change on their fishing activities. Information on climate change is almost zero in the communities. Experience shows that in a project of **algae seaweed** that allowed them to improve their quality of life and was brought to the area as an alternative for economic improvement, failed for unknown reasons. Many mentioned that the water was hot and the need to adapt their homes with increasing sea level was another reason.

In the case of Honduras, the research mentions that there are myths among fishermen on the effects of climate change on their fisheries. But in reality

there are no studies that can support these communities that have depended on cays or islands all his life and that possibly be affected by rising sea. The Garifuna people will bear the brunt of the impact of climate change, which is urgent; it is the generation of information and development of adaptation strategies (see Annex).

It is clear that information on climate impacts should be urgently shared with these fishing villages that will be most affected by future impacts of these changes. The organization and the alternative measures in case of emergency, to serve populations is something essential and necessary; as the development of basic prevention actions for these people at high risk.

LESSONS LEARNED SUMMARIZED FROM THE CENTRAL AMERICAN CASE STUDIES

COSTA RICA: Ngöbe Bugle/Conte Burica small-scale fishing territory

CONTEXT SUMMARY:

Guaymí Indian Reserve (**Ngöbe** - Bugle) of Conte Burica was declared by Executive Decree No. 8514-6 in June 1978. This is the only indigenous territory that has coastline in Costa Rica. The economy of these villages is based on agriculture, livestock and artisanal fishing activities (mainly the use of fish and shellfish). According to the recent study of Mar Viva, (2014), 90 per cent of the population of this indigenous territory live in the remote highlands and only three small villages of no more than 15 families each are located in three micro-basins bordering the sea. The same study mentions that Quebrada Cacao, Caña Blanca and the La Peña and Las Peñitas have as main uses of marine resources cultural ceremonies and also the use of coastal and sea resources to make handicrafts. Fishing for subsistence in rivers and sea, and extraction of turtle eggs for consumption are also productive activities mentioned.

In the group interview in the framework of this research, the interest of the elders was clear in the discussion of how the historical territory included the sea and how the population is associated with these resources and also the aquatic systems in general. The population has not only developed an important knowledge concerning fishing, but also in the extraction of salt and cabotage.

The theme of its marine territory is a new agenda that was not being considered by the organized sectors of this community until very recently. As major threats to its territory and identity they mentioned: the pollution of rivers and overfishing by white people, the effects of invasive species into freshwater (trout) and the fight against tuna farms that wanted to be placed in the Ngöbe Bugle marine territory. They also mentioned that the indigenous population is increasing and that the territory that has been recognized by the State is little for this population. They mentioned the insecurity in the coastal marine area and the need for more information on the proposed marine conservation unit of Cabo Matapalo-Conteburica (Keto/Fundación Mar Viva Foundation) because they feel they have not been properly consulted on this issue.

Lessons learned from this case study:

- Prior informed consent, including the right to cultural objection of this research within the framework of the principles underpinning human rights, was the appropriate action to approach the Costa Rican Ngöbe Bugle territory. The Council of elders and representatives of the Development Association, acknowledged that the issue of research on artisanal fisheries and indigenous people was important, and that if well run, it may add to the struggles for recognition of the territory that this people has been asking for many years in Costa Rica.
- The Council of Elders feel that governmental policies have strongly affected the geographical integrity of its territory (the maritime zone and the border area is mentioned) and this violates the agreements reached at the time. They also noted that when the territory was defined they did not participate in the decisions and feel that there was a vacuum of information on the approved limits. Clearly they mentioned that the sea was not included and that this heritage is now owned by the state or large foreign investors who have started tourism businesses from which the people of Ngöbe Bugle are excluded.
- It is an important element to highlight the challenge of knowing the opinion of indigenous women in these villages concerning the issues discussed. There were many women present at the meeting, but no voice and no opportunity to express their opinion was given to them. We are not very clear whether many of them even spoke Spanish. It is important to consider appropriate methodologies that allow the incorporation of thoughts of this sector on relevant issues.
- This research reinforces what we have also noted in other studies concerning the link between the sea and the mainland where indigenous people are living. The territory Ngöbe Bugle is one that still falls short in the eyes of the indigenous leaders. Costa Rican government does not recognize the indigenous peoples rights over the sea or its importance of the sea to the community. The Costa Rican Ngöbe Bugle people, recognizes in small-scale fisheries, an important role in improving the quality of life of this population and are clear of the need to initiate a recovery process especially to improve and recuperate fisheries in the rivers in its territory which are seriously damaged.
- They see the sea as an important form of transport for people, It's an option to leave communities that have little access and essential to link

with other initiatives and populations. It is important from this perspective to see the recognition of the marine territory, not only aspects related to the issue of food safety but also the rights of these citizens to health and free transport throughout its territory.

- It is still important that these communities are addressed by methodologies and appropriate times to present marine conservation initiatives. Even if they agree on finding sustainable ways of using the marine environment, the indigenous peoples do not have clear information on the agreements drawn out from studies conducted by marine conservation organizations on marine protected areas, especially those that include their territories. The Council of Elders nor the development association have been consulted on these studies or on the measures undertaken.
- The Ngöbe Bugle people have important knowledge associated with the sea and rivers. The integration of this knowledge to scientific knowledge can be invaluable for future marine conservation efforts.
- No collective strategy or plan of life that would define endogenous lines of action on issues such as marine and fishing exploitation exists. Linkages and alliances with institutional sectors are weak and unreliable. They mentioned the visit of the different governmental institutions that promise but never return to comply with the promises. Similarly, now organizations are willing to provide solutions to their problems considering their vision and knowledge. In this regard, it is important to know what the traditional practices of use of marine and coastal resources and fishing in rivers remain in the Ngöbe-Bugle especially considering the coastal communities. A very strong process of cultural erosion is perceived in this population which leads unfortunately to the loss of traditional practices in the use of fishery and other sea and coastal resources. (Marine and continental) (See full case study in Annex).

Box 2: Contributions from indigenous voices

“When one of us is in the mountains listening to the sea, stops and makes a ceremony and remember that the sea is and is part of our worldview”.

“For our indigenous people a territory without marine area is not territory”

“The rivers were poisoned by white people, it is important to think about their recovery”

“Most fishing is done by white people”

“It is important to legalize the territory, but we need the control and then we can prepare young people”

“It is important to legalize indigenous territories because the population grows”

“We have rights to go to sea”

“We are affected by the invasive trout and tuna farms”

“Salt was of benefit to us, now we lost our rights”

“It is important to take back what is ours.”

“There are laws that restrict the application of the Indian Act”

“There was a meeting on May 17. The surprise was that the reserve was expanded and now there are only white and gringos. The reserve was expanded and that part was ours”.

“If the sea does not belong to us why should we learn about it?”

HONDURAS: Garífuna People, Puerto de Nueva Armenia

CONTEXT SUMMARY:

The Garífuna village of Nueva Armenia has an ancestral and cultural relationship with the Cayos Cochinos Archipelago. The Garífuna people only fish for a living. Their food depends on marine resources for consumption and planting coconut. This community has cultural rights granted by the Honduran State on Chachahuate Cay, that serves as reference to remain at sea in the “fishing times”, when the weather is adequate to move from main land to the Cays to fish. This Cay is part of the 14 Cays comprising the Cayos Cochinos archipelago and part of the Marine Protected Area Cayos Cochinos Natural Monument. In this community, 99 per cent (about 200 families) of the people are of Garífuna origin and their main productive activity is fishing and more recently the transport of tourists to Cayos Cochinos. Also, recently, Chachahuate Cay has been getting the attention of tourists to whom they can sell handicrafts. This has been transformed into a productive action.

New Armenia area is vulnerable to flooding. The Garífuna peoples fishing territory has been restricted by the establishment of the marine protected area. This area is co-managed by two organizations (the Cayos Cochinos Foundation and the Foundation Nombre de Dios). The fishing community is organized into a cooperative that names itself Fishermen Cooperative of New Armenia

Fish marketing in this community is done through collection centers that are community private and the sale of most of the product is done through single mothers who deliver the product to markets outside the community on a daily basis. They offer the product in other municipalities and especially in the Department of Colon.

The Garífuna community has ancestral rights over natural resources, land and the community of Nueva Armenia has a degree of communal land freehold. Today however, there is a strong dispute over land due to pressure from external actors who want to buy it for tourism objectives. These disputes over land and access to marine resources and conservation that also threaten their cultural identity are the strongest worries to these Honduran fishing indigenous people.

The lessons learned from this case are:

- At least in theory, the Honduran State perceives an important role of defining development and conservation priorities for these fishing villages. From the State perspective, a transition of these communities to leave their

productive activities such as fishing to start tourism activities is observed. Also we perceived serious conflicts between indigenous communities and Garifunas organizations that have as a common objective the support communities of African descent (black fraternal organization OFRADEH-Honduras and ODECO-Ethnic Community Development Organization). The government has recognized their ancestral rights and their territory.

- The Garifuna territory that is studied, intermingles with marine protected areas under the governance model of co-management. In this sense, the Nombre de Dios Foundation and the Cayos Cochinos Foundation co-managed the natural monument (300,000 ha. of marine territory). Co-managed theoretically goes along with 13 local communities and 2 of these are clearly Garifunas, though they are still not practically implemented. This model of co-operation, however, still allows communities to share power or be part of decision-making given to restrict the areas of sustainable use for small-scale fisheries. It seems that both foundations now have the will to define a differentiated approach to the Garifuna communities and ensure access to the marine resources needed for their survival and to start thinking about sharing some power in the management of the MPA.
- It is recognized that there has been corruption internally in the Garifuna land, and that some leaders have initiated sales processes of land endangering the collective rights. 90 per cent of the fishing is done in Cayos Cochinos and 10 per cent in the river coasts is done using illegal fishing arts. Fishing nets, are traditionally used arts, these are now prohibited, but not before. The law prohibits such fishing gear and so the community feels the pressure.
- All Garifuna communities are fishing communities and also have important traditional knowledge. They know about plants, about fish reproduction and others. There are several studies done on the rich biological diversity of the area. A study by Dr. Wilfredo Matamoros, identifies all specimens in freshwater bodies, makes an inventory of the fish fauna used by these communities, and also demonstrates the high fishing pressure now occurring on the resources. It shows the interest of communities for consumptive species (2 fishing species at least), also in estuaries. In the park, all coastal communities fish, but especially the Garifuna people. “Every community member is a fisherman.” Ladino, despite not having access to land as the Garifuna people, compete for the resource because they also fish for survival.

- Access to the sea for these indigenous people is increasingly limited, not all have boats. There are people who rent canoes and there are families that rent the canoe to others that do not have it. “Increasingly the work is done in a borrowed canoe.” “Every time we have fewer boats because the trees are small and before they had more Cayucos (boats), because there were larger trees. Now it is difficult to get the material to make a big boat.”
- Organizing fishers is the key issue in these populations. It is difficult to get organized in cooperatives or sustainable organizations. The lack of organization has made these communities very vulnerable and so this sector is therefore dependent on intermediaries.
- “When one comes to a Garifuna community, she or he must respect the organization; they create their own leaders who decide, committee including a group of fishermen and water boards, these need to be respected and all actions are to be coordinated with community leaders.”
- The experience gained indicates that these local authorities must be respected, but with fishermen this has been difficult. The vision should be integrated throughout the entire value chain in each fishery.
- The issue of climate change is complex to the culture of the Garifuna people-Cuyamel Barra and Barra Montagua. In this territory three communities have already disappeared due to flooding. All homes in these communities, now located differently from how it was done traditionally. Most homes are now located on the outskirts of the keys. Armenia which is almost at sea level is very vulnerable; Corozal and Sambo Creek are also up to the sea. Fishermen mention significant changes in the behavior of important species for fishing.
- It is important to address the issues of sustainability of new projects related to marine resource production intended to provide development options to communities. For example, the use of sea cucumber and jellyfish initiatives. We saw uncontrolled development. Market is developed by intermediaries and non-indigenous people. If these activities take place without any control and biological studies, they could cause irreversible damage to the marine ecosystem on which the Garifuna communities depend. In addition to this, it is known in the community that the opportunity to develop fish farming in water bodies (estuaries, lagoons) is a threat to wetland ecosystems and the integrity of ecosystems in Cayos Cochinos.

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- Garifuna women play a very important role in fishing. Men fish, but it is the woman who prepares and sells the clean fish. When the woman comes, she leaves small fish, which are collected by children and other women to be used for the consumption of the Garifuna families.
 - The society is matriarchal and Garifuna women are the ones that lead community organizations. Women are also the ones with more formal education in the community. For every single man who is educated there are six or seven women who have received formal education.
 - Despite the efforts of women, community activities do not generate for them significant revenue. In the community also women prepare bread and cassava to sell, but the economic returns are not positive. In general terms the activities carried out by women in the community are not well paid, with respect to the remuneration of men.
 - There are problems of distribution of the benefits generated with certain tourist activities by the Foundation co-managers. There is resentment by the communities concerning the income generated in the “Reality Shows” that develop in the Cays. There are doubts in the community about how these funds are managed, there is no transparency. It is also clear that when economic resources obtained from this activity have occurred, problems and division in the community have also occurred.
 - An important loss of cultural identity, product and tourist productive changes is evident. Also the entrance to the populations of liquor has been an important element for change. Previously the Garifuna people produced their own liquor. In addition, with the increase in tourism it has seen an increase in drug use and prostitution in these communities. They have lost the language, dances and traditional customs (See full case study in Annex).

Box 3: Contributions from indigenous voices

“Fishing is the option for the poor”

“Fishing is the main daily work in this community”

“We live and keep our children fishing”

“Now it is easier to get to the coast and get something to eat there than to go work outside”

“We have created people and dependent communities projects and thus no sustainability is possible”

“Garifunas do not like the organization”

“Fishermen are becoming tour guides because fishing is not profitable, but they do not leave fishing for cultural reasons”

“We have natural bans, in the winter we do not fish”

“In New Armenia, the water boards are handled by the women and are changing for the better”

“There is no incentive to their culture”

“I was surprised to buy tilapia in New Armenia, this one is not produced here so it should be coming from somewhere else”

“Before all the people in New Armenia fished, now youth does not like it as much”

“Is not that there is no fish what happens is that there are no fishermen”

“Those who are fishermen, have shared spaces, do things together and have common points of agreement”

“Here we also have the lionfish, an exchange would be good”

“The more palms we have, the less fish”

PANAMA: Ngöbe–Bugle People, Cayo de Agua y Cayo Tigre

CONTEXT SUMMARY:

The government of Panama since the 1940s began a process of recognition of communities and indigenous peoples, enshrining indigenous rights at the constitutional level. The Comarca Ngöbe Bugle was created by Law No. 10 of March 7, 1997. This law is one of the most advanced laws recognizing cultural rights, practices of traditional medicine, traditional beliefs and practices and even the right to polygamy as a form of traditional marriage. The government has made the necessary policy adjustments to ensure that representatives of the regions can access political positions in the areas of decision-making in the country.

Cayo de Agua (Water cay) and Cayo Tigre (Tiger Cay), are two small Ngöbe Bugle neighbor Cays, which make up part of the Bocas del Toro Archipelago, located east of Isla Popa, Southeast of Bastimentos Island, South and West of Cayos Zapatillas and Toro Cay, in the Bocas del Toro province, township of Punta Laurel. They are communities dedicated 100 per cent to the activity of artisanal fisheries.

Despite their geographical proximity, on the issue of land tenure, a significant difference is observed between the two Cays. In Cayo de agua, most of the land was sold to foreign and domestic buyers. Fishermen interviewed estimate that about 25 per cent was sold to foreigners and the rest to a member of the community. In the case of Cayo Tigre, fishermen kept their land; this allows the planting and production of some tubers that complement the diet.

Artisanal fishermen have no impediment or restriction to practice fishing activity in the area. However, in both cays they agreed that the main difficulty they face is the implementation of the regional ban of the Caribbean lobster. The political measure was taken without considering the peculiarities of the area and communities and coincides with the months of better weather in their territory; subsequently, with the entry of the rainy season the possibility of fishing is very difficult. So the communities with this ban cannot fish in the best fishing season if they want to comply with the regional ban.

There is not an actual census of the number of artisanal fishermen who live in these two cays. But the participation of more than 70 fishing workers, including scale-scale fishermen and divers is estimated.

Fishermen have observed a decrease in the fisheries product. They attribute it to a greater number of fishermen, both of their keys, as well as fishermen

from other areas. It is not seen as an important conservation theme and take measures relevant to changing their fishing gear and fishing practices to a more responsible manner.

On the subject of organizing, both the communities see it as a positive element, however, none of the keys have any type of fishers organizations. Fishing and diving is carried out individually or, as noted in Cayo de Agua by the family. Product marketing is carried out through intermediaries.

Women in Cayo de Agua clearly mentioned that they practised sailing and rowing as part of their daily chores and that they performed the activity to ensure household consumption. In the case of Cayo Tigre, there was no such active participation of women in diving activities.

With regard to health issues, given the biophysical conditions and geographical position of the Cays, they are highly vulnerable to being affected by diseases transmitted by mosquitoes and other similar vectors. The diet is unbalanced, with low intake of fruits, tubers and other vegetables that complement the diet based on seafood. Directly related to fishing activities, the community has a number of diseases linked to the activity of diving: Hearing “deafness”, lung problems; there have even been cases of deaths of divers.

It is observed that the issue of climate change is a priority or an urgent issue to take care of. Fishers mentioned that they did not observe any impacts of climate change yet but mentioned the rising tides. Fishermen mentioned that the houses must be adapted with the increase in the sea level, as they have been done historically.

The lessons learned from this case are:

- The case highlights the historical efforts that have made the government of Panama recognize the original people’s way of life and culture, establishing the legal rules at the constitutional level and specific laws to guarantee the rights of indigenous territories.
- The issue of land tenure remains a priority in the case of indigenous and fishing villages. Despite the geographical proximity between Cayo de Agua and Cayo Tigre, significant differences between the two locations are observed. Cayo de Agua in which virtually all internal lands of the Cay has been sold to foreign and domestic. Meanwhile, the people in Cayo Tigre, thanks to the vision of the leaders, have managed to retain their land, allowing better food and living conditions.

- Both communities rely 100 per cent on artisanal fisheries. Anglers can make their fishing operations freely; Lobsters are the only species that have specific closed seasons, while all other fish species can be freely fished. From the perspective of fishermen, the ban affects its activity since it was issued without consulting the social and environmental characteristics of the region.
- The theme of strengthening organization remains a challenge. In the cases analyzed it has not been able to consolidate the organization of artisanal fishermen. The activity is carried out individually or familiar way. Marketing moves around the intermediation of the product, buying at low prices and sold in major urban centers, Chiriqui Grande and Puerto Almirante.
- The Ngöbe Bugle indigenous populations in Panama have high vulnerability and marginality. Despite this, the effort of the Panamanian government to provide public education in indigenous communities is highlighted. In both Cays, intervention in infrastructure, particularly the development of primary education center is observed. According to fishermen in Cayo de Agua, it has about 400 children and in Tigre Cayo it has around 200 children. The development of the education system is crucial in the Cays, not just for the sake of promoting education; but also nutrition, so that the children are provided with food on school days. It is noteworthy that, in the community of Cayo de Agua, during the fourth quarter of 2016, high schools will open. The fishermen interviewed also mentioned that families most likely provide an opportunity for their children to study outside the community, in Chiriqui Grande and/or Puerto Almirante. The government also guarantees feeding children through school meals and provides financial support for children and young people to pursue their studies.
- Without detracting from this important educational effort, it would be good to adapt and improve the curriculum, so that it addresses differentially education in indigenous communities. There is not a program of bilingual education that maintains the original language and script at the moment. This is an element that is affecting indigenous culture and identity. In Cayo de Agua, some leaders have seen this situation and are making a particular effort to teach the original language.
- Progress must be made in improving health conditions from a comprehensive perspective of the people of Ngöbe Bugle. In both

communities high health vulnerability is present; unbalanced diet, hearing problems, thrombosis, lung problems and sometimes death of people who practice diving. The community receives a medical examination every two or three months. It is worth mentioning the contribution of traditional medicine and people who maintain local practices, such as the case of midwives who help pregnant women to perform labor. Despite efforts to improve the conditions of health care it is important to mention that these communities are isolated from the main population centers, Puerto Almirante, Colon and Chiriqui Grande, which are located not less than 2 hours away by motorized shipping.

- With regard to gender, participation of women in fishing activities for the survival of children and food security is observed. The contribution of women in the activities of artisanal fisheries is not recognized and/or poorly recognized by the men of the community.
- Young people have education and recreational areas in both Cays. Initiated to the practice of fishing at an early age, a sense of attachment to the community is observed and remains to live in the Keys.
- In both cays the issue of conservation and sustainability has been very lightly discussed. According to fishermen, the low catches are due to an increase in population and the presence of fishermen from other communities in their fishing areas. Fishermen do not observe any concern for the issues of responsible fishing and conservation of marine resources or climate change.
- With regard to the impact of climate change, fishermen do not observe any significant changes that have affected marine fishery resources. In their culture they have to adapt to changes that occur in the sea, especially in the situation of rising tides.
- The product impacts of climate change will be very serious for these communities living on islands in Panama. Fishermen have already begun to observe changes in the tides, but there are great educational constraints on fishermen to be overcome to bring adequate information on sustainability, climate change and guidelines. (Radial for fishing in its native language programs).
- (See full case study in Annex).

Box 4: Contributions from indigenous voices

“To go through the land we sold now, I have to ask for permission. This will happen in the same way with the sea”

“We sold our lands blindly”

“The land was sold without knowing”

“We fished before much more, than today”

“Before we were 10 divers, we are many now”

“The price at which we bought fish is very little”

“We –are scrod- fishermen”

“I was thought by my dad and for me fishing is like a sport”

“If a man does not have anything to eat, he has to go fishing”

“What is done by God never ends”

“To put the kitchen in action we need to fish every day, otherwise the kitchen is sad”

“We learned to dive and fish since we use diapers”

NICARAGUA Caribbean : Rama de Rama Cay Indigenous Community

CONTEXT SUMMARY:

The Indian Rama people have customs and traditions that are tied to the sea, as sailors and fishermen, gatherers also molluscs and other marine products collectors. Undoubtedly, delivery of its traditional title, land and sea territory in 2009 meant to this people a breakthrough for legal certainty. However, today, the approval of Law 840 without consultaion has again caused uncertainty in the real possibility to use and enjoy their full territorial rights.

The way Rama and the indigenous communities in general see and use their territory is integral or a holistic way, so it is difficult to completely decouple fishing activities in the Rama Cay Island from the rest of the territory.

The threats of peasants who invade the territory have concentrated more on the island. Some development projects with economic technical assistance have been created in the past for Rama people, including a fishing gathering center in Rama Cay. These projects though have not been sustainable and the Rama continues to fish and use seafood obtained in the traditional way. Still, it is clear that Rama have enormous cultural wealth and knowledge. They know about tides, sailing, fishing and other forms of capture and use of marine products.

The lessons learned from this case are:

- The biological and cultural wealth of the Rama people in Nicaragua is extremely important as a learning case under the Guidelines. There are few traditional fishing groups with such characteristics. It is urgent to start a longer-range work to identify the main challenges for the maintenance of the fishing culture and sustainability of fisheries resources to preserve their identity and territory.
- The role of women in this population in the Caribbean of Nicaragua is highly relevant. The marketing of shrimp, oysters, scallops and clams has traditionally been in the hands of Rama women, along with their planting activities and other reproductive actions; and more recently practicing community leadership roles. However, these contributions are often invisible.
- One of the greatest threats to the Territory Rama and Kriol in general and for Rama Cay in particular, is the concession granted by the State

of Nicaragua to the company's Enterprise Hong Kong Nicaragua Development (HKND), through law No.840, Special law for the Development of Infrastructure and Transport astringents Nicaraguan Canal, Free Trade zones and associated infrastructure. Depending on the route of the Grand Canal of Nicaragua Interoceanic (GCIN) HKND announced in July 2014, 52 per cent of it impacts the indigenous people's lands, Rama and Kriol black communities in the RACS.

- And again, within the area of influence of GCIN is placed approximately 9.5 per cent of these communal lands Rama and Kriol, dividing this territory and their communities, places of fishing, hunting, agriculture, forests, etc.; thus in the southern part of the canal bed is 55.5 per cent of the land area, and the remaining 34 per cent is in the north.
- Another major threat for the Rama indigenous people as it is in other cases analyzed, is the invasion of non-indigenous settlers who enter the territory in an uncontrolled manner, without the State taking appropriate measures to prevent it. This phenomenon is known as the advance of the agricultural frontier on forests of indigenous territories in the Caribbean Coast of Nicaragua, causing deforestation and ultimately the involuntary displacement of indigenous peoples, as the case of Rama Cay Wiring.
- The effects of climate change will be one of the major threats to be presented to Rama Indigenous People in the future. As in other fishing communities in the region, its consequences depend on the ability to adapt to new changes. 2016 has already announced the presence of the El Niño climate for a long period. There is little information on the issue and its impact on the welfare of the communities of these indigenous peoples.

CONCLUSIONS ON A REGIONAL BASIS

- The Voluntary Guidelines established the need for its prioritized implementation, with an emphasis on small-scale fishers and fish workers and related activities and including vulnerable and marginalized people, promoting a human rights based approach. Clearly, in the context of this research, Central American indigenous peoples fishers qualify as such. This sector of societies certainly urged attention from governments and organizations to ensure the sustainability of fisheries and food security and thus contribute to the eradication of poverty afflicting these communities.
- The case studies presented show the enormous diversity and cultural richness of the Central American region, as also, the importance that small-scale fishing has for the survival of these indigenous communities and the maintenance of their cultural identity. People and identities are linked to the sea and the coast in a particular way that makes it difficult to find a single answer to the necessary comprehensive approach to ensure social and environmental sustainability of these communities.
- The traditional knowledge of fishers indigenous communities is important for the sustainability and conservation of marine and coastal ecosystems. This knowledge is based on its social resilience, in their language, in control of its territory and its productive activities.
- Fishers organizational strengthening is a core challenge in indigenous fishing communities of Central America as it is in other small-scale communities throughout the region. This challenge is even more complex in indigenous communities given the existence of customary laws and policies that must be respected prior to any intervention in those territories. In this context, confronting new environmental challenges such as climate change and the incorporation of other productive sectors such as tourism, work for organizational and capacity strengthening indigenous peoples fishers of Central America takes a particular relevance.
- The case studies show the importance of the role of women in fisheries, in the pre catch, capture and post capture phases. Women are crucial in these communities for food security, knowledge transfer and health of communities. As noted in the case of Honduras and Nicaragua, women are crucial in selling the product and also they have an important role to play as part of the organizational structures of the community.

With an important exception in Honduras and Nicaragua, this work is little recognized.

- With regard to youth, the case studies showed how this group of people begins at an early age with the practice of artisanal fisheries. However, as noted in the case of Honduras and Panama, fishermen perceive the increase of users in their traditional fishing grounds; it is one of the factors that are causing a decline in fish stocks. This is more significant in those places where the communities are located bordering protected areas, ports and tourism development.
- We need to recognize the efforts of Panama and Costa Rica to ensure public education in indigenous communities. But as observed in the case of Panama, it is necessary to adapt the educational mesh to strengthen the traditional language, culture and indigenous identity.

The issue of health and access to basic services is an urgent issue. Indigenous communities are highly vulnerable; geographical isolation and communication problems increase this situation. In the case studies a number of health problems which does not allow proper development of indigenous people living in the sea, such as diet, lung problems, hearing, thrombosis, to name a few are identified.

In the future, we will know if we have managed to implement in a good way the voluntary will of the Guidelines, only if we work with indigenous fishermen and improve their conditions and right of life. Then we would be able to say that the work has been accomplished.

RECOMMENDATIONS

Today, more than ever, we must promote a call to the States of the Central American region to address urgently these sectors of the population that have been relegated to poverty and marginalization.

This research presented, provides evidence that the indigenous fishing communities in Central America are moving to an accelerated deterioration of environmental, cultural and economic conditions that have allowed the social resilience of these sectors in the past.

It is necessary to develop and implement innovative and differentiated strategies to strengthen the capacities of indigenous fisherfolk in the areas of conservation and sustainability of marine-coastal resources and especially in the context of food security and land tenure. The development of radio programs and other actions may be appropriate vehicles for information in its language to make the fishing communities aware of the challenges and possibilities for establishing partnerships to work on these issues.

It is necessary to promote a fisheries organization that respects traditional authority structures. To recognize and strengthen the capacities of women in fisheries issues and organization could be a strategy to generate positive changes in the communities of artisanal fishermen.

Important elements that are rescued for the future are: practical information on measures to adapt to climate change, calls for the establishment of differentiated policies for these fishing villages, in-depth studies on the subject of gender and youth closely linked to efforts to strengthen organizational structures already established in these communities with priority issues for small-scale fisheries and the voluntary Guidelines as a new opportunity to position the needs and realities of fishing indigenous communities to the world governments.

REFERENCES

- Acosta Maria Luisa, 2016. El Caso de la comunidad indígena Rama Cay en la Costa Caribe Nicaraguense. Estudio realizado para: CoopeSoliDar R.L., en el marco de la investigación CIAPA.
- Alcalá Gabriela, 2011. Pescadores en América Latina y el Caribe: espacio, población, producción y Política. Vol 1. Universidad Autonoma de México. Ed. Gabriela Alcalá. Mexico D.F. 376 pags.
- Allison, E.A. & F. Ellis. 2001. The livelihoods approach and management of small-scale fisheries. *Marine Policy*. 25:377–388.
- Berkes, F., R. Mahon, P. McConney, R.C. Pollnac and R.S. Pomeroy 2001. *Managing Small-Scale Fisheries: Alternative Directions and Methods*. Ottawa: International Development Research Centre. Disponible en: <http://www.idrc.ca/booktique/>.
- Berkes, F. 2003. Alternatives to Conventional Management: Lessons from Small-Scale Fisheries. *Environments*. 31(1):5-19.
- CIAPA 2012. Editado por: Vivienne Solis Rivera, Daniela Barguil y Marvin Fonseca. Estudio Reigonal sobre las Dimensiones Sociales en el Manejo de Áreas Marinas Protegidas: Casos en Costa Rica, Nicaragua, Honduras y Panamá. India. 163 pags.
- Consejo de Conservación de los Recursos de las Pesquerías del Pacífico. 2011. Incorporating Fishermen's Local Knowledge and Behavior into Geographical Information Systems (GIS) for Designing Marine Protected Areas in Oceania. ESSA Technologies Ltd. 94 p.
- CoopeSoliDar R.L. 2006. Tárcoles: Una comunidad de pescadores artesanales en Costa Rica. Aportes a la conservación de los recursos marino costeros del Golfo de Nicoya
- CoopeSoliDar R.L. 2008 Lujadoras. Mujeres y Hombres Lujadores: Una actividad asociada a la pesca artesanal responsable en el Pacífico Central de Costa Rica. San José, Costa Rica. CoopeSoliDar R.L.
- CoopeSoliDar R.L., INCOPESCA, Procasur. 2015. La pesca responsable: un activo económico, social, ambiental y cultural para la juventud. Comunidades pesqueras y gobernanza comunitaria de los espacios marino costeros en Costa Rica. Publicado en digital. PROCASUR-FIDA. 91 pags.
- CoopeSoliDar R.L., CIAPA. 2015 Estudio Regional sobre las dimensiones sociales en manejo de áreas marinas protegidas: Casos en Costa Rica, Nicaragua, Honduras y Panamá. Costa Rica: Vivienne Solis Rivera, Marvin Fonseca Borrás, Daniela Barguil Gallardo. Honduras: Mariela Ochoa. Nicaragua. Edgar Castañeda. Panamá: Geodisio Castillo

- FAO (Food and Agriculture Organization of the United Nations). 2005. Increasing the contribution of small-scale fisheries to poverty alleviation and food security. FAO Technical Guidelines for Responsible Fisheries. No. 10. Food and Agricultural Organization of the United Nations, Rome. 125 p.
- FAO (Food and Agriculture Organization of the United Nations). 2015. Directrices voluntarias para lograr la sostenibilidad de la pesca en pequeña escala en el contexto de la seguridad alimentaria y la erradicación de la pobreza. ROMA.23 pags.
- Haggan, N., B. Neis & I.G. Baird. 2007. Fisher's Knowledge in Fisheries Science and Management. Coastal Management Sourcebooks 4. UNESCO, París, Francia. 59 pgs.
- OSPESCA, 2012. Encuesta Estructural de la pesca artesanal y la Acuicultura en Centroamérica. 2009-2011. 76 pgs.
- OSPESCA, 2005. Política de integración de pesca y acuicultura en el istmo Centroamericano. PREPAC. SICA-OSPESCA. 27 pags.
- Pauly D. 1997. Small-scale fisheries in the tropics: marginality, marginalisation, and some implications for fisheries management. In: Pikitch EK, Huppert DD, Sissenwine MP, editors. Global trends: fisheries management. Bethesda, Maryland: American Fisheries Society. p. 40–9.
- Silvel Elías. Consorcio TIICA 2016. Territorios y áreas conservadas por pueblos indígenas y comunidades locales (TIICA): raíces y evolución histórica, amenazas y oportunidades actuales y posible estrategia de reconocimiento y fortalecimiento en Mesoamérica. Documento manuscrito.

ANNEXURE

COMPLETE CASE STUDIES PER COUNTRY

The Small Scale Fishing experience of the Garifuna Community in Nueva Armenia, Honduras

http://www.icsf.net/images/occasionalpapers/pdf/english/issue_152/152_Sistematizacin%20Nueva%20Armena.pdf

Agua and Tiger Cays: Two indigenous localities of small scale fishing in the Bocas del Toro Archipelago, Panama

http://www.icsf.net/images/occasionalpapers/pdf/english/issue_154/154_CASO_CAYO%20AGUA%20UV.pdf

The indigenous community of Rama of the Rama Cay Coast in the Caribbean region of Nicaragua

http://www.icsf.net/images/occasionalpapers/pdf/english/issue_153/153_Diagnostico%20Rama%20Cay.pdf

ConteBurica: An indigenous people that listens to the Sea. Ngabe People. First approach

http://www.icsf.net/images/occasionalpapers/pdf/english/issue_151/151_CONTEBURICA_UV_20_marzo_2016.pdf

SAMUDRA Monograph

Small-scale Fishing in Central American Indigenous People: Governance, Tenure and Sustainable Management of Marine Resources

This research develops four case studies on small-scale sheries in Central America located within indigenous territories. The ngöbe Bugle Conte Burica Territory in the south of Costa Rica, the Garifuna territory in nueva Armenia honduras, the Rama territory in nicaragua and the ngöbe Bugle territory in Bocas del Toro, Panamá. This is one of the first studies focusing on indigenous territories, artisanal fisheries and SSF guidelines.

The cases are a first approach to discussing and analyzing relevant social and human rights issues related to conservation of marine resources and fisheries management in these territories. The cases discussed between other issues of interest, the relationships between marine protected areas under different governance models and issues related to the strengthening of the small-scale sheries of these indigenous populations and marine fishing territories. They highlight sustainability, governance, land tenure and access to fishing resources, gender, traditional knowledge importance and new challenges as climate change.



ICSF is an international NGO working on issues that concern fishworkers the world over. It is in status with the Economic and Social Council of the UN and is on ILO's Special List of Non-Governmental International Organizations. It also has Liaison Status with FAO. As a global network of community organizers, teachers, technicians, researchers and scientists, ICSF's activities encompass monitoring and research, exchange and training, campaigns and action, as well as communications.

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