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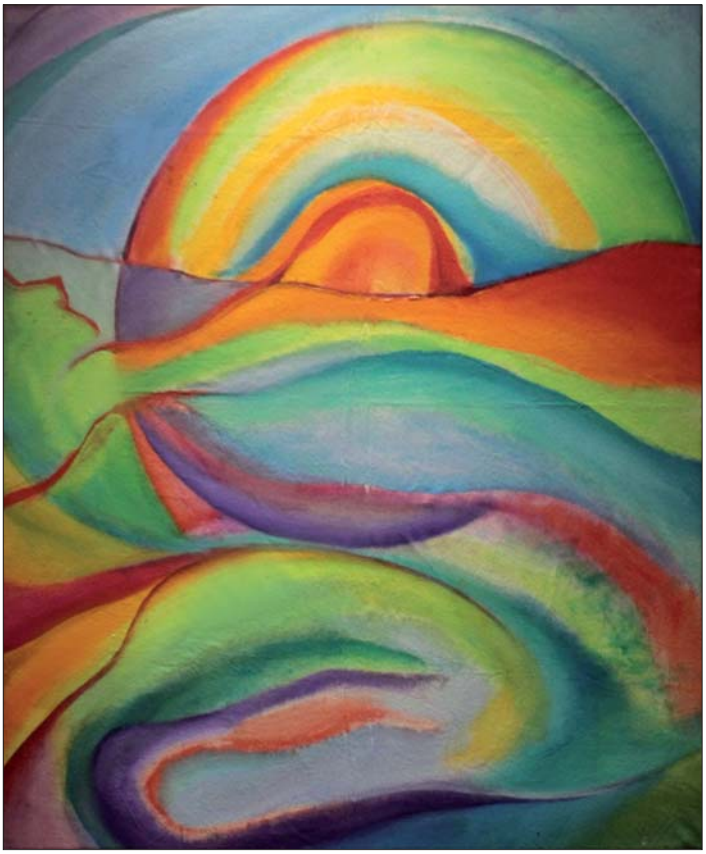
SAMUDRA REPORT

THE TRIANNUAL JOURNAL OF THE INTERNATIONAL COLLECTIVE IN SUPPORT OF FISHWORKERS



Fisheries, Communities, Livelihoods

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. ***SAMUDRA*** *Report* invites contributions and responses. Correspondence should be addressed to Chennai, India.

The opinions and positions expressed in the articles are those of the authors concerned and do not necessarily represent the official views of **ICSF**.

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OLIVIER BARBAROUX / MADAGASCAR

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FAO / GIUSEPPE BIZZARRI

FRONT COVER

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The service often features exclusive, original stories on small-scale and artisanal fisheries, particularly in the regions of the South, as well as issues that deal with women in fisheries and safety at sea. Apart from news and stories on fisheries, the service also focuses on environmental and oceans issues. Please visit http://www. icsf.net to subscribe to SAMUDRA News Alerts.

BACK COVER

Drying fish on the shore, Arguin Bank, Nouadhibou, Mauritania
Photo by Olivier Barbaroux
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OLIVIER BARBAROUX

Landing of small pelagics (sardines) by migrant fishworkers, Kerala, India

Towards Workplace Dignity

With the impending entry into force of the Work in Fishing Convention, 2007 (No.188) of the International Labour Organization, it is now up to governments to take it forward

A long wait is over in the fisheries world, which warrants well for marine fishers, in particular. With Lithuania becoming the tenth Member of the International Labour Organization (ILO) to ratify the instrument (see article pg. 4) the Work in Fishing Convention, 2007 (No.188) will now come into force in November 2017.

Even before entering into force, the provisions of the C188—together with better fishing regulations to tackle illegal, unreported and unregulated (IUU) fishing—have been improving the labour standards applicable to fishers on fishing vessels in countries like Thailand, Indonesia and Papua New Guinea, as evident from a recent Greenpeace report on human-rights abuses and illegal fishing in Thailand's overseas fishing industry (www.greenpeace.org/seasia/PageFiles/745330/Turn-The-Tide.pdf). Vessels of Thai origin under different flags, arguably, employ the largest number of migrant fishers in the world.

Gap analyses undertaken by several ILO Members in view of ratifying C188 have led to identifying specific shortfalls in relation to the effective implementation of its provisions, especially by fishing, maritime safety, and labour authorities, and the need to strengthen organizations representing fishers and fishing vessel owners at various levels through capacity building. Awareness-raising workshops in different parts of the world, organized by ILO and its tripartite constituents—government, employer and worker representatives—as well as by civil society organizations (CSOs) and non-governmental organizations (NGOs), have helped fishers to comprehend and demand their rights at work, including social-security rights.

We would like C188 to provide protection not only to fishers on fishing vessels but also to those on rafts fishing far away from shore and facing precarious working conditions (see for example, the article on Myanmar, pg.20). It should also extend protection to those transhipped by carrier boats or reefers to fishing vessels and stationary rafts. The scope of commercial fishing should, at least, include these fishing-related activities. The Member States, while reporting to ILO on the implementation of C188, may be encouraged to report on labour conditions on vessels/stationary raft used for fishing, as well as on labour conditions of fishers on carrier/reefer vessels.

A significant number of fishers, especially women, are in shore-based fishing, in addition to fishers who work in both shore- and vessel-based fishing operations. Since the shore-based fishers do not come within the purview of C188, we request ILO to prepare a decent work agenda, in collaboration with the Food and Agriculture Organization of the United Nations (FAO), to guide national laws and practices for shore-based fishers and fishworkers, both in the formal and informal sector, highlighting all relevant ILO instruments that can protect their rights at work, including social-security rights.

We hope the news that C188 will soon enter into force encourages more widespread ratification of this instrument, especially by Members who have already completed the gap analysis of their national situation against the requirements of C188. We hope both developed and developing Member States ratify the Convention, especially those States accounting for the largest share of fishers and fishworkers in the world, such as China, India, Indonesia and Vietnam, and countries like Thailand that employ a large number of migrant fishers in their distant-water fishing operations.

A comprehensive and inclusive approach to decent work of fishers and fishworkers in fishing and fishing-related activities can certainly ensure that not only fishers on board fishing vessels, but also all fishers and fishworkers in fishing and fishing-related activities "by virtue of their work, do not fall through the crack of social protection provided to other workers", as pointed out by the ILO Law and Practice report of 2003, a precursor to the negotiations at the International Labour Conference that led to the adoption of C188.

By implementing C188, it will be possible to get rid of forced labour, eliminate unacceptable forms of child labour, and ensure regular payment of wages, better hours of work and rest, and occupational safety and health to all fishers and fishworkers. Ensuring dignity at workplace can certainly guarantee supply of a responsible workforce.

A Milestone Reached

The Work in Fishing Convention, 2007 of the International Labour Organization (ILO) has received the required ratifications to enter into force

On 16 November 2016, shortly before World Fisheries Day, the ILO Work in Fishing Convention (No. 188) was ratified by Lithuania, bringing the number of ratifications to the ten needed for the Convention to enter into force in November 2017. The pace of ratification had been slow at first, but it has picked up following increased attention on the need to ensure better protection of labour rights of fishers and the recognition that the Convention is an important tool for putting such protection in place.

States must report regularly to the ILO on the implementation of each Convention they have ratified...

Like all of the ILO's international labour standards, the Work in Fishing Convention, 2007, is backed by a supervisory system that helps to ensure that countries implement the conventions they ratify. States must report regularly to the ILO on the implementation of each Convention they have ratified, indicating not only whether national laws are in conformity with the Convention in question but also informing the ILO regarding what has been done to make sure the Convention has had an impact on a practical level. For the ten States which have ratified Convention No. 188, their first reports will be due in November 2018.

The gap analysis: what protection is in place?

Prior to ratification, many States want to ensure that their national laws, regulations or other measures are in line with the provisions of the Convention. One way of achieving this is to undertake an analysis of how their national situation compares with the requirements of the Convention they are considering to ratify, generally referred to as a "gap analysis".

There are many benefits to a "gap analysis", even if a State decides not to pursue ratification. Perhaps the greatest benefit is that the Convention can be used as a mirror of sorts, helping States take a good, hard look at what legal protection is really in place. Its requirements cover the key issues that are important to ensuring good conditions on board fishing vessels. States may find that, in some areas, their laws, regulations or other measure exceed those of the Convention. On the contrary, they may find that something is missing or unclear, leaving what might be considered a hole in the net of protection for fishers.

Though a gap analysis may take a narrative form, it is useful to visualize it as a matrix. The rows set out the provisions of the Convention (for example, the requirement to have medical supplies on a fishing vessel). The column headings concern the Convention No. 188's requirement, the possible national requirement (laws, regulations or other measures), the "gap" that is identified, and a suggestion on how to fill the gap (for example, by amending an existing regulation or adopting a new one). Because Convention No. 188 covers so many different issues (minimum age, medical examination, medical care, recruitment and placement, fishers' work agreements, etc.) it is often necessary to look at many different laws and regulations (those normally

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covering labour law, maritime safety, fisheries regulation, immigration, public health). This requires a review of those laws and communication among several ministries, agencies and departments, as well as reviewing relevant case law.

As a tripartite organization, the ILO emphasizes the importance of tripartite consultation and social dialogue. Therefore, the next recommended step in the gap analysis process is for the competent authority to ask representative organizations of fishing vessel owners and fishers to review and comment on the first version of the document. This is often done through a "validation" workshop or seminar. The final document, even if not immediately acted upon, provides an excellent reference point for future action.

What has been seen?

In some States, the exercise has revealed major gaps or at least important areas where there is a lack of clarity in legal protection. The following are few of the substantial issues that have been raised:

Sometimes, it has been found that the main law protecting workers (for example, the "Labour Act") specifically excludes certain categories of workers, including fishers. Often, there is a seemingly relevant national law or regulation concerning "seafarers" or "ships" but it is not clear whether "fishers" are considered "seafarers" or whether "fishing vessels" are considered "ships". In such cases, it may be necessary to adopt new laws or regulation that specifically refers to fishers or fishing vessels.

A regularly occurring issue concerns whether laws or regulations implementing Convention No. 188 apply to "self-employed" fishers. Convention No. 188, however, does not exclude self-employed share fishers. In one gap analysis exercise, the national discussions on this issue led to amending existing legislation

YIN NYEIN

A *kyarr phong* fisherman on his bamboo raft in the Gulf of Mottama, Myanmar.
All operations in the *kyarr phong* fishery along the value chain are undertaken by hired workforce

bringing a large number of formally "self-employed" fishers under the protection of the main labour law. Secondary legislation was adopted to address specific characteristics of work on fishing vessels.

There are often other challenging issues, such as moving from traditional oral agreements to written agreements, or setting requirements for minimal rest periods. This often leads to intensive discussions among all the concerned parties, and the use of some of the "flexibility" provisions of the Convention. In most cases, these flexibility provisions can be used only "after consultation" and, therefore, the gap analysis process itself creates opportunities for not only fishers and their organizations but also fishing vessel owners and their organizations to participate in the shaping of new laws, regulations or other measures. In some States, this has led to the need to strengthen the role of those organizations in order to ensure effective dialogue.

Another great benefit of the gap analysis process is that it helps to identify the roles and responsibilities of different authorities having influence and jurisdiction of living and working conditions on vessels.

Putting in place the system to ensure compliance

Equally important is to improve how States ensure compliance with the national laws, regulations or other measures that implement the provisions of Convention No. 188.

In 2015, following the requests from ILO's tripartite constituents, the ILO convened a tripartite meeting of experts which adopted Guidelines on flag State inspection of working and living conditions on board fishing vessels. The Guidelines, among other things, address not only how to carry out such inspections but provide guidance on how to put in place or improve the system for inspecting labour conditions of fishers. They provide for the possibility of different approaches by member States. They leave it to the States to decide which authority or authorities are to undertake inspections for compliance with national laws, regulations or other measures but address such matters as the need for clarifying who has legal authority to do so and how to ensure that inspectors, whether working as individuals or in teams, have appropriate training and experience. They also encourage co-ordination, where appropriate, with authorities responsible for enforcement measures related to forced labour and child labour.

The ILO is preparing tools to assist competent authorities to implement the Guidelines. These will be pilot-tested by mid-2017 and should be available in late 2017.

It is increasingly recognized that there are links between IUU fishing, maritime safety and unacceptable forms of work at sea. Responsible and sustainable fishing cannot be achieved without tackling all these issues, and this is best done in a co-ordinated manner. It is likely that we will see improvements in this co-ordination at all levels. Responsible and sustainable fishing now is seen to include ensuring decent work for fishers by adopting or updating national laws, regulations or other measures and by putting in place or updating the means of ensuring compliance.

For more

ilo.org/fishing
Fisheries page of the ILO

Tackling a Dilemma

Follow-up activities, led by fisheries officials and fisher representatives, have begun in Tanzania on how to carry forward the process of implementing the FAO SSF Guidelines

From September 2016, a team of the Mwambao Coastal Community Network, Tanzania, in collaboration with the International Collective in Support of Fishworkers (ICSF), carried out a series of follow-up activities in the wake of the introductory awareness-raising workshop on the FAO SSF Guidelines. The follow-on activities include two main events plus an initial Mwambao/ICSF facilitators' planning meeting. The main activities included a district facilitators planning workshop, conducted in Bagamoyo, Tanzania, where 20 participants were invited, including districts and HQ fisheries officers, and two fisher representatives from selected pilot villages as the facilitators in the respective villages. The workshop was followed up by a visit by Mwambao facilitators to assess the progress of the prepared plans in three district villages.

The planning workshop came up with the action plan based on the activities of selected priorities from the SSF Guidelines. The planned follow-on activities include a series of specific actions to establish a fishers' umbrella association, promoted for the establishment and strengthen of village savings and loans (VSL) groups and preparation of a communication strategy for disaster management.

A second activity was a follow-up visit by Mwambao facilitators, at the end of September, to assess the progress of the implementation of the action plan within the selected pilot villages.

The following are the results of the implementation of the SSF Guidelines action plan for the pilot areas:

- Establishment of an umbrella fishers association in MOA—Ndumbani Tanga, to which office bearers were selected, including a chairperson, a secretary, an accountant and a committee of 15 for disaster management.
- A series of successful individual fishermen's group meetings were conducted in three individual villages in Somanga in Kilwa, where it was agreed to set up the umbrella fishers association three days after the follow-up visit. It was reported that the association has already been established, incorporating all the office bearers.

The planning workshop came up with the action plan based on the selected priorities activities from the SSF Guidelines.

- In Kigamboni feedback meetings and awareness raising was carried out in three sub-villages of Kimbiji. Other joint sub-village meetings will be conducted later to help form the umbrella fishermen's association.

Resources needed

A major challenge is on the way forward for the implementation of the SSF Guidelines. Although ICSF has supported awareness-raising of the SSF Guidelines among fishers in Tanzania, a dilemma exists among the facilitators, specifically the implementation point of view. Great resources are needed in connection with broad planning at the national level and multi-stakeholder involvement in order to ensure effective implementation.

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MWAMBAO

Participants at the Bagamoyo workshop. Mwambao and its partners aim to place these lessons and challenges on the table and discuss with their partners strategies and potential solutions for future implementation of the SSF Guidelines

There is reluctance among some fishers—especially illegal fishers—to join the association as they consider this initiative will prevent them from continuing with illegal fishing. A national-level strategy is required to be formulated, in collaboration with local management institutions (beach management units), to address this issue.

Mwambao and its partners aim to place these lessons and challenges on the table and discuss with its partners strategies and potential solutions for future implementation of the SSF Guidelines.

For more

igssf.icsf.net
SSF Guidelines

Wicked Problems

In implementing the Human Rights-Based Approach (HRBA) in fisheries, the roles of different players need to be judiciously factored in to ensure a level playing field

The Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty (SSF Guidelines), shepherded primarily by the Food and Agriculture Organization of the United Nations (FAO), is the first document of a similar nature that talks about human rights in the context of small-scale fisheries, more generally. The Code of Conduct for Responsible Fisheries does not do it, for instance. The Tenure Guidelines talk a lot about human rights but mention small-scale fisheries only briefly.

The Human Rights-Based Approach (HRBA) is, therefore, a unique perspective on fisheries governance and management, with implications that are interesting and important. Some would perhaps argue that it goes without saying. People in fisheries do, of course, enjoy the same universal human rights as anyone else. It is, nevertheless, sometimes important to state the obvious, as a reminder, like when Hillary Clinton in her famous speech at the World Women's Conference in 1995 declared that "women's rights are human rights."

It is, however, a novel idea, but not an obvious thing, that fishing-rights regimes should undergo a human-rights litmus test. There are people out there who think that fisheries are too mundane for such lofty ideals and principles. They are more comfortable talking about a "rights-based approach" than a "human-rights-based approach". We know that the two concepts are different and potentially in conflict, despite the fact that they sound alike.

The concept of the "rights-based approach" does not appear in the SSF Guidelines. For those who reject the idea that it is relevant to talk about human rights in the context of fisheries, with the endorsement of the SSF Guidelines, the train has left the station. We do not need to discuss whether they are relevant or not; now the issue is how to implement them.

The SSF Guidelines speak to states and civil society, and involve a broad set of players—or stakeholders—who will vary according to which paragraph in the SSF Guidelines we are talking about. The word 'stakeholder' suggests that there are groups within or outside small-scale fisheries who may have things to win or lose because of the SSF Guidelines. There is no reason to expect that they will sit still and passively witness their implementation. The word "players" indicates that they will act strategically, and that they will try to outsmart or outmaneuver each other. This would perhaps not be so bad if the playing field was level. The SSF Guidelines would hardly have seen the light of day if that was not the case.

The SSF Guidelines speak to states and civil society, and involve a broad set of players—or stakeholders...

Interdependence

As observed in the SSF Guidelines preface: "Small-scale fishing communities also commonly suffer from unequal power relations. In many places, conflicts with large-scale fishing operations are an issue, and there is increasingly high interdependence or competition

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between small-scale fisheries and other sectors. These other sectors can often have stronger political or economic influence, and they include: tourism, aquaculture, agriculture, energy, mining, industry and infrastructure developments."

These sectors have players because they are stakeholders, but they are not equally equipped and capable of securing their interests, and they do not always agree on things. Would they, for instance, yield to the concept of "preferential treatment", which is mentioned, for example, in paragraph 5.4?

"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, including indigenous peoples and ethnic minorities, should be recognized, respected and protected in ways that are consistent with international human rights law."

One should not be surprised when this, and many other paragraphs in the SSF Guidelines, will meet resistance when implemented in concrete playing fields. Even if the HRBA comes with an aura of righteousness and self-evidence, its practical application may still be contested. Stakeholders tend to be opportunistic if it serves their interests, and they would know how to spin things to show goodwill.

The question is what to do. The first thing, I believe, is to recognize that the SSF Guidelines are entering the playing field that, in many instances, look like a minefield, and I do not only mean this metaphorically, as the SSF Guidelines also mention "armed conflict." They will have to engage with stakeholders who may not become sympathetic when they get to know about them. I think it would, therefore, be essential to bring stakeholders on board; they should be invited in. It is better to have them inside the tent than outside, for reasons that are well known. Co-optation is not necessarily a bad thing, especially when your cause is legitimate. The implementation of the SSF Guidelines would require a building of platforms where stakeholders can argue about the HRBA and its concrete implementation.

But one would need to be careful about how small-scale fisheries are secured and represented within such arrangements, because they come from an underdog position. There is a clear risk of small-scale fishworkers and their communities becoming disempowered, rather than empowered, if one does not actively try to hinder it.

Government and civil society organizations have both a role to play in building such platforms and to exercise control so that they remain level. They should not need FAO to do it for them, but they may still need a push. Such platforms could be anything from organizations to website forums.

The SSF Guidelines in section 11 recognize the role of the academic community as provider of research-based knowledge. The academic community also has an important contribution to make as watchdog. Since knowledge is power, it can help to level the playing field.

Social scientists often complain that no one listens to them. With the SSF Guidelines, I argue, they could hardly ask for more. Now they need to get involved. Now is their chance to make a real difference.

For more

lgssf.icsf.net
SSF Guidelines

maritimestudiesjournal.springeropen.com/articles/10.1186/s40152-014-0016-3
Walking the Talk: Implementing the International Voluntary Guidelines for Securing Sustainable Small-scale Fisheries

Extending the Ripples

The use of information and communication technologies (ICTs) can help promote equitable and sustainable small-scale fisheries, a workshop in Cape Town, South Africa, stressed

With the current worldwide trends towards the increasing affordability of mobile devices, rapid development of Internet connectivities, and ease of use of web and mobile applications (apps), information and communication technologies (ICTs) are increasingly being used to develop sophisticated systems to address some of the world's more pressing social and ecological challenges. Examples abound globally of development projects that are making use of cellular technology to empower local communities to monitor issues as diverse as natural-resource use, climate change and disaster risks, community health and water quality, and to empower these same communities with marketing and management tools.

Implementation of the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines), developed mainly by the Food and Agriculture Organization of the United Nations (FAO)—with a focus on fisher empowerment and transformation of unequal power dynamics—provides a critical opportunity to ensure that marginalized small-scale fisher (SSF) communities are able to gain access to, and harness the power of, affordable and easy-to-use ICTs. The Guidelines specifically cite the need for "digital inclusion and other skills of a technical nature that generate added value", encouraging States to ensure that fishers have access to these services (Section 6), and promoting the development of technologies that are able to support women's work (Section 8.4) and that are "culturally appropriate" (Section 9.9). Multiple entry points for the use of ICTs are evident in the call for the empowerment of SSF and their access to a range of resources, infrastructures, market opportunities and equitable participation in research, monitoring and governance of fisheries.

Towards this end, Serge Raemaekers, Member, International Collective in Support of Fishworkers (ICSF) and founder of the Abalobi initiative in South Africa, co-ordinated the hosting of an international workshop on ICT for Fisheries (ICT4 Fisheries) in November 2016 in Cape Town, South Africa. Entitled "ICTs for equitable and sustainable small-scale fisheries: promoting international cross-learning", the workshop was co-hosted by Abalobi, the University of Cape Town's Centre for ICT4D and Blue Ventures, and made possible with funding from the Western Indian Ocean Marine Science Association (WIOMSA).

Multiple entry points for the use of ICTs are evident in the call for the empowerment of SSF and their access to a range of resources...

Free mobile app

Abalobi is a free mobile app and programme aimed at social justice and poverty alleviation in the SSF chain, transformation in the way we produce knowledge and access information, stewardship of our marine resources, and resilience-building in the face of climate change. The Abalobi initiative

This article has been written by Members of ICSF: ***Serge Raemaekers*** *(serge.raemaekers@gmail.com) (founder of Abalobi) and* ***Jackie Sunde*** *(jsunde@telkomsa.net), University of Cape Town, South Africa*

SERGE RAEMAKERS

Participants of the international workshop on ICTs for equitable and sustainable small-scale fisheries: promoting international cross-learning, Cape Town, South Africa

(www.abalobi.info) is an open source, transdisciplinary and social learning endeavour, bringing together various rights and stakeholders in South Africa, with traditional fishers taking centre stage. It is a participatory action project with a strong community development interface. The project was born out of a research collaboration between Serge Raemaekers, Nico Waldeck and Abongile Ngqonqwa in an attempt to meet the need to develop an SSF information-management system in South Africa that would facilitate implementation of the country's new SSF policy and empower fishers to participate fully in the management process. The Abalobi app suite comprises five inter-connected apps and an information management system—conceptualised in a co-design process and currently in various stages of development and testing—covering the full spectrum of stakeholders in the SSF sector from hook to cook, governance and beyond. These apps include:

Abalobi Fisher—The foundation of the app suite where fishers' co-produce knowledge by collating their own catch data in a personal logbook with sharing options. The app includes planned safety-at-sea integrations and the opportunity to capture a range of climate-related data. Fishers download this for free, and are supported daily by Abalobi's field team, local fisher assistants and the Fisheries Authority's fishery development workers. Fishers use the dashboard summaries in daily fishing operations and towards co-management of their community fisheries.

Abalobi Monitor—Digitised community catch monitoring at the landing site and along the shoreline, with the ability to feed into a centralized information-management system for enhanced evidence-based decisionmaking and policy development. The Fisheries Authority is rolling this app out along South Africa's coastline. The system detects fishers who openly use the Abalobi Fisher logbook, thereby allowing data validation and the use of real-time data for decisionmaking.

Abalobi Manager—Real-time fishery data, access to relevant oceanographic data and information and communications for co-management. This is the interface for government fisheries managers and co-management committee members.

Abalobi Co-op—Co-operative member and fleet management. This includes a tool for collective accounting, enabling all members of the co-operative to be accountable

and transparent, thereby promoting equitable practice, and facilitating catch value-adding and the creation of opportunities for women and youth who may not be involved directly in harvesting activities. Abalobi Co-op is intended to equip fisher co-operatives with the tools that can drive the development of community-based, sustainable small business entities. The technology also allows co-operatives to connect with FinTech (online banking, micro-credit) and InsureTech (tailored life and fleet insurance).

Abalobi Marketplace—Fish with an ecological and social 'story'. A virtual market where fisher co-operatives can share their stories and post their daily catches for sale to consumers, restaurants and larger retailers. This component stimulates the idea of community-supported fisheries (CSF), empowers fishers in the value chain, and, at the same time, allows for the development of fisher-community-based labelling and marketing mechanisms. Abalobi Marketplace is currently in proof-of-concept phase with further co-design and development planned for 2017.

Networking with other partners around the world who are at various stages of working with ICTs in SSF—EcoTrust Canada who have developed ThisFish; the Caribbean ICT Research Programme (CIRP) who have developed mFisheries; key persons working with Open Data Kit (ODK) in organizations such as Blue Ventures based in Madagascar, the World Bank and FAO; as well as organizations such as the Technical Centre for Agricultural and Rural Co-operation ACP EU (CTA)—gave birth to the dream of hosting an international workshop that would enable the sharing of experiences and lessons in developing and using ICTs specifically for SSF. This workshop was the first-ever international workshop of this nature. The workshop was planned and co-facilitated by Serge Raemaekers and Jackie Sunde from the University of Cape Town, together with Steve Rocliffe and Tori Jeffers from Blue Ventures.

The aims of this international workshop were to:

- bring together fisher groups, fisher leaders, non-governmental organizations (NGOs), academics and other stakeholders with experience in the use of fisher-driven ICTs, to promote networking at international, national and regional levels;
- build an understanding of the contribution that ICTs can make towards empowering SSF communities, enabling them to secure their human rights, share local ecological knowledge and ensure the co-production of new knowledge towards enhanced sustainability of marine resources;
- identify the right processes whereby fisher-driven mobile apps can contribute towards transparency, equity, sustainability and accountability;
- facilitate the sharing of knowledge on best practices in supporting the development of free or low-cost apps that can assist with the implementation of the SSF Guidelines;
- develop best-practice guidelines for supporting the development of apps for fisher knowledge and data capture, data use, safety-at-sea,

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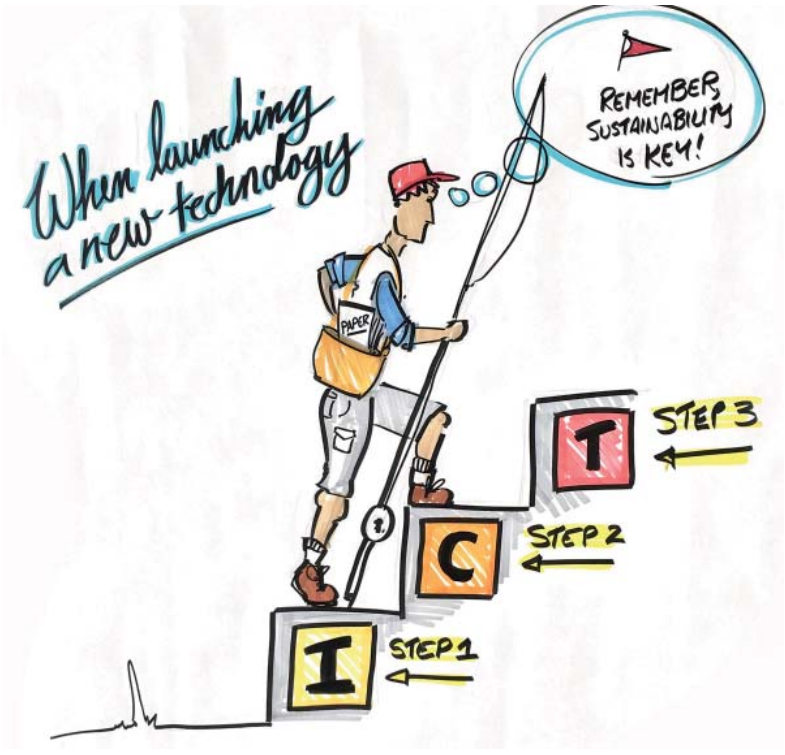

GRANT JOHNSON

communication and market-related needs; and

- find practical ways to pool strengths and experiences and thereby foster collaboration, with specific focus on the need for integration of various apps, their ease of use, sustainability and accessibility across the globe.

Over 50 participants attended the workshop, including representatives of fisher organisations, FAO, State parties, NGOs and CBOs, as well as research institutions and organizations providing technological support. Participants represented regions from across the globe: Tanzania; Seychelles; Mauritius; Mozambique; Madagascar; South Africa; Uganda; Trinidad (representing the Caribbean countries); Canada; the US; UK; the Netherlands; France; Belgium and Italy. Key participating organizations with extensive presence in a number of countries included: the World Forum of Fisher Peoples (WFFP); WIOMSA, working throughout the Indian Ocean region; as well as organizations such as the CTA which works in more than 79 countries.

Invited delegates were requested to list five key ICT4Fisheries challenges prior to commencement of the workshop for discussion points—common themes identified are the following:

From the outset, it was apparent that various open-source platforms, already in existence or in development, can enable fisher communities to be incorporated into information and resource networks: from fishery monitoring and maritime safety, to local development and market opportunities. Critical questions in this approach pertain to data ownership, protection of local knowledge and power imbalances related to the use of new technologies and data. Further questions lie in the scale and uptake of such technologies in regional fisheries management efforts. The workshop enabled a process of interrogating some of these key challenges and deepening the understanding of factors and processes that can enable ICTs to contribute towards the implementation of the human-rights-based approach that underpins the SSF Guidelines.

The workshop included a presentation on the SSF Guidelines and, linked to this, a presentation by Florence Poulain of FAO on how ICTs can contribute towards achieving the principles of the Guidelines, with specific attention to the thematic area of Disaster Risk and Climate Change. These presentations highlighted the fact that ICTs are central to all 13 themes of the SSF Guidelines.

Sharing session

This was followed by a 'tech sharing' session using Knowledge Café Methodology. In small groups, select ICT tools were demonstrated and participants were given the opportunity to test the tools and explore how each attempts to address key challenges faced by SSF and associated stakeholders. The tools included: This Fish (demonstrated by Eric Tamm from EcoTrust Canada); VMSTrack (Petrus van der Linde of Coastal Livelihoods Foundation);

Open Data Kit (ODK) (Thierry Nohasirivielo, Steve Rocliffe and Tori Jeffers of Blue Ventures, and Gertjan de Graaf of FAO/World Bank Artisanal Fisheries Data Programme); mFisheries (Kevon Andrews of CIRP); and Abalobi (Serge Raemaekers, Abongile Ngqongwa, Andrew Cawood and Nico Waldeck).

Groups explored the way in which each tool contributes towards the empowerment of fishers and which of the main SSF Guidelines principles or thematic issues are addressed. The report back to plenary highlighted a very rich harvest of lessons and emerging issues. It was apparent that each of these tools is contributing to a wide range of issues from fisher empowerment in data capture and management processes, to how traceability can empower SSF and help them build leverage in the value chain.

The use of ODK in African artisanal fisheries has provided an efficient, time- and cost-saving mechanism for capturing data in the vast and very widely spread context of many African SSF communities. Key questions remaining include issues such as how to validate data quality and how to empower fishers to be able to use the data to engage in climate change research from a position of strength and hold governments to account. The ODK used by Blue Ventures has enabled women fishers to be empowered and to take their skills back to their households and share them with their male partners and youth.

Participants were struck by the way that Abalobi has empowered fishers through the co-production of the platform from the onset. The mFisheries app demonstrated that use of simple technology can be extended to capture fishers' stories as well as provide an accessible platform for multimedia training and capacity building on issues such as safety at sea. It also provides access to real-time information from the cloud on a range of oceanographic data for fishers. A key insight emerging from VMSTrack has been the manner in which an ICT tool can serve not only as an entry point into community-focused issues such as promoting safety at sea, but then also as a catalyst for further social development. In particular, VMSTrack has contributed towards building community cohesion and solidarity, which, in turn, provides a spring board for alternative livelihoods and community-development projects.

The particularly innovative and powerful process of 'graphic harvesting' was used for capturing the issues emerging from the discussions and outcomes of the workshop.

Initial insights drawn from the SSF Guidelines and ICT tool demonstrations identified the contribution that ICTs are making to safety at sea, climate-change adaptation and disaster-risk management, data capturing, research and monitoring, building accountability and transparency. This was followed by a vibrant exchange between the 'techies': Taylor Downs (OpenFN), Andrew Cawood (Abalobi) and Kevon Andrews (mFisheries) that provided insights into the process of developing a simple tool using ODK, but left the participants with the strong message that while "technology is not the answer to sustainable fisheries, it should also not be the problem". They emphasized a three-step process, with: (i) knowing what information you need, (ii) communicating this as the most important steps, and (iii) developing the technology to follow this, as the last step.

Methodology

The workshop discussions indicated that process and methodology for developing ICTs are as important, if not more important, than the tool itself. This includes ensuring that development is a participatory, bottom-up process that identifies champions in the local community and builds trust. It must not be a case of parachuting in and out of the community, but rather of ensuring a sustainable, co-development of knowledge. In

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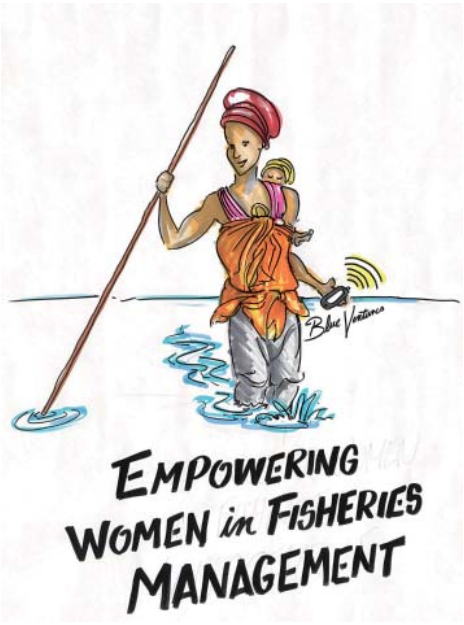

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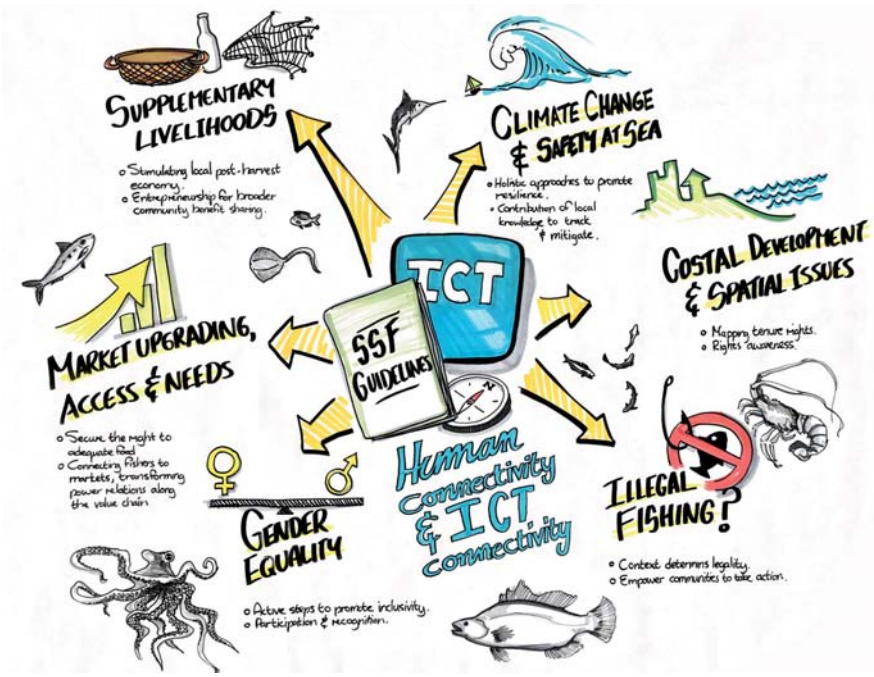

the words of one participant: "... human connectivity is important in addition to internet connectivity ... relationships matter!"

Abongile Ngqongwa emphasized that the approach to assisting communities to access technology is very important. Once you have introduced the idea of using the technology, then make sure that you develop the technology with the communities—once the tech is developed collaboratively, it takes away the burden of training, as fishers own the system that they are developing, so the skills are developed along the way. This theme of empowerment and the need to ensure that fishers retain control over their own data was a consistent thread running throughout the discussions. The local South African fishers who have pioneered the development of Abalobi shared their journey with other fisher representatives from Mozambique, Mauritius and the Seychelles, and a rich exchange of ideas and experiences led to a commitment to continue this exchange and attempt to extend the reach of Abalobi across the Indian Ocean. In return, the Abalobi fishers appreciated the ideas on how to promote gender equality that the Blue Ventures experience with their ODK tool highlighted. These male fishers expressed their eagerness to return home and ensure that they extended their work to include women and all activities along the value chain when developing their Abalobi platform further.

A key outcome of the workshop has been the establishment of a website and platform for networking on ICT4Fisheries (www.ict4fisheries.org). The objective is to create an easily accessible portal where fisher groups, organizations and other stakeholders can gain a glimpse of the types of ICT4Fisheries projects that are in existence, and share lessons learnt. It aims to promote the use of the SSF Guidelines and ICT development as a key tool for implementation of the Guidelines in the coming years.

Already there are resources emerging as Blue Ventures has written a handy manual on ODK to share and EcoTrust Canada has explored the issue of traceability in the value chain. The intention is that the portal will create a starting point where the group and others can connect with each other, network and extend the ripples outwards as ICTs become a key means of communicating, monitoring and documenting the implementation of the SSF Guidelines.

The minutes, graphics and reports from this workshop and further information about the ICT tools that were demonstrated at the workshop are all available on the website. See www.ict4fisheries.org.

For more

ict4fisheries.org/#blog
Storify Summary from The Three Days of The Workshop

blueventures.org/catalysing-use-mobile-technology-small-scale-fisheries/
Blue Ventures Report from The Workshop, 'Catalysing the Use of Mobile Technology in Small-scale Fisheries

Heading West

The difficult working conditions of migrant labourers in the fisheries of the Sindhudurg district of Maharashtra raise both social and human-rights issues that need to be solved

The sound of many voices harmonizing together in song filter across the courtyard of Shammi Kelaskar's house, near Vengurla in the Sindhudurg district of Maharashtra state, on the west coast of India. Shammi identifies himself as a fisherman, although he rarely goes fishing these days. The men singing folk songs in his yard are the real fishermen.

I meet them the next morning, sitting on a huge pile of red fishing nets, their fingers working at lightning speed to mend the nets, while they chat with each other in a language that seems extremely out of place. The fishermen speak Telugu, a language from the east coast of India. I wonder what they are doing in this remote part of the Konkan coast. "They have come here from the state of Andhra Pradesh", says Shammi. "I hire them to help with my purse-seine net". The fishers of Sindhudurg may be far removed from the bustling fish markets of Mumbai, yet individuals like Shammi need to employ a sizeable crew of 10-15 men to run their small purse-seine operations that supply sardines for export.

The migrant fishermen working on Shammi's net are not unique. During subsequent visits to the area, I have found that hiring migrant labour from Andhra Pradesh is a regular practice among purse-seine fishing boatowners in Sindhudurg. While migration is not unusual in marine fisheries, it is usually seen along the same coast, or at least within the bounds of recognition of fishing cultures or castes. To see such long-distance migration, to a region like Sindhudurg that is not well connected nor very well known for well-developed fisheries, is highly surprising.

Previous studies on migrant labour from Andhra Pradesh have focused on their contribution to fisheries in the state of Gujarat, particularly in the important fish-landing centres of Veraval and Porbandar. These studies have revealed the organized nature of this labour market, with a system of advance payment to the migrants, followed by a fixed monthly wage. In contrast, the migrant labour system in Sindhudurg is poorly organized, being much newer, and migrants often enter into direct verbal agreements with boatowners, rather than going through contractors.

...hiring migrant labour from Andhra Pradesh is a regular practice among purse-seine fishing boatowners in Sindhudurg.

Purse-seine operations in Sindhudurg are relatively recent, adapted by locals who had contact with fishermen from other states who use this fishing technology. A purse-seine boatowner from Sindhudurg says, "Purse-seines and mini purse-seines are new fishing gears in Maharashtra. We don't have a lot of experience using them. They have been using purse-seines in Andhra for a long time and so those fishermen are experienced with making and using these nets. That is why we prefer to hire crew members from Andhra". While this statement reveals one of the reasons for the migrants' presence in Sindhudurg, it is not the whole story.

Many Ghabhit fishermen, who make up the majority fishing caste in Sindhudurg district, have reservations

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about using the purse-seine. As in many other fishing villages across India, a big concern is that the use of mechanized fishing gear, like the purse seine, will threaten the livelihoods of artisanal fisherman, by hauling in disproportionately large fish catches. Therefore, many fishing villages in Sindhudurg have come together to ban the use of purse-seines. Not only do the village rules prevent village members from owning and operating purse-seines, the village members will also not tolerate purse-seine operations in their area, by outsiders. For migrant labourers in Sindhudurg's purse-seine fishery, this translates into a high degree of social ostracism. A migrant labourer from the Srikakulam district of Andhra Pradesh says, "We are usually not allowed to stay in the fishing villages during our time in Maharashtra. This means that we have to stay on board the fishing vessel for the entire fishing season [four months in his case, but it can extend to eight months for some migrants]. Because of this, we do not have regular access to fresh water for bathing and washing clothes. We are often not served by the shopkeepers within the fishing village, and have to walk further [to the larger marketplace in the town] to use these facilities." Such migrants are completely dependent on the boatowners, being unfamiliar with the language, local culture, customs, and so on.

Working conditions for migrant labour in fisheries are notorious and Sindhudurg is no exception.

Many of the migrants that I came across in Sindhudurg travel together in groups. These men are related or are from the same village and can therefore look out for, and support, one another. In each of these groups there are one or two people who speak Hindi or a smattering of Marathi, and serve as the spokesperson(s) for the group. It is up to this person to negotiate the terms of employment, wages, living conditions and so on. This inability to communicate well, along with the social ostracism that they face, means both an inability and impossibility of the migrants' participation in village activities in Sindhudurg. The songs I heard that evening at Shammi Kelaskar's house were a symptom of that social isolation. These men come prepared to create their own entertainment to pass the evenings, travelling with musical instruments and armed with the knowledge of folk songs.

Working conditions for migrant labour in fisheries are notorious and Sindhudurg is no exception. The Srikakulam fisherman whom I interviewed reported: "There have been times when I have spent up to 20 days on a fishing trip. During this time, I dare not bathe or wash clothes, because I would have to use sea water and thereafter my skin would be chafed by the salt that remains on the dry clothes." While first-aid kits are available on the vessels, there is no concept of health insurance. "If we fall sick, we have to take care of ourselves. We go to the government hospital for free treatment, but our wages for those days are cut. The [boat] owner does not pay for our treatment", said the migrant.

Payment is often in the form of a lump sum given at the end of the fishing season, which the migrants sometimes prefer because they have no place to store the money during the fishing season. This is because the migrants do not have bank accounts or access to safe storage in Sindhudurg. The payment is supposed to take the form of a daily wage plus a share of the profit, but since it is paid in a lump sum, the migrants often find it difficult to calculate how the final amount was arrived at. The migrants perspective is expressed thus: "The fishing is so variable...one day we may have a bumper catch and then we may not get anything for weeks. At the end the [boat] owner will say that he is running at a loss, and we can't say anything. We have to take whatever he gives us." This lump-sum

payment also means that if a migrant has to leave mid-season, he will have to forfeit his payment.

Given these difficult working conditions, it is hard to understand what drives the migrants to return to these fisheries year after year. In a study titled 'Inter-state migration of fishers from Srikakulam district', by Bhaskara Sarma and Venkatesh Salagrama report that among fishing communities there, working in mechanized fisheries is considered a respectable occupation, in comparison with participating in traditional or artisanal fisheries in Andhra Pradesh. These workers command higher rates of dowry and their lump-sum payments or advances are useful to clear loans or debts. Migrant labour is also related to lower rates of alcoholism. Being confined to the boat during the fishing season, the migrants have little access to alcohol. The wives of some of the migrant labourers say, "We prefer our husbands to work on the west coast, because the alternative would be to work on the trawlers of the Vishakapatnam harbour. At the gate of the harbour is a liquor shop, where most of the day's earnings are usually spent, before the men come home".

While there are clearly social and some health benefits to migration, the monetary and financial benefits to choosing to migrate are still difficult to quantify. Bhaskara Sarma and Venkatesh Salagrama judge the overall impact of migrant labour on the family income of the Srikakulam fishermen to be low, especially for the poorest families. While this is increasingly the case in the bigger fishing destinations, like Porbandar and Veraval, (Gujarat) where the fisheries are in decline, the problem is only exacerbated in destinations like Sindhudurg where migrant labour is not well organized. Many of the workers in Sindhudurg report having originally come looking for work in Goa's fisheries and upon not finding any, they wandered north into Sindhudurg. Now that news of this new destination for migrant labour has spread, fishermen from Vizianagaram district of Andhra Pradesh have also begun to migrate to Sindhudurg. This glut of labour availability has potentially worsened the bargaining position of the migrants. Migrants to Sindhudurg and Goa report lower wages and overall earnings than those who find work in the big fishing harbours of Veraval or Mumbai.

In Sindhudurg, the migrants' presence has translated into ensuring the persistence of the purse-seine fishery. Despite protests by local fishermen, the purse-seine has been retained due to the easy availability of experienced crew from Andhra Pradesh. The escalating conflict between purse-seine boatowners and local artisanal fishermen once again sees migrants caught in the crossfire. They are often the targets of physical altercations at sea over purse-seine usage in artisanal fishing areas. An artisanal fisherman even reported having held a couple of migrant crew members hostage for a day in order to demand compensation from the boatowner. The migrants' situation not only results in their own exploitation but also exacerbates conflicts between users of different types of fishing technology in Sindhudurg. As a case of 'neobondage', migrant labour in Sindhudurg's fisheries is both a social and a human-rights issue that needs to be solved.

DIVYA KARNAD

Mini purse-seine boats are docked at a fishing jetty in Sindhudurg district, Maharashtra, India. The owners of such boats are the main employers of migrant labour

For more

thehindubusinessline.com/news/national/maharashtra-govt-to-stop-new-licenses-to-purse-seining-type-of-fishing/article8203512.ece
Maharashtra Government Stops Purse Seine New Licences

academia.edu/10610681/Inter-state_migration_of_fishers_from_Srikakulam_district_Andhra_Pradesh
Inter-state Migration of Fishers from Srikakulam District, Andhra Pradesh

The Tiger's Mouth

By enacting new legislation and policies on tenure rights, labour rights and fishing rights the unique *kyarr phong* fishery in the Gulf of Mottama, Myanmar, can be substantially improved

Kyarr in Burmese means 'tiger' and *kyarr phong* literally means 'tiger mouth net'. It is the most abundant fishing gear in the Republic of the Union of Myanmar after bottom trawl, purse-seine and drift-net. The *kyarr phong* fishery—a bag net attached underneath a bamboo raft, both anchored together—is a unique fishery, an adaptation of stow-nets and stow-boats, originally used in large rivers for catching small prawns. It is now practised in the Gulf of Mottama (previously known as Martaban), between September and May, at a distance between 14 to 40 nautical miles from the low-water mark. The period June-August is the closed season.

The *kyarr phong* fishery—a bag net attached underneath a bamboo raft, both anchored together—is a unique fishery...

In spite of operating at such distances, these rafts fish entirely within the internal waters of Myanmar. The straight baseline—extending 222 nautical miles and the longest notified straight baseline in the world—closing the Gulf of Mottama between Alguada Reef (Pathein Light) and the Western Point of Long Island is over 150 nautical miles away from the apex of the Gulf. *Kyarr phong* came to the notice of the world when thousands of fishers perished on these rafts at sea in early May 2008 during Cyclone Nargis, at wind speeds of over 100 knots.

The Gulf of Mottama is shallow (less than 30-m depth), turbid and dominated by tides. The rivers Ayeyarwady, Salween and Sittang drain into the Gulf, carrying huge loads of sediment. The Gulf, according to a 2004 paper published in *Marine Geology*, is one of the largest mud belts in the world's oceans, measuring over 45,000 sq km during spring tide and about 15,000 sq km. during neap tide. The sediments are loaded with minerals and nutrients favouring abundant fishery resources, comprising many tropical species. The mud belt, according to the National Institute of Oceanography (NIO), India, moves in sync with the tidal cycle every 14 days. The *kyarr phong* fishing operations are believed to be carried out in the 150-km belt along the edge of the turbid zone, roughly in an area the size of Belgium.

Although *kyarr phong* in the rivers of Myanmar have been reported, there seems to be no written account of *kyarr phong* fishery in the Gulf of Mottama. This fishery in waters beyond the 15-m isobath is believed to have started in the southwest of the Gulf of Mottama, off Pyapon, Ayeyarwady Division in the early 1970s. It was practised initially for a period of just two months a year. It is now a nine-month operation. In the early 1990s, *kyarr phong* owners from Pyapon started moving to the southeast of the Gulf, off Mawlamyine, in Mon State, where the fishing grounds are more gradual and better suited for *kyarr phong* operations. The movement of owners was further intensified post-Nargis since the impact of the cyclone was less pronounced in Mon state. There are between 5,000 and 10,000 bamboo rafts associated with this fishery currently in operation.

The bag nets associated with *kyarr phong* are fabricated from

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polyethylene. Each bag net is about 20 ft to 30 ft long, with 0.25-inch mesh size (the legal mesh size for bag nets is 2 inches). It is operated attached beneath a 40-ft long and 15-ft wide unpowered raft made of 80-120 bamboo poles—totally biodegradable. The rafts are designed to withstand tropical storms of up to 45 knots wind speed. The rafts are towed to the fishing ground by a global positioning system (GPS)-enabled carrier boat, powered by a 100-hp Honda engine, once every year, in September. They are anchored at designated places at depths of 10 fathoms (nearly 20 m). In May, at the end of the fishing season, while the bamboo rafts are abandoned at sea, the fishing gear is taken back to shore to be reused in the next season.

Owners of *kyarr phong* units do not participate in fishing, although some are involved in fabricating bamboo rafts. They are, however, involved in deciding the fishing spots. All of them are members of various *kyarr* associations. All operations in this fishery along the value chain are undertaken by hired workforce. Towards procuring labour, an advance payment system is in place (normally, five months' wages) to fishers as well as to women fishyard workers who shell dried shrimp.

The most productive days for *kyarr phong* fishery are the sixth to ninth days and the 12th to 15th days before, and the sixth to ninth days and the 12th to 15th days after, the full moon. The bulk of the harvest is thus taken during 144 days in a fishing season of nine months. Sixty-four days during September and December, and 16 days in the month of April, are particularly considered the best fishing season. (Interestingly, September-December is the season when surface currents in the Bay of Bengal are moving counter-clockwise).

When it comes to the fishing operation, the bottom panel of the bag net is anchored to the sea floor together with the raft. The top panel is attached to the raft. The bag net mouth is held vertically open against the tide (the tidal range during the spring tide is nearly 7 m and during neap tide it is nearly 3 m)—like the mouth of a tiger. The net is emptied every six hours or so from the cod end right beneath by drawing it onto the raft. The bag net site is changed two or three times during a fishing season.

About 10,000 tonnes of fish are reportedly harvested in this fishery every year. The mainstay of *kyarr phong* fisheries is the rich shrimp resources that are gathered in the bag net, boiled using mangrove wood and dried on the raft. In addition to shrimp, Bombay duck, pomfret, grenadier anchovies, ribbon fish, seabass, *hilsa* shad, trevally and several other species are harvested. The carrier boats take the boiled and dried shrimp, iced high-value species like seabass and *hilsa* shad, along with others to the landing sites, several times a month. *Kyarr phong* owners sell boiled and dried shrimp to dry-fish merchants for export to China, Malaysia, Thailand and Singapore after shelling it using women's labour. Other species are also exported or sold in the domestic market. Shrimp wastes are converted to pelleted feed for export to Vietnam. *Kyarr phong* operations are believed to be very profitable for fish traders and owners.

The carrier boats that tow the rafts to the fishing ground and transfer the harvest from the rafts to landing sites also bring provisions, ice,

YIN NYEIN

The *kyarr phong* fishery—a bag net attached underneath a bamboo raft, both anchored together—is now practised in the Gulf of Mottama between September and May

mangrove wood and water to the anchored rafts, several times a month. Officially, there are about 349 bamboo rafts for operating *kyarr phong*. But according to U Han Tun, Chief Executive Officer, Myanmar Fisheries Federation, there are between 5,000 and 10,000 such rafts and bag nets in operation, along with 600 to 1,200 carrier boats. A raft and bag net together would cost about five million MMK (US$4,000)—two million MMK (US$1,500) for the raft and three million MMK (US$2,500) for the bag net (2016 prices) (1,200 MMK is equal to a US$).

There are about 20,000 to 40,000 fishers at work on rafts and another 4,000 to 7,000 workers working on carrier vessels.

All *kyarr phong* units are expected to pay royalty on marine fisheries under Schedule Five, Myanmar Constitution (2008) to the Union/ Region/State government. This includes water transportation tax, fishing gear tax, fresh fish tax and income tax. The carrier boats, depending on their size and area of fishing, are expected to pay a licence fee. If small and fishing in the inshore area (from the low-water mark to 10 nautical miles), a boat, on the one hand, has to pay 15,000 to 30,000 MMK (US$12.5 to US$25) as annual license fee to the Region/State government. Large boats, on the other hand, fishing in the offshore fishing area (the area from the 15 isobath in the internal waters out to the limit of Myanmar's exclusive economic zone or EEZ) have to pay an annual licence fee of 100,000 to 300,000 MMK (US$80 to US$250) per boat to the Union government.

The rafts are normally in clusters of eight that operate in a fairly labour-intensive manner. Each cluster and its carrier boat employ about 40 fishers—mostly Buddhist Burmese in origin. A raft in the same cluster is at a minimum distance of 100 m from other rafts. A minimum distance of three nautical miles is maintained between different clusters.

There are about 20,000 to 40,000 fishers at work on rafts and another 4,000 to 7,000 workers working on carrier vessels. Excluding women fishworkers engaged in fish processing on land, *kyarr phong* employs a maximum of 50,000 fishers—all men and mostly unskilled. More than 50 per cent of this workforce comprises internal migrants. Each raft has about four workers living almost continuously on it during the fishing season of nine months. The fisher in charge of the raft is called *oo si* and he is assisted by *kyan kyin lote thar*, a skilled fisher and two *lote thar*, or unskilled fishers. (On some rafts the crew size is three, especially in the Mon state). The cluster of eight rafts and associated gear form a unit under a skipper called *oo si choke*, or chief of the unit, who is stationed on the carrier boat. He supervises the operations of the rafts in his cluster and, sometimes, even supervises an additional cluster. While the unskilled workers are reportedly from the dry zone, spread across Sagaing, Mandalay and Magway Regions, the skilled workers and supervisors are reportedly from the delta region of Myanmar. The age of workers is stated to range between 18 and 56 for men and between 18 and 40 for women fishyard workers. About half the population of unskilled workers have no prior exposure to marine fishing.

Basic salary

Regarding payment, a *lote thar* and *kyan kyin lote thar* are paid a basic monthly salary of about 50,000 to 60,000 MMK (US$42 to US$50). The *oo si* is paid 60,000 to 70,000 MMK (US$50 to US$58). The fishers, over and above wages, also receive a 10 per cent bonus based on the quantity of shrimp processed on the rafts, especially if it is above a certain threshold. Together with commission, these fishers earn between 120,000 to 130,000 MMK (US$100 to US$108), per month. The *oo si choke*, however, receives between 500,000 MMK to

700,000 MMK (US$416 to US$583) per month in payment (as of November 2016).

There is radio communication between *oo si choke* and the cluster of rafts. The *oo si choke* also keeps in touch with owners over a mobile phone, and owners, in turn, are in contact with dry-fish traders in Yangon. Although working continuously in offshore fishing grounds for nine months, there does not seem to be any protection afforded to fishers on these rafts. Existing labour laws do not apply to fishers. The *kyarr phong* owners issue identity cards to fishers. Until recently there was no written contract of work but, of late, annual written contracts are drawn with fishers and fishyard workers. There is no off-season allowance for workers. Although exposed to tropical storms and cyclones, fishermen receive no training in sea safety. Many fishers on rafts do not even know how to swim, nor are they supplied with life jackets or lifebuoys.

After taking an advance on wages, some migrant fishers have been reported to have deserted from the *kyarr phong* without completing their term of employment. Other than the *oo si choke*, anyone can desert. The frequency of desertion has increased and is in tandem, on the one hand, with a fall in labour supply to precarious *kyarr phong* operations, post-2008 Nargis, and on the other hand, with an increase in the number of *kyarr phong* units, especially in the Mon state, in response to good shrimp harvests after the cyclone. Shortage of labour has made it easy for the runaways to find work on rafts under a new ownership. The owners also find it difficult to aggregate sufficient number of workers at the beginning of the fishing season. In fact, most of the *kyarr phong* owners have a different set of migrant workers each season. Sea safety is further compromised due to desertion because the owners fear that workers, if supplied with sea safety equipment, will escape. Desertion from work place is not only confined to fishing operations, but also to fishyards processing *kyarr phong* landings. In some yards, additional fortifications are made to prevent women workers from running away.

Established owners of *kyarr phong* are of the view that there should be no further addition of units since there are already too many at work. Although there are some fears of declining catches in Pyapon, there are no such fears in Mawlamyine where the owners are of the view that "the deep pools in their undulating fishing grounds are for fish and the shallow grounds are for fishers". These pools provide sufficient protection, in their view, to breeders and juveniles.

Suggestions for improving *kyarr phong* fisheries include extending the closed season from three months, replacing mangrove firewood with other sources, and promoting value addition and further diversification of export markets for dry shrimp. From a sea-safety perspective, however, the annual fishing season can definitely be shortened by a month from September to May to September to April. The month of May, according to the Myanmar Department of Meteorology and Hydrology—based on analyzing landfall of cyclones between 1887 and 2005—is the month with the highest number of cyclones crossing the Myanmar coast.

YIN NYEIN

There are about 20,000 to 40,000 fishers at work on rafts and another 4,000 to 7,000 workers working on carrier vessels. Owners of *kyarr phong* units do not participate in fishing

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The carrier boats that tow the rafts to the fishing ground and transfer the harvest from the rafts to landing sites also bring provisions

From a socio-ecological perspective, the *kyarr phong* fishery is welcome since, unlike bottom trawling, it is a passive, labour-intensive, unpowered fishing operation, which does little damage to the sea bottom and does not cause destruction of marine biological diversity. Considering the shortage of labour in this fishery, the number of units, however, can definitely be scaled down to better utilize the available workforce.

From the perspective of decent working and living conditions on what is manifestly a hazardous work environment, there are concerns with regard to meeting minimum requirements for work on a raft continuously for eight months (minimum age, medical examination, basic training in sea safety, etc.), conditions of work (inclement weather, cyclones, etc), accommodation and food, occupational safety and health protection, and medical care and social security.

Improving conditions of work, including enhancing wages and incentives, providing better conditions of life on rafts at sea and more frequent access to land, and imparting training in sea safety in line with good practices can indeed mould a responsible workforce and arrest the issue of desertion from the workplace.

A comprehensive co-management approach to *kyarr phong* by enacting new legislation and policies on tenure rights to the internal waters of the Gulf of Mottama, combined with interlocking rights and duties in relation to work in fishing, could assist in integrating sea safety and decent work into a new framework for conservation and sustainable use of fisheries resources. It could very well be based on the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication; the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security and the Work in Fishing Convention, 2007. Such a framework can promote responsible fisheries and labour, and protect the lives and livelihoods of thousands of fishers engaged in the precarious *kyarr phong* fisheries in the Gulf of Mottama and their families in the hinterland.

For more

iucn.org/news/gulf-mottama-navigating-muddy-waters
Gulf of Mottamma: Navigating Muddy Waters

myanmar.helvetas.org/en/projects/clcmgomp/
Community Led Coastal Management in Gulf of Mottamma

nagmyanmar.org/
Network Activities Group

Reaffirming Rights

The traditional net fishers of Langebaan Lagoon MPA in South Africa have proved victorious in adopting a human-rights-based approach to small-scale fisheries

A recent High Court Judgement in support of small-scale fishers' rights lays the foundation for a human-rights-based approach towards the implementation of the policy on small-scale fisheries and future Marine Protected Area (MPA) planning and governance in South Africa.

The Langebaan Lagoon MPA lies approximately 120 km northwest of Cape Town, along the western Atlantic coastline of South Africa. The lagoon is home to one of South Africa's oldest traditional net fisheries. Originally inhabited by the indigenous Cochoqua who were gradually chased out of the region, the area was settled by the Dutch during colonial times and they established farms along the shores of the lagoon. These waters gained a reputation for fine fish, particularly the large mullet (known locally as '*harders*') caught in the sheltered, nutrient-rich lagoon. The small group of traditional net fishers of Langebaan Lagoon who continue to fish today are mostly descendants of the Malay slaves and other residents of mixed race who eked out an existence as labourers on these farms following the emancipation of slaves at the Cape. Most of them fished using beach-seines, gill-nets and handlines to supplement their meagre wages.

In time, the net fishers evolved a system of customary rules to manage their fishing activities and to avoid conflict amongst the different net fishing boats on the lagoon. This included a range of local customary norms and laws related to how they worked together on the water, how the catch was shared amongst the crew, who was responsible for maintenance of the boats and how to manage conflict. Specific fishing grounds were recognized by the authorities as their customary fishing grounds and the oral histories of the Langebaan net fishing families indicate that the names of as many as 20 fishing sites in the lagoon were commonly known.

The customary fishing rules that evolved were woven into the social relations of the small, close-knit fishing community that describe themselves as a 'fishing family'. Traditional knowledge was passed on from generation to generation, and young children grew up with a strong identity attached to their families' interaction with the lagoon. The Langebaan fishers considered themselves the rightful users and owners of the lagoon and membership of the net fishery was limited to this group.

The customary fishing rules that evolved were woven into the social relations of the small, close-knit fishing community that describe themselves as a 'fishing family'.

Apartheid

In the 1960s the fishers were impacted by the steady introduction of apartheid-based racial planning as well as the growing, predominantly white, tourism industry and recreational fishing sector in Langebaan. During this period the fishers who were classified according to the apartheid race-based classification system as 'coloured', were forced to relocate to a new area designated for coloured residence, which was some distance from

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their homes adjacent to the lagoon. In addition, growing numbers of recreational fishers on the waters disturbed their net fishing and led to increasing conflicts. In 1969 the fishers requested the local municipal board to establish a zone specifically for them, and two buoys were placed in the lagoon, effectively creating a protected zone for the traditional net fishers only.

In 1973 the lagoon was declared a marine reserve in terms of the Sea Fisheries Act and, subsequently, in 1985, it was incorporated into the West Coast National Park.

However, in the decade that followed, the Department of Sea Fisheries introduced a range of conservation measures and, drawing on the original line that had been established to protect the fishers, used this zonation to establish three zones—a sanctuary zone, a zone for non-motorized net fishing and an open, multi-use zone. In 1973 the lagoon was declared a marine reserve in terms of the Sea Fisheries Act and, subsequently, in 1985, it was incorporated into the West Coast National Park. The National Parks began acquiring farm land for inclusion in the Park and purchased a number of white-owned farms adjacent to the lagoon. The Park authorities entered into agreements with the owners of these farms and the West Coast National Park became the first contractual park in South Africa. Many of the white property owners retained certain residential rights in sections of the Park whilst the coloured fishers were forced to move to Langebaan town. The local fishing community were not consulted when the marine reserve was declared.

This simultaneous introduction of conservation and fisheries management measures in the lagoon coincided with the introduction of apartheid spatial planning measures. The forced relocation of the coloured community from their homes adjacent to the lagoon, the eviction of fishing families from the farms that were later incorporated into the National Park, and the perceived preference given to white landowners to continue residing in the Park and fishing in restricted zones were associated with the concomitant increase in restrictive conservation measures which led to the zonation of the lagoon. The lagoon was zoned into three zones. Both line fishing and recreational fishing, as well as a range of other non-consumptive uses, were permitted in Zone A; Zone B was restricted for traditional net fishers; and Zone C was a no-take sanctuary area. When the National Parks Board took over the management of the lagoon, they confirmed this zonation, introducing a set of regulations restricting fishing and motor vessels in Zone B unless in possession of a permit from the Parks Board. In the late 1980s the trek net fishery—shore-based, drag-net fishery—was outlawed and fishers were forced to rely on their gill-nets to target *harders* only.

In 1992, following the signing of an agreement with the local landowners, the Parks Board introduced a differential set of permit regulations in which the local white landowners still resident in the Park were permitted to fish in Zone B for *harders* using their drift-nets, but the fishers resident in Langebaan were not. The net fishers resisted these permit regulations and over time the Park authorities permitted those traditional fishers with a history of fishing on the lagoon to continue net fishing in Zone B.

Conditions and restrictions

In 2003 the National Environmental Management: Protected Areas Act, 2003 (NEMPAA), was promulgated, granting the National Parks the authority to introduce specific permit conditions and restrictions on use in certain zones. The conservation authorities used this legislation to prohibit the Langebaan net fishers from fishing in Zone B, which was their traditional fishing grounds, although the white landowners were

able to continue. This policy dovetailed with the fisheries authority's policy of restricting the net fishing effort on the lagoon.

The Langebaan net fishers have argued that these restrictions are discriminatory. Firstly, three white landowners who have a contract linked to their continued residence in the Park with the conservation authorities have retained the right to continue fishing in Zone B, and the traditional net fishers, who depend on the net fishery for their livelihoods but were forced away from the Park, have to compete with the growing recreational sector in Zone A. The conservation authority and the department responsible for fisheries management have argued strongly that the zonation is needed to protect key line fish and shark species that use the shallow waters of the lagoon as a nursery ground. Zone B acts an important buffer zone within the MPA. However, the scientific evidence used to motivate these restrictions on the harder fishery draw largely on national-level data for *harders* and is also outdated. As the fishers were not consulted about the restrictions and the zonation, they question the legitimacy of the MPA zonation and the accuracy of the scientific data upon which decisions have been made.

The Langebaan net fishing community has been one of the leading communities participating in the small-scale fisheries campaign in South Africa since 2004 that has demanded recognition that their 'fisher rights are human rights'. They have advocated strongly for their right to preferential access to their traditional waters and to participate in management in line with the FAO Code of Conduct for Responsible Fisheries. They cite the customary system of local fisheries management developed by their forefathers as the basis for their claims in addition to their human right to food security and to practice their occupation. In the absence of any real consultation that took their histories and needs seriously, and faced with their continued exclusion from their traditional fishing grounds, and increasing conflict with the recreational fishers, the Langebaan fishers launched legal action in 2013 against the Minister of Environmental Affairs, as the governance authority of the lagoon, the Minister of Fisheries as the authority responsible for allocating fishing rights and the SANPARKS as the contracted

JACKIE SUNDE

Langebaan fishers listen to the legal advisers from Legal Resource Centre outside the Cape Town High Court, South Africa, June 2016. The Langebaan fishers considered themselves the rightful users and owners of the lagoon

management agency for the Langebaan Lagoon MPA (Coastal Links Langebaan and others versus the Minister of the Department of Agriculture, Fisheries and Forestry (DAFF) and others, 2013). Represented by the Legal Resources Centre, a human rights public litigation NGO, the fishers argued that the permit condition that "prevents us from fishing in a part of the Langebaan Lagoon known as 'Zone B'... has serious consequences for our livelihoods, and threatens the continued existence of the custom of traditional net fishing in Langebaan. Drawing on the Bill of Rights in the South African Constitution, they argued that the fisheries regulations imposed on them are irrational, unreasonable, and unfairly discriminate indirectly on the basis of race" (Coastal Links Langebaan versus the Minister of DAFF and others, 2013).

Further, the fishers argued that it is ironic that the line that was originally drawn to protect them, is the same line "now used to keep us from our traditional fishing grounds and threatens our ability to survive. It is significant that the line was not drawn on the basis of any conservation imperative; it was drawn to solve a dispute between traditional and recreational fishers over 40 years ago" (Coastal Links and others versus the Minister and others 2013,CASE NO: 11907/13). The founding legal papers argued that the Minister of DAFF and other respondents acted unconstitutionally in that they should, at minimum, have considered:

- the available science pertaining to the Langebaan Lagoon relevant to the specific species and net fishery;
- the socioeconomic status of the fishers impacted by the decision;
- any alternatives to a complete limitation of the right to access Zone B; and
- the applicable legal framework, including domestic and international law and policy, and, in particular, the new SSF Policy.

They argued that the zonation underpinning the MPA was not based on scientific evidence and hence it is arbitrary and irrational to continue to employ this same line in the name of 'conservation' and restrict their rights. As such, the decision by the Minister and the harsh restrictions on the *harders* net fishers are unreasonable in terms of the Constitutional obligation of the Minister to seek the least restrictive limitations on their rights (Section 36 of the Constitution). They allege that the scientific evidence available does not indicate that net fishing in Zone B will have an unacceptable ecological impact. They also argue that the current restriction unfairly discriminates against them on the grounds of race and perpetuates past patterns of discrimination. The fishers cite the Policy on Small-scale Fisheries (DAFF 2012) in their argument, citing again the principle that small-scale fishers who depend on fisheries for their livelihood should be given preferential access to resources. They challenge the conservation authorities for seemingly turning a blind eye to the thousands of recreational fishers who are catching the same threatened line fish species that the MPA zonation allegedly seeks to protect. They also document the impact of the conflict with the recreational sector on their livelihoods.

They argued that the zonation underpinning the MPA was not based on scientific evidence and hence it is arbitrary and irrational to continue to employ this same line in the name of 'conservation' and restrict their rights.

The High Court judgement delivered on 31 October 2016 has far-reaching implications for the future management of small-scale fisheries in South Africa. In particular, it sets an important precedent for how the rights of small-scale fishers should be considered when planning, managing or evaluating existing MPAs. In his judgement, the Honourable Judge Sher highlighted the fact that the national statute legislating the management of marine living

resources in South Africa, the Marine Living Resources Act of 1998, provides guidance in section two of the Act to the Minister to have regard for a number of principles and objectives when developing management mechanisms, not just objectives narrowly restricted to protection of the marine ecosystem. This includes the need to achieve "the 'optimum utilisation' and ecologically sustainable development of such resources, and the re-structuring of the fishing industry in order to address historical imbalances, and to promote 'equitable access to, and involvement in,' all aspects of the fishing industry (with particular reference to the need to rectify past prejudice against women, youth and disabled persons) and to achieve equity within all branches of the industry." (Langebaan Coastal Links versus the Minister and others 2016, 11907/13).

The judgement gave visibility to the Small-scale Fisheries Policy which, like the SSF Guidelines adopted by the FAO Committee on Fisheries (COFI), stresses the centrality of the principles of equity and equality. The Policy on SSF has, as one of its principal objectives, the promotion of "equitable access to, and benefits from, marine living resources, taking the historical background of the fishers into account". The vision outlined in the SSF Policy is of a sustainable, equitable, small-scale fishing sector in which the "wellbeing and livelihood of fishing and coastal communities is secured and the health of the marine ecosystem is maintained". It also recognizes that in order to achieve effective transformation, small-scale fishers need to regain their lost access to their traditional areas.

The judgement draws on Section (9 (3) of the Bill of Rights in the Constitution, noting that the State may not unfairly discriminate, either directly or indirectly, against anyone on a number of grounds, including race. In this instance, the Judge found that the permit conditions imposed on the Langebaan traditional net fishers were discriminatory and irrational. He argued that the decisionmakers did not take important factors into consideration such as the fishers' "historical claim to traditional fishing rights, the imperatives of transformation and the need for ecological conservation whilst also allowing for sustainable utilisation and development of the resources concerned" (Langebaan Coastal Links versus the Minister and others, 2016).

Importantly, the Judge found that the Court cannot determine the new regulations and permit conditions, but the parties to the action must sit and negotiate new terms, by taking into consideration these important social imperatives. In reaffirming these socioeconomic rights as integral to the governance and management of fisheries and conservation, this judgement confirms a core principle at the heart of the SSF Guidelines, that of the indivisibility of human rights, sustainable development and responsible governance of fisheries.

JACKIE SUNDE

Langebaan leader Norton Dowries outside the Cape Town High Court,South Africa. The Langebaan community members have advocated for their right to preferential access

For more

lrc.org.za/lrcarchive/press-releases/3704-press-release-court-finds-fishing-restrictions-at-langebaan-irrational-calls-for-transformation

Court Finds Fishing Restrictions at Langebaan Irrational–Calls for Transformation

saflii.org/za/cases/ZAWCHC/2016/150.html

Coastal Links Langebaan and Others v Minister of Agriculture, Forestry and Fisheries and Others (11907/13) [2016] ZAWCHC 150 (31 October 2016)s

Muddy Waters

As mud banks along the southwest coast of India dwindle, several concerns and societal implications have been articulated regarding this unique oceanographic phenomenon

Decades back, at the Smithsonian Air and Space Museum in Washington D.C, there used to be a regular show in wide screen on 'Mud Banks of Kerala'—an awe-inspiring event which was given equal importance to the launch of a space mission or an expedition to the rain forests of the Amazon! Mud banks (locally called *Chakara*) appear in the south Indian state of Kerala in the littoral zones of the Arabian Sea during the summer southwest monsoon and remain calm with exceptional biological production and represent a unique oceanographic phenomenon.

Mud banks (locally called *Chakara*) appear in the south Indian state of Kerala in the littoral zones of the Arabian Sea during the summer southwest monsoon

They are tranquil marine areas hugging the coast, which develop during the roughest monsoon period. They have a special feature of dampening high waves due to the huge quantities of mud in suspension close to the bottom.

The mud banks appear as an undisturbed sheet of water, when blustery conditions prevail along the outer periphery. Towards the end of a hot, humid summer season, every citizen in the region, perspiring and sweating, looks eagerly towards the sky for the onset of the monsoon rains. When strong winds and high waves make it impossible to go out into the sea, the entire fisherfolk pray for the appearance of mud banks. The southwest monsoon arrives in Kerala with all its fury by early June, with raging seas and heavy rainstorms. This is the time when the mud banks intermittently appear as patches of calm and turbid seas with copious fish stocks. The news spreads like wildfire and immediately transforms the entire coastline to a festive mood. Makeshift townships emerge with gatherings of thousands and thousands of people, when numerous canoes and nets are transported over land to the adjacent beaches.

The hub of life and bustle is unimaginable, with huge baskets lined up to be filled to the brim with shrimps and fishes, and hundreds of refrigerated trucks to carry them to different parts of the country. A single cast of net during these days can yield a bumper harvest of mackerel, prawns, sardines and other fish species. Seafood processors and exporters queue up to buy the bumper crop and cash in on the abundance, and the whole crop is purchased in auction onshore itself.

Thus, the mud banks of Kerala have provided bountiful living resources to the needy, and helped to enhance their livelihoods for centuries. The mud banks of Kerala differ from mud banks reported from other muddy coasts worldwide, as they do not form a regular relief-forming feature. The huge abundance of the fishery makes the Kerala mud banks iconic.

God's own country

With a narrow strip of lush green land bounded on the east by high hills laced with rivers and on the west by the Arabian Sea, Kerala is hailed as 'God's own country' by admiring tourists. Kerala lies along the southwest corner of the Indian

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peninsula, between 8° 18' and 12° 48' N and 74°52' and 77° 22' E. The coastline has been subjected to severe alterations over a geological timescale due to a variety of factors, including the changing weather and climate, particularly the Indian monsoon. The region receives about 300 cm of annual rainfall, as the 44 rivers and numerous creeks of Kerala remain connected with lakes, lagoons and channels. A major part of the rains flows through rivers and creeks to eventually reach the Arabian Sea.

This particular extent of 40,000 sq km of the continental shelf of Kerala is considered as the most productive zone in the Arabian Sea. Coastal upwelling enhances the biological activity, leading to high fish production in the region. Since time immemorial, fish and fisheries have played a crucial role in the economic growth of the country. Although Kerala has a coastline of only about one-tenth of the Indian coastline, the fish landing from the state has contributed more than one-fourth of the country's total marine fish production. The sustainable fish yield from the southwest coast is estimated to be between 0.8 - 1.2 mn tonnes per year, of which only about half is currently exploited. The coastal and nearshore waters are most important as they sustain a large population of traditional fishermen. The sector provides the source of income for hundreds of thousands of active fishermen and others engaged in allied activities. Therefore, a decline in the fishery potential can be a major concern to the state and the coastal community. The situation is precarious now, following a dwindling trend in the total fish landings, surprisingly due to the reduction in the appearance of mud banks along the southwest coast of India.

The mud banks and fishery are, in fact, interdependent, as when the former occurs, the latter should follow. To many residents, a good mud bank means a good fishery. Since the calmness of the sea and mud accumulation are not significant, all mud banks need not be productive. Therefore, the success or failure of mud banks is judged from the quantity of fish caught during the season. Studies have shown that the mud banks sustain a high fishery potential, since the pelagic fishes and prawns move from deeper waters to closer to shore during the southwest monsoon, following upwelling.

The general tendency of fish being to swim against the prevailing current (which is southerly), it is possible that they move in shoals northward and some of the fish, on passing through the mud bank area, are easily caught by the numerous canoes operating in, and outside, the mud banks. If so, it is also possible that a shoal of a particular composition, after its passing, is followed by another of entirely different composition. It is, therefore, likely that the monsoon catches from the mud bank area are from the moving shoals as they are caught from this region because fishing is possible only from this region.

Another argument is that upwelling causes the development of hypoxia over the shelf, which creates stress on the fishes and prawns, as they move either shoreward or to deeper waters. Such a condition occurs throughout the coast where upwelling is intense. During this migration, these shoals may also cross the mud bank zones.

P.K. DINESH KUMAR

Sheer monsoon fishery magic! Mud banks are tranquil marine areas hugging the coast, which develop during the roughest monsoon period

With the onset of the southwest monsoon, fishing activities come to a standstill, and operations are possible only at locations where calm zones prevail. The monsoon fishery enjoys legal protection from the government, which provides exclusive operational rights to traditional crafts and has banned large mechanized vessels from fishing during the season. During this time of idling and poverty, only the calm zones brought in by mud banks can support fishermen as centres of intense fishing activity. Almost the entire fish landings during the monsoon season take place at these mud bank sites.

History tells us that the ships of Vasco da Gama anchored in the open sea off Kozhikode (erstwhile Calicut) from 20 May to 26 August during the southwest monsoon of 1498. It was probably due to the mud banks prevalent in those regions, where the calm sea enabled the navigators a safe anchorage. Consequently, the big vessels could remain in the sea, and canoes and small boats were used to reach the shore during the monsoon season.

Documented records on the mud banks of Kerala are available from the 1840s. At least a dozen mud banks were known to have existed in the region for several centuries. Of these, some were sited either at, or near to, the outlets of rivers and lagoons. From the shore, the mud banks can be easily distinguished as zones with total absence of waves, while high swells break outside their periphery. In recent times, over 20 locations along the coast are found to have developed mud banks at some time or the other. Prominent mud banks documented in the 1980s have now vanished, and the remaining reported great characteristic changes in appearance and sustenance. Since 2010, mud banks have been isolated in appearance along the coast at only two or three locations, and concerns have been raised about the total disappearance.

Looking into the factors leading to the dwindling of the mud banks, we may have to consider the geographical features of the areas surrounding them (including the lagoons and rivers emptying into them) and the transformations that have taken place there. There have been significant changes in the land-use pattern in the hinterlands. These changes have dramatically altered the fertility, soil erosion, groundwater resources and surface water flow. There are about 15 built dams in the rivers of Kerala, where a large part of water is retained. The silt and clay brought from the catchment areas of these dams are completely settled inside the dams. Once, the entire watersheds and lagoons were spread from the south end to the north end of the state, to make the region a dense cover for mangroves. However, an explosive growth in the population and urbanization have adversely affected the ecological stability of mangroves. The formation of mud banks along the coast of Kerala and the seasonal windfall fishery associated with them are interesting. A phenomenon like this has not been reported from anywhere else. Therefore, the dwindling and the worst-case scenarios of the extinction risk associated with these very specialized ecosystems in this part of the world raise serious societal concerns about the future of the lifeline of this region. Therefore, the issues associated with the dwindling of mud banks need to be pushed to the centre of debate to facilitate an ecosystem- based approach to fisheries management. Serious environmental management strategies should be initiated immediately by involving researchers, economists, community people, fisherfolk and policy-makers.

For more

eprints.cmfri.org.in/7309/1/315-IJMS_1974.pdf
Mud Banks of Kerala: Their Formation and Characteristics

drs.nio.org/drs/handle/2264/4940
Mud Banks of Kerala: Mystery Yet to be Unrevealed

Alienated, Marginalized

The unintended consequences of conservation action has had several impacts on protected species and fishing communities of Pacific Mexico

Conservation initiatives are often urgently undertaken especially when they concern the protection of endangered species. Furthermore, these agendas are often focused on narrow or even singular objectives (that is, saving a single species from functional extinction), which, in turn, mount pressure on national governments to take immediate action. When such pressure forces quick actions with inadequate deliberation, resources for enforcement and monitoring, or appreciation for local context, conservation policies can harm both human wellbeing and the environment. Here we share a case study about how well-intentioned conservation efforts designed to protect vulnerable species have caused a series of cascading effects for coastal communities in Mexico and the marine environments on which they depend.

Small-scale fishing is critically important for the coastal communities of the Gulf of Ulloa in Baja California Sur, Mexico (Figure 1). Over 1,000 fishers make their livelihood off the 300 km stretch of productive coastline where the cold California Current converges with the tropical Costa Rica Current, assembling a unique composition of temperate and tropical species. Depending on the season and oceanographic conditions, small-scale fishers in the Gulf of Ulloa may use gillnets, hookah diving, traps, hook-and-line, and artisanal longline or trawl gear from their 6-9 m vessels, targeting a diversity of finfish, sharks, rays, bivalves, abalone, lobster, octopus and shrimp. While some products go straight to international markets, coastal communities strongly depend on local fisheries production for both nutrition and revenue.

More than a livelihood and food source, fishing represents a strong culture and way of life for these coastal communities and provides the backbone for social organization. As in many other coastal communities across Mexico, this region supports dozens of small cooperatives (each comprising six to 12 persons) and four larger cooperatives (up to 140 persons). These four larger cooperatives have been granted long-term concessions where they have exclusive rights to lucrative benthic resources like lobster and abalone, and, in some cases, contribute considerably to management and stewardship of these resources. Communication among fishers in the region is further promoted by cooperative federations organized at higher scales, strong family ties across communities, and a local baseball league in which cooperatives compete against one another.

Small-scale fishing is critically important for the coastal communities of the Gulf of Ulloa in Baja California Sur, Mexico.

Conservation action?

This story commences when Mexico, the world's sixth largest shark producer, was citedby the international conservation community for inadequate management and conservation of shark and ray (elasmobranch) species. A year later, Mexico enacted a moratorium on the fishing of all elasmobranch species

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throughout the nation's exclusive economic zone (EEZ) for almost two months during the first summer and three months during subsequent summers. The small-scale sector in the Gulf of Ulloa relies heavily on the elasmobranch fishery during summer months, using artisanal longlines and driftnets offshore to target larger migratory sharks and bottom-set gillnets and longlines inshore to target smaller coastal sharks and rays. Although warning of the new law was reportedly disseminated in advance to fisher leaders and federations, the shark fishing closure took most fishers completely by surprise; the closure was announced and enacted right at the start of the elasmobranch season well after most fishers had already made their important seasonal investments in preparation for the fishery. According to one fisher, "the [shark fishery] closure was a failure and nobody could work. One bought nets, bought everything, and we were left without work. The fishermen did not receive notice of the closure; nothing arrived and suddenly there was a fishery closure".

Although warning of the new law was reportedly disseminated in advance to fisher leaders and federations, the shark fishing closure took most fishers completely by surprise...

After the elasmobranch closure was enacted, to sustain their livelihoods many fishers retooled their nets to bottom set for finfish, including halibut and grouper. Fortunately, the summer of 2012 was an unusually good year for halibut, but, to the fishers' frustration, while fishing for halibut they caught substantial amounts of valuable sharks and rays, which they had to discard at sea, dead and unused. Anecdotal evidence suggests that this incidental capture of elasmobranchs during the first summer of the closure was comparable to the targeted capture of elasmobranch species during previous summers before the closure was enacted. In addition to having social and economic repercussions for the coastal communities of the Gulf of Ulloa, the closure did little to protect sharks and rays the first summer it was enacted.

Simultaneously during the elasmobranch closure, evidence suggests that fishers were accidentally catching loggerhead turtles in their bottom-set nets with record high frequency. The unusually good halibut catch coinciding with the elasmobranch closure attracted unprecedented numbers of fishers to the bottom-set fishery in 2012, concentrating fishers in space and time in a sea turtle hotspot in the southern Gulf of Ulloa. Subsequently, record high numbers of loggerheads stranded during July and August 2012 along the shoreline adjacent to primary halibut fishing area; 600 per cent more loggerheads stranded during these two months in 2012 than the average rate documented over the prior 10 years during systematic shoreline surveys.

The dramatic increase in sea turtle bycatch rates and strandings, officially documented by the Mexican government and independent researchers, culminated in a United States' citation of Mexico for its lack of bycatch management and the threat of trade sanctions, and raised alarm in the international conservation community. In response, Mexico developed a bycatch reduction programme in the Gulf of Ulloa, beginning with the establishment of a sea turtle refuge (Figure 1), fishing gear restrictions, and a fisheries observer programme. Thereafter, Mexico enacted a Gulf-wide closure of all finfish species for a four-month period during the summer of 2016.

Unintended consequences

While most sea turtle bycatch in the Gulf of Ulloa has historically been confined to a small geographic region in the south related to specific gear types, the blanket closure unnecessarily affected fishers throughout the entire Gulf, and,

combined with the shark closure effectively shut down over 1,000 fishers during their critical summer fishing season. Though the closure was accompanied with a compensation plan, the rent-out unfortunately failed to benefit the fishers who needed it the most.

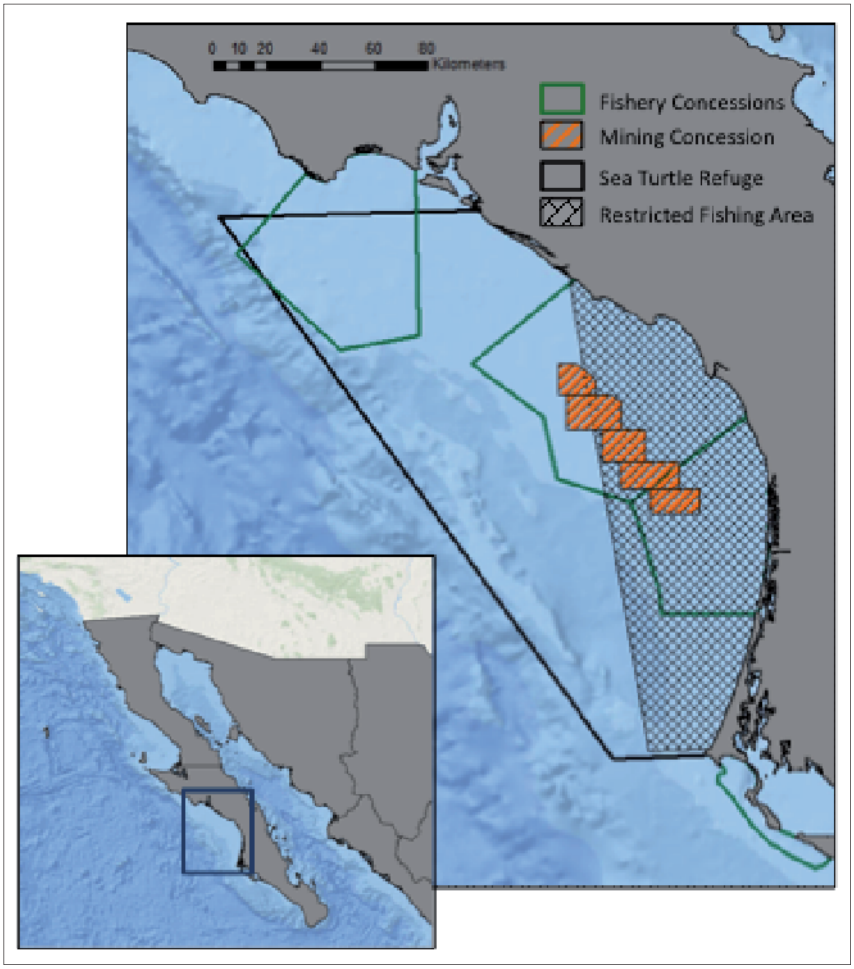
Over the course of these events, social and political conflict intensified at the local level as the situation became increasingly polarized. Feelings of mistrust among fishers, conservation organizations, researchers, and authorities culminated in the suspension of a participatory bycatch research and mitigation programme.

Meanwhile, the continuing presence of industrial trawl vessels, from other states of Mexico, fishing offshore in the Gulf of Ulloa, potentially contributing to resource decline and sea turtle bycatch, exacerbated feelings of mistrust and resentment among small-scale fishers in the region. And furthermore, a proposed underwater phosphate mine placed in the middle of the turtle refuge and two of the benthic fishing concessions, represents another compounding threat to local fishers' livelihoods and the local marine environment (Figure 1).

In this case, multiple processes and actors have combined to create a situation with undesirable and unjust outcomes. There is a strong incongruence across scales with respect to value orientation and power. While the international conservation community plays an important role as an advocate for biodiversity conservation and vulnerable species, this advocacy may fail to integrate local knowledge, culture, and context. Meanwhile nations are tasked with potentially conflicting duties of conservation of public trust resources, development of the fisheries sector, and protection of livelihoods.

Given the complex duties of protecting trade agreements, fostering economic growth, and adhering to evolving international conservation standards, ensuring local livelihoods and wellbeing may not be prioritized by governments. Thus, at the intersection of competing and powerful interests, who is speaking for the needs of marginalized communities? Who is bearing the majority of costs of decisions made at higher levels? In this case, fishers from the Gulf of Ulloa are having to pay the costs of conservation while also bearing witness to potentially destructive and unsustainable practices by other, more powerful sectors including industrial fishing and mining. Furthermore, both the elasmobranch and finfish closures were autocratic processes that failed to adequately involve fishers through consultation or meaningful participation. Unsurprisingly, feelings of political alienation and social marginalization are a consistent theme in the region, further undermining objectives of conservation and sustainable fisheries management.

FIGURE 1



Small-scale fishing is critically important for the coastal communities of the Gulf of Ulloa in Baja California Sur, Mexico

Lessons learned

There are important lessons to be learned from this story, applicable to conservation efforts within small-scale fisheries around the world. First, we argue for greater coherence among international conservation efforts, national policy making, and the realities faced by local communities. This requires a refocus of attention on how we integrate multiple value orientations and objectives across scales to achieve just outcomes for biodiversity and human wellbeing. This also requires addressing power relations occurring across scales (from international to local), and recognition of how the costs and benefits of biodiversity conservation are distributed among stakeholders. There is also a critical need to recognize the historical and cultural context of proposed conservation solutions. Are there histories of inconsistency, mistrust, or marginalization? If so, how might they impact the efficacy of a proposed conservation action, and what might the ancillary consequences be?

Second, conservation actions are likely to be more effective if they address interactions occurring beyond a single species, and integrate broader concerns beyond just that of biodiversity conservation. A focus on protecting single species may lead to cascading effects for other species or entire ecosystem especially if the policies are not thought through or do not consider potential feedbacks resulting from social, cultural, or economic realities. This was evidently the case with Mexico's effort to protect shark species, as the shark closure inadvertently caused increases in bycatch of both elasmobranchs and sea turtles. Most importantly, biodiversity conservation efforts must also integrate human wellbeing considerations to minimize human cost and maximize the potential for long-term sustainability outcomes.

Finally, we suggest that resource management and conservation should avoid negative impacts to local resource-dependent communities and engender more robust and longer-term solutions by including local stakeholders throughout the development of conservation strategies. In particular, authorities should seek out stakeholders' narratives concerning conservation threats and solutions. In this case, fishers' perception of the problem strongly dictated perceived legitimacy and efficacy of the enacted policies. As such, fishers' unique perspectives and long-standing ecological knowledge should be incorporated into the design of conservation and management policies. Furthermore, increasing stakeholder consultation and participation has the potential to achieve socially just outcomes for local communities in addition to biodiversity conservation. In fact, we argue, you can't have one without the other.

For more

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Development Refugees

Fishworker representatives from seven states of India converged at Kolkata to discuss the creation of a National Platform for Small-scale Fish Workers (Inland)

For the 20 mn strong population of small-scale fishing communities working on inland fisheries in India, 20-21 September 2016 proved to be days of immense importance. Fishworker representatives from seven states converged at Kolkata and pledged to fight jointly to end the marginalization and deprivation of small-sale fishing communities and also to end the destruction of water bodies and fish resources.

India is gifted with vast and varied inland water bodies that bear rich fish resources. Rivers and canals, reservoirs, ponds and tanks, oxbow lakes, wetlands, backwaters and estuaries yield 6.14 mn tonnes of fish which is more than 64 per cent of the total fish production of the country. The sector sustains about 4 mn fishworkers and a total population of around 20 mn.

Still, the potential of inland fishery resources is far from fully utilized. It is estimated that less than 10 per cent of the country's natural potential is used for freshwater aquaculture and for brackish water aquaculture, the area under cultivation is just above 13 per cent of the potential area available. In the case of flood-plain wetlands, the present fish production of around 50,000 tonnes can be increased six-fold to 3,00,000 tonnes and in the case of reservoirs, the present yield of 93,000 tonnes can be enhanced by more than ten times to 9,83,000 tonnes.

These huge resources are under severe stress. Rivers are poisoned with heavy pollution loads. Diversion of water from rivers for industry and agriculture is killing their ecological flow. Wetlands, lakes and ponds are being encroached and filled up by industries and real estate projects. Poor watershed management in catchment areas is cutting down the sources of water for rivers, lakes and wetlands. Natural storm water drainage is intervened by construction of roads, railway tracks and buildings, thus subjecting large number of ponds to intermittent overflow. Run-off from chemical agriculture is destroying the fish resources of wetlands and paddy fields.

The first victims are the small-scale fishers and fish farmers whose livelihood is inseparably linked with the quality of the water bodies. These small-scale fishers and fish farmers are, by far, the largest primary stakeholders and natural custodians of our water bodies. Losing their sources of livelihood, they are being turned into development refugees and have to migrate to other occupations and areas in search of a living.

It is estimated that less than 10 per cent of the country's natural potential is used for freshwater aquaculture...

Most ironically, thousands of these small-scale and traditional fisher people, who have been struggling to protect their livelihood and the water bodies, are being driven out of the aquatic areas falling within protected areas like reserve forests, wildlife sanctuaries and reserves.

Inland water bodies

Utilization of vast potentials of inland fisheries, as well as the protection of the inland water bodies, are issues that need to be addressed.

*This report is by **Pradip Chatterjee** (pradipdisha@gmail.com), Chief Co-ordinator of Direct Initiative for Social and Health Action (DISHA), West Bengal, India*

These issues include river, watershed and water body management, together with the rights and entitlements of the small-scale fishers and fish farmers to sustainably use and protect the fish resources and their habitats. The issues and the ways and means to address them cut across state boundaries and are truly national in nature.

Thus there is a clear need for a National Policy on Inland Fisheries and a National Platform for Inland Fisheries Groups and Organizations to discuss issues of concern to the inland fishing and fish-farming communities, and take appropriate action.

In view of the above concerns, Dakshinbanga Matsyajibi Forum (DMF), an organization of small-scale fishworkers in West Bengal, decided to organize a series of meetings in collaboration with concerned groups over the coming years. The first such meeting was held in Kolkata on 20 and 21 September 2016, with the participation of groups from the states of Odisha, West Bengal, Assam, Manipur, Madhya Pradesh, Andhra Pradesh, Jharkhand, Bihar and Maharashtra. The NGOs DISHA and ActionAid actively collaborated in holding the meeting and the International Colletive in Support of Fishworkers (ICSF) facilitated the effort.

The meeting witnessed the agonies and desperations of small -scale fishing communities working in rivers, lakes, wetlands and ponds as their representatives, one by one, described how the rivers are polluted and dried up by townships, industries and chemical agriculture, how the lakes are shrinking, and how the ponds are being filled up and encroached. The fishing community representatives also narrated how, with the connivance of the government, subsistence fishers and fish farmers are being edged out from the sector by moneyed investors.

The meeting also witnessed the resolve and enthusiasm of the fishing community representatives to close their ranks and negotiate for better future.

Pradip Chatterjee welcomed all representatives of fishing communities, resource persons, government officials and other participants on behalf of Dakshinbanga Matsyajibi Forum (DMF). He was followed by Chittaranjan Mondal, Regional Manager of ActionAid, and Sasanka Dev, Secretary, DISHA, who wished the meeting all success.

Sebastian Mathew of ICSF presented the key note address. He indicated the non-consumptive use of water resources by the fishing communities and stressed the importance of human rights over the use of water. He narrated matters of state policy related to inland fisheries, commitments that our country bears to international conventions and also stressed the issues of governance.

Saptarshi Biswas, Deputy Director of Fisheries, Government of West Bengal, described the efforts of the government, along with their scopes and limitations. He stressed the need for fishing community organizations to emerge.

Archan Kumar Das, Principal Scientist, Central Inland Fisheries Research Institute (CIFRI), gave an overall picture of the inland fisheries and dwelt on its problems and prospects.

B K Mahapatra, Principal Scientist, Central Institute for Fisheries Education (CIFE), enlightened the participants with a short but significant discourse on the statutory directives on inland fisheries.

Fourteen different groups from seven states presented their respective situations, mentioning the problems they are facing and how they think they can overcome them. The groups hailed from Loktak Lake in Manipur; Madhubani in Bihar; Chandil Dam in Jharkhand; Chilika, Bhitarkanika, Mahanadi river basin and Brahmani river basin in Odisha; Godavari river basin in Andhra Pradesh; Bagri Dam and Tikamgarh in Madhya Pradesh; pond- and river-based groups in Hooghly and Howrah districts, Jangal Mahal fishers in Paschim Medinipur and mangrove

PRADIP CHATTERJEE

Participants at the workshop. The meeting witnessed the agonies and desperations of small-scale fishing communities working in rivers, lakes, wetlands and ponds

forest fishers in the Sundarbans of West Bengal.

Then the participants were regrouped, based on categories of water bodies like rivers, lakes, ponds and reservoirs they are attached with. The groups worked to identify the chief problems confronting fishworkers attached with each kind of water body, and explored how the problems could be dealt with. The groups also worked to indicate the government protections and schemes available to them. After the rigorous group work that continued for two hours, each group presented their findings to all the participants.

The group work and its presentations were followed by a panel discussion on policy elements for inland fisheries. The panellists were Sebastian Mathew, Nalini Nayak, Suman Singh, Mukut Roy Chaudhury, Neelkanth Mishra and Pradip Chatterjee.

It was reiterated that:

- the small-scale fishworkers are, by far, the largest primary (non-consumptive) stakeholders and natural custodians of our water bodies;
- the state policy on fisheries should aim at sustainable use of water and fish resources as well as the wellbeing of the small-scale fishing communities. It should not take enhancement of productivity or investment in the sector as its primary or overarching goal;
- the small-scale fishing communities have to be empowered with Tenure Rights that include sustainable access to, and use of, water and fish resources; Governance Rights to protect water and fish resources from pollution, encroachments and overfishing and destructive fishing; and Rights to finance, infrastructure, technology, market and social security. Further, there should be Residual Rights to access and utilize the resources for alternative livelihood generation.

The panellists also mentioned the need to connect with important fisheries hubs across the country and incorporate the issues of other categories of fisheries like sewage-fed fisheries or cold-water fisheries to develop a comprehensive policy recommendation. It was also decided that while efforts would be taken to connect with fishworker communities in different states that are still not represented, representatives hailing from different states would strive to build up networks with fishing communities in their respective states.

It was further decided that a draft position paper would be prepared and circulated in one month's time, and the next meeting of the alliance would take place in six months. The name of the alliance was decided to be the National Platform for Small-scale Fish Workers (Inland). To take the work forward, a ten-member Preparatory Committee was constituted with the following activists: 1. K. S. Deben (Manipur), 2. Suman Singh (Bihar), 3. O. P. Rawat (Madhya Pradesh), 4. Munna Barman (Madhya Pradesh), 5. Milan Das (West Bengal), 6. Sannyasi Pradhan (Odisha), 7. Amulya Kumar Nayak (Odisha), 8. Dharam Pal Minj (Jharkhand), 9. Debasis Pal (Andhra Pradesh), and 10. Pradip Chatterjee (Convener, West Bengal). To advise and facilitate the Preparatory Committee, an eight-member Advisory Committee was constituted with the following members: 1. Nalini Nayak, 2. Sebastian Mathew, 3. Mukut Roy Chaudhury, 4. Neelkanth Mishra, 5. Chittaranjan Mondal, 6. Soumen Ray, 7. Neeraj Verma, and 8. Viren Lobo.

For more

millenniumpost.in/NewsContent.aspx?NID=327620

Centre to Roll Out Policy to Support Small-scale, Inland Fishermen

A Desperate Search

Women fish processors in Côte d'Ivoire in Western Africa face a bleak future, with fewer fish and declining incomes

In Côte d'Ivoire, the low fishing season lasts eight months of the year. For women fish processors, this translates into a relative abundance of raw material between mid-July and mid-November, when they are supplied directly by the fleet of local artisanal vessels. During the low fishing season, there is almost nothing—four months of fish to process, too short a time to make a decent living. Women have, therefore, to turn to imported fish, but this market is in the hands of greedy intermediaries. Micheline Dion Somplehi, President of the Côte d'Ivoire National Union of Women in Fisheries Societies, provides ideas on how this can change, including through new regional fish-supply channels as well as through the tuna fisheries agreement between Côte d'Ivoire and the European Union (EU).

...in the last decade, maritime artisanal fisheries landings have constantly gone down. Artisanal fishermen face many difficulties.

Like most of West African countries, fish is the main source of animal protein for the Côte d'Ivoire population. A narrow continental shelf limits marine artisanal fisheries activities. However, almost three-quarters of the total production of the national maritime fisheries come from this artisanal sector. But, as in other countries such as Nigeria, Côte d'Ivoire fish supply depends largely on imports. Over three-quarters of the fish consumed in Côte d'Ivoire are imported.

Côte d'Ivoire women fish processors source their raw material from the artisanal sector but also from intermediaries who sell small pelagics species caught by industrial trawlers in Mauritania, frozen and boxed on board. Some years ago, 60 per cent of the supply of women fish processors would come from small-scale fisheries and 40 per cent consisted of frozen fish imports.

But the situation has changed. On the one hand, in the last decade, maritime artisanal fisheries landings have constantly gone down. Artisanal fishermen face many difficulties. Fishermen stories about trawlers, mostly Korean and Chinese, fishing illegally in the coastal zone and destroying their nets, are multiplying. Unsustainable fishing methods by industrial boats, such as pair trawling, have added to the problems. But it is not just the unsustainable and illegal fishing by vessels of foreign origin that is a cause for concern.

As Micheline Dion Somplehi explains: "The area reserved for artisanal fishing is reduced, and lately, it is even more reduced because of offshore oil development. The richest fishing areas are where the oil wells are located, so fishermen have difficulties to gain access, and with the maritime traffic that this generates, many have already lost their fishing equipment, carried away by passing ships, without compensation".

Small pelagics

For women fish processors, one would think that imported small pelagic species may provide an alternative source of raw material. That is not the case. The trade of imported small pelagics, landed frozen at the port of Abidjan, is in the hands of a few intermediaries, whose main objective is to make the highest profit, not

*This article is by **Beatrice Gorez** (cffa.cape@gmail.com), Co-ordinator of Coalition for Fair Fisheries Arrangements (CFFA), Belgium*

to supply women fish processors. Moreover, overall, the quantities of small pelagics landed in Abidjan have decreased and, therefore, inevitably, prices have increased. Indeed, in recent years, in West Africa, a combination of factors has affected the supply of small pelagics by industrial vessels to markets such as Côte d'Ivoire. In Mauritania, for conservation reasons and to avoid competition with artisanal fishermen, the fishing zone for European pelagic trawlers was pushed out further from the coast in the last fishing agreement. And this new zoning was applied to Russian vessels as well. There is also an increasing fishmeal industry developing in the region, fuelled by attractive world prices for fishmeal. In Mauritania, where the majority of the small pelagics destined for the region's markets are caught, the government gave approval for the construction of about 40 fishmeal plants. In 2015, 24 of these plants were already in operation, swallowing vast quantities of the small pelagics caught in Mauritanian waters, including by artisanal fishermen. These factors negatively affect the availability of affordable, good-quality small pelagics for Côte d'Ivoire women fish processors.

Micheline Dion believes things have to change: "I think we have to develop an alternative supply chain based on artisanal fisheries. We should think about setting up a trade route between areas where small pelagics are found in abundance, and where small-scale fishing can develop its capacity to catch them and conserve their quality, such as in Mauritania, and see the possibility to organize transport by container, by sea, to our country where the demand is. With the support of GIZ (German Development Co-operation Agency), our Mauritanian fishermen's colleagues have a project to develop a small fleet of artisanal seiners to develop such a supply chain".

The future may look brighter, but nowadays, with a declining supply from artisanal fishing limited to four months of the year, and with greater difficulties to afford diminishing quantities of imported small pelagics, women are left with no fish and no income.

MICHELINE DION SOMPLEHI / CMATPHA

Faux thon trade in Abidjan, Côte d'Ivoire. Today, this *faux thon* is landed in Abidjan by the tuna boats' crew, and sold without control to local intermediaries, who then sell it to the women

A source of supply which could help the women fish processors in their quest for raw material, is the '*faux thon*' landed by European vessels in Abidjan under the European Union—Côte d'Ivoire fisheries partnership agreement. In the Gulf of Guinea, Abidjan is the most important port for the landing of tropical tuna. Three canneries—Scodi, Pêche et Froid and Castelli—deal mainly with yellowfin, skipjack and bigeye tuna. Damaged, undersized tuna and by-catches which are not used by the canneries constitute the *faux thon*. Today, this *faux thon* is landed in Abidjan by the tuna boats' crew, and sold without control to local intermediaries, who then sell it to the women. The quantities of this *faux thon* are estimated at between 5,000 and 8,000 tonnes a year. In recent years, European purse-seiners land on average 48 tonnes of *faux thon* per landing. This fish could constitute an interesting alternative to small pelagics for supplying the Abidjan women fish processors when there's nothing else to process.

Damaged, undersized tuna and by-catches which are not used by the canneries constitute the faux thon.

But things are far from simple. At a hearing at the European Parliament on the role of women in fisheries in May 2016, Micheline Dion explained: "At the port of Abidjan, women fish processors currently buy the *faux thon* from Lebanese and Burkinabe intermediaries. They pay around 1,000 CFA per kilo (2 euros). During the processing—drying, smoking—the *faux thon* loses a third of its weight. It is necessary therefore to buy 1.5 kg, spending 1500 CFA (around 3 euros), to get a kilo of processed product. The woman must also pay for transport and firewood. Ultimately, the kilo of processed *faux thon* is sold at 2800 CFA per kilo (4 euros). With the price of the raw material, a woman works hard to earn almost nothing. Worse yet, as often the intermediary makes her an advance to buy this overpriced raw material, she is obliged to continue to work at a loss to repay her loan and ends ultimately in debt and in greater poverty."

That is why, on behalf of the Côte d'Ivoire women fish processors, Micheline Dion asked the European Parliament to support, under the partnership agreement between the EU and Côte d'Ivoire, a formalized landing of *faux thon* and its direct sale to women through their national organization, in order to ensure the quality of the fish landed, and fair prices by escaping the intermediaries. The European Commission—the administration that negotiates and manages the EU fishing agreements—has accepted to put the topic on the table at the next EU-Côte d'Ivoire fishing agreement committee, to meet in December 2016.

While such proposals are being considered, it is vital for decisionmakers to appreciate the role of Côte d'Ivoire women, not only in terms of the local economy and food security, but for the whole artisanal sector. As in many African countries, it is the women who often pre-finance fishing trips in the artisanal sector. The way in which both artisanal fishing is protected, and the trade in imported fish is regulated to benefit women traders is, therefore, critical. Without urgent reforms, women fish processors are facing a bleak future, with fewer fish and declining incomes.

For more

cape-cffa.org/new-blog/women-fish-processors-in-cte-divoire-desperately-seeking-fish

Women Fish Processors in Ivory Coast: Desperately Seeking Fish

Achieving a Balance

Traditional knowledge has proved to be relevant for the management of shrimp fisheries on the Pacific and Caribbean coasts of Costa Rica

The Discussion Table for the sustainable use of shrimp in Costa Rica, organized by the Research Group, which is part of the National Dialogue Round Table geared towards sustainable shrimp exploitation, was a space for dialogue and consensus proposals that took into consideration both scientific and traditional knowledge. These inputs were reflected in the process of participatory mapping. The mapping was developed with the idea of generating a marine spatial planning process that can reconcile conservation and utilization of coastal and marine resources in a more equitable manner.

In this research experience, traditional knowledge has played a prominent role not only because of the scarcity of scientific information, but by opening a space for the considered discussions of all the participants. The process has incorporated the immeasurable contributions generated from the practical experience of fishers (these have had a high level of agreement with regard to scientific knowledge).

In this case study, other aspects were also considered related to the subject, for example, promoting the use of traditional knowledge in decisionmaking, the role of participatory mapping in the application of different types of knowledge, and assessment of the interaction between scientists and fishers, among others.

Among the main results that have been generated is the formulation of a first sampling on ecosystems and coastal resources in the Pacific and Caribbean (Barra del Colorado) coasts of Costa Rica. Furthermore, it was important to build trust and respect among the participants of the research group towards the sustainable harvest of shrimp.

Historically, the development in Costa Rica has disregarded the sea and its people. This has meant that fisheries have not been given proper consideration. As a result, the following consequences have arisen: weak institutional structures for regulating sea-based activities; poor political support for comprehensive development; ecosystem degradation and declining resources due to overfishing as well as other human-induced and natural causes.

Historically, the development in Costa Rica has disregarded the sea and its people.

Conflicts arise specifically because there are no arrangements to demarcate zones for the activities of different fleets, and with the increase in fishing effort (number of boats and hours of work), there is a reduction in fishery resources. This generates interactions between the small-scale artisanal sector and the semi-industrial trawl fleet, giving rise to conflicts characterized by competition for resources and/or the destruction of artisanal fishing gears (this situation has been going on for some 20 years or more).

Co-operation

Apart from the tensions that exist between the sectors, there are also forms of co-operation both on land and at sea. Unfortunately, these latter relationships are not visible, which widens the gap between fishermen.

*The article is a synthesis of the case study undertaken as part of a regional research project organized by **ICSF** and **CoopeSoliDar R.L,** on traditional knowledge and the fisheries of the Central American region. It was written by* ***Carlos Andrés Brenes Tencio*** *(carlitos_brenes86@hotmail.com), social anthropologist and researcher associated with CoopeSoliDar R.L., Costa Rica*

Due to the lack of regulatory capacity and incapacity of the different users (direct and indirect) to remedy the situation, the dispute was partially resolved by the Constitutional Assembly (the nation's highest legal body), through Bill No. 201310540 in 2013. The Assembly made the renewal and issuing of new fishing licences for trawlers conditional on legal and scientific reform so as to reduce the environmental and social impacts of this fishery activity (both semi-industrial and artisanal).

The Assembly made the renewal and issuing of new fishing licences for trawlers conditional on legal and scientific reform...

At the start of 2015, the Government of the Republic of Costa Rica issued the "Directive for generating a national policy for the sustainable exploitation of shrimp, to generate employment, and to combat poverty", thanks to the outcomes of the first stage in the dialogue process towards managing the shrimp trawl fishery (artisanal and semi-industrial). The Directive envisaged the creation of a body where the technical and scientific options for mitigating significantly the impacts of trawling could be discussed, as ordered by the Constitutional Assembly.

It was in this way that the Research Group for the sustainable exploitation of shrimp was initiated, with representatives of the University of Costa Rica (through the CIMAR), the Costa Rica Institute for Fisheries and Aquaculture (INCOPESCA) and other participant institutions being incorporated into it, along with representatives from the fisheries sector on the Pacific and Caribbean (from the Barra del Colorado area) coasts.

Without the contribution of traditional knowledge, it would not have been possible to undertake such a detailed analysis of the different areas and of the fishery resources of the Costa Rican Pacific and Caribbean (Barra del Colorado area) coasts. This knowledge was not only applied to fill the gaps where scientific data was lacking, but also, from the outset, it was taken into account in the work of the Research Group with the same weighting as scientific knowledge. In this sense, the willingness of the participants to engage in a dialogue facilitated both kinds of knowledge to be incorporated.

The methodological tool that enabled traditional knowledge and scientific knowledge to be incorporated (and actually proved to be the main source of information) was participative mapping. This tool was successful because it provides visual representation (therefore accessible to anyone who cannot read or write). Also, participants were quite familiar with it, which enabled everyone to apply their knowledge directly.

Thanks to participative mapping, the following aspects could be identified: areas of interaction between fleets (areas where shrimp is exploited by each fleet and of latent conflicts); climatic conditions (that give rise to natural fishery closures); determination of the species that live in these areas (commercial and non-commercial), species and critical habitats in need of conserving and/or further research (information provided by academia); types of seabed; varieties of shrimp, their depth zones, and the environmental implications of their capture.

Power balance

What is more, the use of traditional knowledge has brought about—albeit not in a premeditated way—a balancing of the power relations between scientists and fishers. Generally, it is considered that scientists are the only ones possessing knowledge and thus—wilfully or unwittingly—the debate is biased by the information or vision that they have; but thanks to the contribution made by the people of the sea, we have been able to equalize the power balance between the protagonists. In addition, both scientists and fishers have taken one another's views into account—

conservation and exploitation, respectively—to achieve a balance.

Since it has not been the practice to take fishers' knowledge into consideration when binding decisions are made at the national level (according to those interviewed), the fishers' representatives were asked how they felt about sharing their traditional knowledge with the Research Group. The reply was unanimous, mainly for two reasons: (a) because historically no one had taken their views into account in making the decisions that had affected them directly, but now this was happening; and (b) because a space had been opened up for scientists to listen to them.

However, it is necessary that traditional knowledge is transmitted verbally and it can vary according to the expertise of each person; above all, it must be systematized and verified. During the sessions of the Research Group, it was possible to cross-check the contributions made by the artisanal and semi-industrial trawler sectors. "Because each sector was implicated in the contributions presented, it is possible to confirm the validity of the information provided by each sector" said Molina.

Regarding the degree of consistency between traditional and scientific knowledge, both types of knowledge have a wide margin of coincidence (although not total), judging by what representatives of both the sectors implicated and the team facilitator told us. This confirms the validity and relevance of the knowledge of the people of the sea.

Scientific knowledge was provided thanks to the participation of academia, represented by two officials from the Centre for Marine and Limnology Research (CIMAR) of Costa Rica University. Academia played a double role in this context: (a) as participants, because they complemented the information provided by the fishers, and for the inputs that they brought into the discussion (regarding shrimp and other species that inhabit the zones exploited by the two fleets), which significantly enriched the discussion; and (b) as a kind of "arbiter" through its impartiality, such as when the artisanal and semi-industrial trawling sectors could not reach agreement on how the zoning of their activities could be established, they requested the academics to provide criteria and they came up with an option that benefited exploitation as well as resource conservation. (It must be underscored that academic participation in this process of fisheries management does not imply that this endorses the process that is being undertaken. Its function is to incorporate the best scientific information to achieve the best decisionmaking possible).

Below, we provide a proposal on zoning presented to a representative of academia, with the objective of defining an isobath (depth gradient on the map) to protect gravid female sharks. "Only artisanal fisheries can fish from 0-40 m depth and up to the Eastern end of Caño Island, and this should be a priority research area (to define which kind of fleets and fisheries can be undertaken)", said Borrás

In addition, the role of the Research Group is not only relevant because it facilitated the incorporation of traditional and scientific knowledge, but also because it facilitated the interaction of scientists and fishers. Both scientists and fishing-sector representatives felt that there was a good interaction, a positive assessment that was due to a complex and wide process of work undertaken in its entirety by the all

LORNA MARCHENA / INCOPESCA

Without the contribution of traditional knowledge, it would not have been possible to undertake such a detailed analysis of the different areas and of the fishery resources

the parties. And despite the differences between, and within, the sectors, the participants were open to dialogue and to achieving consensus in order to generate sustainable exploitation of shrimp resources.

The incorporation of traditional knowledge also responds to a "democratic ideal" on knowledge and the management of natural resources, as it incorporates different uses and perspectives on a public resource. Historically, the fisheries sector has been marginalized at the political level and in the taking of decisions. But through the application of their knowledge in the Research Group, fishery-sector representatives were empowered in a context where the contributions provided by them were taken into account in decisionmaking at the national level.

Without the contributions provided by traditional knowledge, it would not have been possible to achieve the level of detail about marine resources in the different zones mapped. Neither would it have been possible to achieve consensus on the criteria applied for using the resources of each area.

Participative mapping was a tool that facilitated exchange of knowledge; however, there are other kinds of technical methodologies that could be used to achieve this. But more important than the technique is what is conveyed by it; those interviewed in this investigation highlighted the following points with regards to the development of a methodological proposal for this: "definition of a clear goal and a methodology to break down this fear (between scientists and fishers)", said Wehrtmann; "should be visual, in a form that allows the contributions to be understood immediately, and to allow those who don't know how to read and/or write to understand what is going on" said Solis Aguilar and Muñoz; "should be interactive in three ways: (a) not to listen for four hours to the same person talking, while we are seated listening", said Chacón (b) the tool should enable participants to move about, to make these lengthy sessions more productive (especially for fishers who are not used to sitting for long in only one place); and (c) should enable participants to develop in-depth discussions, and not just reply to a particular interviewer.

The work of the Research Group marks a milestone in the way fisheries resources are managed in Costa Rica. However, it involved a lengthy process of agreeing and disagreeing (with a high level of conflict), where trust and dialogue became necessary vehicles "to manage the human activities that depend on these resources, because the resources manage themselves alone." (Molina, personal communication, 2016).

Through the management process, relationships have improved between some representatives of the artisanal sector and some representatives of the semi-industrial trawl sector (which has a long history of disputes over the use of different resources). Both sides recognize that they both must eat (through their fishery activities), but they must also carry out their activities in an environmentally sustainable way. During the process of participative mapping, both sectors were able to define their criteria with respect to the different zones where shrimp and the other species found are exploited within a particular area (there exists a great deal of similarity between the knowledge contributed by the representatives of the artisanal and semi-industrial sectors, according to their respective areas of expertise). This contributed to the resolution of conflicts between the parties.

In order for traditional knowledge to be incorporated into decision-making processes at the policy level, it must first of all be systematized and verified. In this sense, the work of the Research Group, which is part of the National Dialogue Round Table geared towards sustainable shrimp exploitation, has been successful.

For more

coopesolidar.org/
CoopeSoliDar

Linking Up

A workshop on enhancing the capacities of women fishworkers in India for the implementation of the SSF Guidelines led to clear and positive outcomes

Close to 60 women fishworkers from nine coastal states of India met over three days in November 2016 in Chennai, India, to learn about the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) and how it was relevant in their contexts, to understand how existing laws, schemes and provisions are being and can be used, and to develop a holistic framework to life and livelihood in the small-scale fisheries, with a critique on the existing forms of fisheries development.

This national workshop on "Enhancing capacities of women fishworkers in India for the implementation of the SSF Guidelines" was planned as a follow-up to another workshop held in 2010, titled "Enhancing Women's Roles in Fisheries in India", organized by the International Collective in Support of Fishworkers (ICSF) Trust, which discussed and analyzed the role of women in fisheries, and reflected on issues facing women in fishing communities in India. At the 2010 workshop, ICSF, along with representatives of fishworker organizations and civil society representatives, adopted the Global "Shared Gender Agenda for Sustaining Life and Livelihoods in Fishing Communities" (http://wifworkshop.icsf.net/en/page/855-reports.html). The action plans highlighted in the Shared Gender Agenda were further used for including the gender equality and equity sections of the SSF Guidelines adopted by the Food and Agriculture Organization of the United Nations (FAO) in June 2014.

The Chennai workshop was, therefore, proposed as a follow-up to the 2010 workshop, keeping in mind the opportunities presented with the Tenure and SSF Guidelines, changes in the last half decade for women in fisheries in India, the challenges they face in the current context of development and their attempts to overcome these. The workshop also took into account the gendered components of the subregional, regional and national-level consultations/meetings that have been held on the SSF Guidelines in the past couple of years.

The Chennai workshop was, therefore, proposed as a follow-up to the 2010 workshop, keeping in mind the opportunities presented with the Tenure and SSF Guidelines...

Several months prior to the workshop, participants were sent questionnaires regarding the situation of women in small-scale fisheries in their areas, their organization profiles, successful campaigns undertaken as well as their expectations of the workshop. The responses received were collated and informed the workshop content. Material was also collected from state governments, particularly the Fisheries Departments, regarding the schemes they had for small-scale fishworkers, focusing on different aspects of the SSF Guidelines (housing, education, social protection, social security aspects, fish-processing industries, work-in-fishing sector, human rights, discrimination issues, and rural and urban livelihood aspects). Information on legal frameworks that are relevant to

*This article is by **Mariette Correa** (mariettec@gmail.com), Senior Programme Co-ordinator, ICSF*

women in SSF in India, especially on social issues and within a human-rights-based approach was collected. All this material was compiled, translated into the various Indian languages used in the coastal states of India and distributed prior to the workshop.

These discussions drew on lessons and learnings from actions that women have initiated in their areas.

Participants at the workshop were given an overview of the situation of women in fisheries in India. Using national and state-level statistics and development indicators, it was clear that the situation in fishing communities was poor in terms of sex ratio as well access to health, education and housing. The myth that falls in fish catch were responsible for decreasing access of women to fish was dispelled, with national statistics showing how fish catches were actually increasing over the years in marine and inland fisheries and especially in aquaculture. The lack of access of women to fish was mainly the result of increasing exports, most often by large fish merchants from the same communities as the small-scale women vendors. Putting in perspective the weakening situation of women in small-scale fisheries, links were made to other marginalized and vulnerable sections of society, all of whom were facing threats to their lives and livelihoods with the heightening pressure on land and water resources through government policies favouring the powerful, the increasing privatization of resources, and the adverse affects of global warming and climate change.

Much of the workshop was devoted to discussing and highlighting the social dimensions of small-scale fisheries, with participants grouping together to discuss issues of health, education, violence, housing, water and sanitation, social security and human rights as well as access to resources, markets. These discussions drew on lessons and learnings from actions that women have initiated in their areas. The groups shared their experiences, with facilitators for each session then supplementing the inputs with legal provisions and schemes on those specific topics.

Deploring the lack of facilities in fish markets—like drainage systems, storage systems, infrastructure, drinking water, electrical power and toilets, lack of regulation in the markets, increasing distances to travel to access fish, as well as direct or subtle displacement from markets spaces—participants suggested ways to address these problems. The suggestions included price fixation, co-management, establishment of retail outlets, education of women fishworkers, strengthening of market linkages, lobbying for policy changes, participating actively in the formulation of city development plans, and demanding that customary rights be upheld. Various Acts and schemes could be used to address these issues such as The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014, which give street vendors the right against eviction; the Unorganized Workers Social Security Act, 2008, which protected rights of unorganized workers; schemes under NABARD, NFDB, NCDC and the Department of Animal Husbandry, Dairying and Fisheries (DADF), Ministry of Agriculture, which could be used for market development, including development of retail fish markets, assistance to artisanal fishermen, insulated box for ice holding, ice plant or cold storage, and fish outlets.

A focus on rights

At the workshop, the history of struggles to achieve human rights, the importance of cusomary rights in the Indian context, and the rights granted by the Indian constitution, were contextualized in terms of the SSF Guidelines. Gaps between the rights granted by the Indian constitution and what the SSF Guidelines proposed helped

participants identify areas in which further lobbying was necessary. Rights and opportunities presented by various Acts that could protect women and improve their situation included the Protection of Human Rights Act (1993), the National Food Security Act (2013), The Constitution (Seventy-Third Amendment) Act, 1992, and the Right to Information Act (2005).

Access to resources, the workshop participants noted, has been reducing for multiple reasons, with traditional lands and fishing rights taken away from communities, land diverted for industrial and other 'development' projects, urbanization processes divesting people of their traditional spaces for fisheries-related activities, establishment of National Parks and Sanctuaries limiting traditional rights of communities to resources, bureaucratic hurdles to get rights to these areas, mechanization of fishing, and lack of spaces for women in fisheries management discussions.

Demands to improve access to fish were made by various groups. These included giving women rights as first vendors, fishworkers determining the price for fish, banning foreign direct investment (FDI) in retail marketing and fish imports, levying higher taxes on large fishing vessels, the proceeds of which could be used for welfare schemes for, and implemented by, fisherwomen, and enacting a separate law where fishers have customary rights over fishing resources and coastal lands.

The 2002 and 2006 amendments to the Wildlife (Protection) Act, 1972, protected the basic occupational rights and livelihoods of communities traditionally living in National Parks and Sanctuaries, with opportunities for participation in discussions prior to notification of the areas as protected. The Biological Diversity Act of 2002, called for the conservation of resources and the equitable sharing of benefits arising out of the utilization of these resources. Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, recognize the traditional rights to forest produce of tribals and forest dwellers who have been living there for generations.

Misuse of the Coastal Regulation Zone (CRZ) Notification, 2011, shrinking of spaces for fishing communities in development plans and lack of housing pattas (title deeds) given to coastal communities, were highlighted in terms of access to housing. Government schemes related to housing and funds are available under the National Housing Development Board, and states also have schemes but access often depended on political patronage, it was pointed out.

The various health problems faced by women vendors and those working in fish-processing units were largely due to the abysmal working conditions—lack of access to water and toilets, long hours in the sun, and poor access to healthcare facilities. Apart from suggestions to address these problems, several central and state schemes were discussed at the workshop, related to solid and biowaste management, health-insurance schemes, public-health schemes, and health-promotion schemes.

Violence against women, as participants at the workshop pointed out, starts from the womb with sex-selective abortion, and continues

ICSF

Participants at the workshop. The groups shared their experiences, with facilitators for each session then supplementing the inputs with legal provisions and schemes on those topics

against the girl-child into adulthood, with new forms of dowry and heightened consumerism correlated to expenses on larger boats and fishing gear, making the girl-child a burden on families. Increasing violence and lack of safety in the workplace and discrimination against women in society and caste *panchayat*s were common across states.

Increasing violence and lack of safety in the workplace and discrimination against women in society and caste panchayats were common across states.

Opportunities to address these issues, apart from the campaigns launched by NGOs, presented themselves in the form of laws and mechanisms that protected women. These included the Protection of Women from Domestic Violence Act (2005), the Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013, the Criminal Law (Amendment) Act, which has increased penalties for sexual violence, and the Protection of Children from Sexual Offences Act (2012). Schemes to provide women survivors of violence and women in difficult circumstances food, shelter, clothing, medical care, legal aid and short-stay facilities were discussed.

The Right of Children to Free and Compulsory Education Act, 2009 (RTE Act), was poorly implemented across states, and with increased mechanization of fisheries, young boys were in demand as labour, resulting in drop-out before completion of schooling. Problems with government schools, including lack of infrastructure, constant transfer of teachers, and the lack of affordability of quality private education, resulted in poor educational levels among the fishing communities. Suggestions for improvement included a ban on certain types of fishing craft and gear; free, compulsory and quality education upto the age of 18 years for all children; amendments made to the RTE Act and ensuring its implementation; stopping further privatization of education; and ensuring severe punishment to teachers involved in corporal punishment or sexual abuse.

It was also recommended that *panchayat*s form—as they are supposed to—standing committees for education and allocate them funds appropriately. School management committees ought to function and professional guidance given to youth from fishing communities for vocations and employment. Quota systems whould also be made available for these youth in fisheries-related jobs. According to RTE Act, 25 per cent of seats have to be reserved for the poor and other categories, no donations are allowed, no child can be held back until completion of elementary education, and special training needs to be given to school dropouts. Schemes to promote education among poor and marginalized sections included *Sarva Shiksha Abhiyan* (education for all movement) and its components, the mid-day meal scheme, the more recent *Swacch Vidyalaya* (clean schools) Initiative scheme from 2014 which provides toilets to all the schools, reducing dropouts, especially of girl children. Apart from this, most states have schemes under the various departments (fisheries, SC/ST department, etc) for scholarships, loans, and cash awards that can be accessed by fishing communities.

Relief schemes

Social-protection schemes were available in most states for housing, water and sanitation, roads, electricity and saving-cum-relief, while very few states had schemes for life insurance and natural disasters, the workshop was told. Most states had group accident insurance schemes, but only Kerala had rehabilitation schemes for sea erosion, eviction for port development, old-age pension for allied workers and insurance for allied workers. Overall, credit support system and debt relief were very weak and only three states

had schemes for skill development training, with Odisha spending large sums on non-conventional sources of energy.

Recommendations were made for schemes that could be taken up like natural disaster compensation/sea erosion/loss of coastal space due to changes in coastal landforms, payment to displaced fishers to find alternative employment due to development, compensation against loss of livelihood against oil spill and environmental hazards like pollution. Specifically, in the post-harvest sector, it was suggested that identity cards be given to bona fide fish vendors; potable water at fish-landing centres, harbours and fish markets; better sanitation facilities; schemes to have clean non-conventional energy sources; mobile banking facility at fish markets and at fish-landing centres could be developed; and, as in Tamil Nadu, other states could ask for legislative or policy support for fishers involved in post harvest activities. NFDB's climate change fund could support schemes for protection from extreme weather events at fish markets. Due to seasonal fluctuations in the market and fishing bans, allowances could be given to women vendors, alongside support schemes related to occupational hazards, as well as support schemes for traditional fish processors, women headload workers, bicycle fish vendors, petty sellers and those involved in ancillary activities like basket weaving. Additionally, nutritional support schemes for the children are needed, as well as assistance to families of fishers arrested (as in Tamil Nadu); coverage of insurance to houses due to sea erosion or cyclones; better scholarships for studying at maritime universities; and support schemes like pension for widows.

The groups at the workshop discussed their understanding of what constituted small-scale fisheries. Emerging from the discussions were the six criteria that could be used to determine small-scale fisheries, namely area of fishing, distance from shore, depth, gear, craft and propulsion. It was clear that definitions would have to be area specific using a combination of criteria, and ideally codified, thus providing a list of contextual definitions of SSF at the national level.

Putting into perspective the various social issues raised by participants, links were made to the changes in fisheries practices and what was happening in the communities. Destruction of the fisheries and resources went hand in hand with destruction of social norms and values, abdicating all responsibility for future generations, it was pointed out. The relevance of what was happening in the fisheries to the changes in the social fabric were emphasized and participants were urged to reflect on what they wanted for the future and demand changes accordingly.

Presentations were made by participants with a history of organizing various types of organizations, who talked about how they dealt with issues faced by women in small-scale fisheries, as well as the challenges they faced within their structures, within their communities and at the political level. It was clear that patriarchal norms within the communities, the caste *panchayats*, fishworker organizations

ICSF

Field visits to various fish markets in Chennai helped participants observe situations that were different from their states, raising issues that they could discuss with each other

ICSF

Participants decided on their action plans for the future, which included surveying of numbers of women in small-scale fisheries in different roles. A clear outcome of the workshop was the need expressed by several groups for a national platform for women in small-scale fisheries

and the political system prevented them from voicing their concerns, leave alone actively participating in the fisheries management and in areas that affected their lives and livelihood. Despite this, successes had been achieved through protracted struggles, in cases where organizations were strong and united and had clearly defined perspectives and priorities. The importance of groups coming together, ideally linking to broader movements and trade unions, was clearly articulated.

Participants from several states decided on their action plans for the future, which included surveying and mapping their markets and numbers of women in small-scale fisheries in different roles; taking up social issues that they had learnt from the workshop through identification of schemes in their states and demanding their implementation, strengthening the membership base of their associations or organizations and disseminating information on laws and schemes relevant to them. A clear outcome of the workshop was the need expressed by several groups for a national platform for women in small-scale fisheries.

The diversity of languages posed a challenge at the workshop. That was overcome largely through ensuring that each group had a person familiar with English and the loal state language. Field visits to various fish markets in Chennai helped participants observe situations that were different from their states, raising issues that they could discuss with each other. Documentary films screened were eye-openers to the majority of the participants, most of whom were unfamiliar with issues in the National Parks and Sanctuaries. One was on the mangrove forests of Sunderbans in South 24 Parganas in West Bengal and the struggles of the local canoe fisherwomen; another was on women seaweed collectors in the Gulf of Mannar, Tamil Nadu.

For more

sites.google.com/view/trainingwomenicsf/home

Website of the Training Programme "Enhancing Capacities of Women Fishworkers in India for The Implementation of The SSF Guidelines"

Mainstreaming Biodiversity

Several important decisions relating to biodiversity were taken at the UN Biodiversity Convention, attended by over 7,000 participants from 170 countries and over 400 organizations

The 13th meeting of the Conference of the Parties (COP13) to the Convention on Biological Diversity (CBD), one of the most important global tools for the conservation of the biological and cultural resources of the planet, met in Cancún, Mexico, during two weeks from 2 to 17 December 2016 to discuss topics with its current 196 member countries. The UN Biodiversity Conference was attended by over 7,000 participants, including some 4,000 delegates from 170 countries and over 400 organizations.

COP13 discussed biodiversity conservation as usual, but for the first time the environment ministries, along with institutions of agriculture, fisheries and tourism, joined in the discussions of a political panel, in the search for balance towards the sustainable use of resources in a unique policy session on 2 and 3 December, prior to the start of the meeting.

While the ministers of environment, agriculture and tourism gathered for the first time to consider subjects of the agreement like a positive and propositional action, civil society organizations (CSOs) conducted side events and sessions to discuss important subjects on the better management of the biological (including marine and continental) and cultural resources, some within the framework of the Aichi Biodiversity Targets 11 and 12. COP13 also touched on some critical issues related to the implementation of the Nagoya Protocol, one of the protocols that form part of the CBD process.

The President of Mexico, Enrique Peña Nieto, announced the pledge to establish three new marine Biosphere Reserves that will conserve important habitats in both the Pacific and the Caribbean, including large parts of the Meso-American Barrier Reef and deep-water zones in the Gulf of Mexico.

The pledge will increase marine protection in Mexico to 23 per cent, more than double the 10 per cent target. He acknowledge the good nature of consultation and agreement among all sectors on the need for conservation, even though later the indigenous communities and other Mexican civil society groups questioned the consultation, pointing to the absence of prior informed consent of local and indigenous people living in those areas for the creation of the reserve.

The UN Biodiversity Conference was attended by over 7,000 participants, including some 4,000 delegates from 170 countries and over 400 organizations.

"We must protect and conserve biodiversity because it contributes to the survival and development of communities," said the Mexican President, Enrique Peña Nieto.

Aichi Targets

The debate on the Aichi Targets began on the first day of the meeting in Group 2. The big non-governmental environment organizations (including WWF, the Royal Society for the Protection of Birds, Nature Conservancy and Conservation International, among others) presented a report that said "unless countries significantly increase their ambition through more resources and improved policies for biodiversity protection, the Aichi Targets will

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not be met, and the Planet will be increasingly undermining the long-term wellbeing of humanity".

On the other hand, indigenous peoples and local communities, supported by other small-scale organizations, stressed the strong need for community governance models based on traditional knowledge and recognition of territorial rights in Ecologically or Biologically Significant Marine Areas (EBSAS), which are also needed in efforts to reach the Aichi Targets by governments.

An interesting result of a study presented by the Big International NGOs (BINGOS), which surely would warrant further discussion, is that, in general, the higher-income countries proposed weaker goals compared to the low-income countries, but showed more progress in their conservation achievement.

A number of parallel events at COP13 tried to draw the attention of governments to subjects of interest for civil society. Among them were:

The Night of the Oceans

The governments and CSOs of France, Japan, Germany, Mexico and the Convention Secretariat organized this event. Its objective was to draw attention to promoting the achievement of the Aichi Targets and the Sustainable Development Goals prioritizing Objective 14 of the Sustainable Development Goals (SDG) concerning the oceans. The International Collective in Support of Fishworkers (ICSF) had a space to express recognition of the importance of the contribution of small-scale fisheries, developed by local communities and indigenous peoples, to the food security of the planet, and advocated a vision oriented not only to the preservation of the ocean but to its sustainable use based on respect for human rights.

The event presented how important actions of indigenous peoples' struggles are being developed in relation to hydrobiological resources in Guatemala, Nicaragua, Costa Rica and Panama.

ICSF also mentioned as important, the recognition of the value and integration of traditional knowledge in the management of marine and coastal resources as well as other hydro-ecological ecosystems and the need to strengthen community and indigenous peoples' governance models and capacities for their management. The ICSF presentation also invoked the spirit of Chandrika Sharma, long-time Executive Secretary of ICSF, who fought intensively at CBD meetings to highlight the importance of involving the social sectors interested in marine conservation.

Ancestral marine and inland water territories: Customary use of marine and inland waters biodiversity in Central America

ICSF, CoopeSoliDar RL, the TICCA Consortium and the National Indigenous Bureau of Costa Rica, organized this parallel event. Jesús Amadeo Martinez, representative of the Central American Indigenous Council (CICA) and Donald Rojas of the National Indigenous Bureau of Costa Rica opened the event.

Both mentioned the need for a discussion on marine and inland water territories that transcended the biological issue to address the importance of culture in the discussions towards the achievement of the Aichi Targets. Indigenous peoples, despite having been displaced in many cases from their territories, continue to maintain ancestral and current contact with the marine biodiversity and continental waters, and these areas remain of fundamental importance for life and conservation. The event presented how important actions of indigenous peoples' struggles are being developed in relation to hydrobiological resources in Guatemala, Nicaragua, Costa Rica and Panama.

Lastly, Alvaro Pop, Chair of the United Nations Permanent Forum on Indigenous Peoples, thanked the participants and mentioned the importance of advancing the discussion, as well as advocating for the implementation of the FAO

COOPESOLIDAR R.L.

Donald Rojas, President of the National Indigenous Bureau of Costa Rica, opens up the side event. Indigenous peoples, despite having been displaced in many cases from their territories, continue to maintain ancestral and current contact with the marine biodiversity

SSF Guidelines as ways to fulfill the objectives of sustainable development and the wellbeing of thousands of indigenous peoples throughout our planet.

Following up on the marine agenda of the meeting, a new set of EBSAs in the seas of East Asia, the Northwest Indian Ocean and the Northeast Indian Ocean were discussed in the framework of scientific methodologies, traditional knowledge and socioeconomic parameters dealing with human-rights issues and the concerns of local communities and indigenous peoples.

The application of marine spatial planning should be encouraged and training initiatives for it organized, it was suggested, and requests were made for further technical work by the CBD Secretariat as well as further capacity-building efforts under the Sustainable Ocean Initiative.

The issues of mitigating the impacts of marine debris on marine and coastal biodiversity and habitats were considered and suggestions approved by the parties, who also called for actions to enhance understanding of the scale of the impacts, and the need to improve waste management and recycling, and curb production and consumption of plastics. Parties also requested the CBD Secretariat to continue compiling and disseminating information on scientific research related to the adverse impacts of underwater noise on marine and coastal biodiversity.

Finally, it was suggested that the FAO SSF Guidelines be included in item 10, drawing the attention of the Parties to the Convention to this important tool and, hopefully, promoting its implementation in the future.

It was pointed out that the Nagoya Protocol on Access and Benefit Sharing, which entered into force in 2014, has now seen Antigua and Barbuda and Argentina depositing their instruments of ratification to the Protocol during the meeting, thus bringing the total number of ratifying Parties to 93.

Decisions at COP13 were also taken on synthetic biology, invasive alien species, sustainable wildlife management and other topics under the Convention and its protocols. The decisions, in the form they were presented to the Parties for adoption, are available on the website of the Convention at www.cbd.int/cop2016.

For more

cbd.int/cop2016
Thirteenth Session of the Conference of Parties to the Convention on Biological Diversity (CBD)

cbd.int/conferences/2016/cop-13/documents
The Cancún Agreement

Following Fish

Since the late 1980s, thousands of men from the coastal villages of Andhra Pradesh, India, have travelled to Gujarat to work as skippers and crew on board mechanized fishing boats

On clear nights, when the fish are aplenty in the nets and he can take a break from steering, S Apparao thinks of his little house in Srikakulam on the northern coast of the south Indian state of Andhra Pradesh. Two lamps, one in the cabin and another on the mast of his 15-m boat, Parshuram, light up a tiny circle of the sea as it rolls under him. The first time he'd been out to sea as a boy, fishing near Visakhapatnam in his home state, this gentle motion that now rocks him to sleep had nearly thrown him overboard; he'd been sick for several hours afterwards.

That day, he'd set out before dawn, and the sun had risen ahead of the boat. These days, he looks toward the land for the sunrise; on the small radio in the cabin, the voices of other fishermen in Marathi or Malayalam alert him to where he is on the Arabian Sea.

Today, Gujarat's boats account for a quarter of the country's marine fish catch and over 8,000 registered boats pass through the state's busiest harbour, Veraval, alone.

Since the late 1980s—when there were too many fishermen and too few fish in the water—thousands of men from Andhra Pradesh's coastal districts of Srikakulam, Vizianagaram and Visakhapatnam, have travelled to the busy fishing harbours of Gujarat, working as *tandels* (skippers) and *khalasis* (crewmen) on mechanized fishing boats owned by local *kharwa* merchants. Only a fraction of Gujaratis eat fish but in the 1960s the state's enterprising sea-faring castes had spotted the opportunity early and shifted from traditional maritime trade—which was losing out to modern shipping—and moved into fishing. Today, Gujarat's boats account for a quarter of the country's marine fish catch and over 8,000 registered boats pass through the state's busiest harbour, Veraval, alone.

Over the years, deep-sea fishermen from Andhra Pradesh have replaced those from Valsad and Kerala as workers on the boats. Though there is no official count, anecdotal estimates put the number of migrants at 25,000 every season. They earn up to three times as much in Gujarat as they do fishing in small traditional canoes back home. A *tandel* like Apparao, with over 10 years of experience, makes Rs 21,000 every month and a *khalasi* is paid about half that sum (one US$ was equal to Rs. 68 in December 2016).

The highlight, they said, is the steady salary, paid in a lumpsum at the start of the fishing season. "Fishing is a gamble," Apparao told me in July, standing outside his home in Srikurmam Machilesam village. "You don't know if you'll catch anything on a given day." Apparao himself only studied till the fifth grade but he said that most of the migrants over 40 had never gone to school. After nearly a decade in Gujarat, Apparao was able to rebuild his mud house with brick and cement, and aims to complete another floor for his son by next year.

Punishing work

In Gujarat, the money is steady but the work is punishing: an average fishing trip is nearly 20 days long and the men—nine to a cabin the length of a small car—have no steady work and rest hours. The hunt for a big catch takes them as far south as Karnataka and Kerala, which doesn't win them any friends among local fishermen.

*This article is by **Manas Roshan** (manas.roshan@gmail.com), independent researcher*

"We're in trouble if we ever run out of fuel in these areas," said M Sandiyya, a *khalasi* also from Machilesam. "The local fishermen don't allow us to dock our boats on shore and sometimes they even confiscate our catch."

Back at the Veraval harbour, the boats dock for just a day or two to restock fuel, ice and rations. During the eight months they spend in Gujarat, the men wake up every morning on a boat.

Veraval lies three hours south of Porbandar on Gujarat's 1,600-km-long coastline. On streets that smell of fish and damp wood, almost everybody is employed in the fishing industry, but the town is better known on Gujarat's cultural map for a few shabby hotels that house pilgrims to the Somnath temple 7 km away. Once every week, the Dwarka Express travels 52 hours and nearly 3,000 km from Puri—mostly ferrying migrant workers from Odisha and Andhra Pradesh to industrial centres in Gujarat—stopping at the Veraval railway station to drop off fishermen like Apparao. But in earlier times the port saw visitors from other places than Srikakulam. It's now forgotten history to most of its residents, but for a few old Muslim sailors, that its merchants traded in textiles, dates and—even earlier—in horses, from West Asia and the Arabian Peninsula.

A few old merchant buildings crumbling in the sea air—one houses the Customs Department—hint at this history. But the Gujarati business classes are not the nostalgic kind; there's little time for anything but work and the *aartis* at the famous temple next door. Most conversations begin with the salutation "Jai Somnath", even among the Andhra fishermen when they're in Veraval. The closest movie theatre is nearly two hours away in Junagadh. (Srikakulam has at least seven theatres, all packed through the day.) In most cabins on the boats, the tiny 10-inch television-cum-DVD-player is equipment as essential to the men as Garmin GPS systems or fish-finders.

Besides being the country's biggest fishing harbour, the town has a thriving boat-manufacturing industry, a large number of ice factories and over 100 fish-processing units, most of which export to Europe and China. One such

NIKHIL ROSHAN

Workers pack fish into crates to be unloaded from the fishing craft as it returns to the Veraval harbour, Gujarat, India. The boats dock for just a day or two to restock fuel, ice and rations. During the eight months they spend in Gujarat, the men wake up every morning on a boat

unit is managed by Kenny Thomas, whose company Jinny Marine is one of the larger exporters approved by the European Union (EU). Inside its sterilized factory, over 300 local women clean, sort and pack squid and shrimp into neat, impeccably labelled containers headed for supermarkets in Spain and Portugal. "Women are preferred because they can do this sort of work faster and more efficiently," said Thomas. Nimble hands, he explained with a shrug, for customers that wouldn't want any grazed calamari on their plates.

Thomas, though, is one of the responsible employers in a more regulated arm of the industry. Kenny's father, K M Thomas, arrived in Bharuch as a fisheries officer in 1963 and was instrumental in introducing mechanized fishing in the area. He later became a fisherman and went into the export business himself. Jinny Marine has fair working conditions and even hostels for its migrant workers; labour inspectors and EU norms ensure greater labour protection in the processing units than on the boats.

...over 300 local women clean, sort and pack squid and shrimp into neat, impeccably labelled containers headed for supermarkets in Spain and Portugal.

Srikakulam is a bustling coastal town nearly three hours northeast of Vishakhapatnam. There, I met Mylapalli Trinada Rao, who has tried to draw the government's attention to a darker side of the migrant's experience. Last year, Rao, a stocky, affable director of the state Fishermen Co-operative's Federation (APCOF), wrote to Prime Minister with a list of over 60 names, of fishermen from the district who had drowned in Gujarat, Goa and Odisha since 1990. The number may not seem alarming in a country where industrial accidents and farmer suicides are all too common, but Rao pointed out that not one body has been returned to the families, who have also not got the compensation promised by state laws. He didn't expect a reply from the Government but claimed that there's been no action from the Fisheries Departments of any state.

In the Srikakulam villages I visited, some of the men spoke a little Hindi and Gujarati but the women only Telugu, and they'd never talked to their husbands' employers in Veraval. Apparao remembered the time when one of his crewmen fell into the sea and was later found tangled in the nets. "It was too late when we brought him up. We packed the body with ice in the fish hold and turned back towards Veraval," he said. But in that instance, the *seth* sent the body back to the village with another *khalasi*.

Apparao's *seth*, Tulsibhai Gohel, is president of Veraval's boat owners association, the Kharva Sanyukta Machhimar Boat Association. It's the only grouping resembling a union but designed to service capital rather than labour. Gohel is a lean, light-eyed and respected president who, like several investors in the trade, owns about half a dozen boats. Apparao said his *seth* is a good man, one of the few who gives his crew a bonus every year and doesn't grudge when they return with a meagre catch.

When I met him in Veraval in July, Gohel was finishing with a meeting with local officials to launch a *Swachh Bharat* (clean India) drive at the boat jetty. Dressed in a formal shirt and derby leather shoes, he was driven in his Toyota Innova to a modest association office, where, seated on a faded cushion on the floor, he oversaw the settlement of a few minor disputes. There was no mention of the workers in the matters that came up for discussion. Later, I asked Gohel how he dealt with cases of men drowning at sea. "There are very few because we don't let the men carry alcohol on the boats," he assured me. "All the accidents happen at the harbour when the boats are back. The men sometimes drink at night and fall into the water between the parked boats."

Apparao agrees. (He stopped drinking a few years ago while on vacation in Srikakulam when he realized he was draining his savings.)

NIKHIL ROSHAN

Migrant and local fishers always work separately to avoid fights. Labour inspectors and EU norms ensure greater labour protection in the processing units than on the boats

But others in his village denied that the deaths were caused by drinking alone. "How many deaths can you have at the harbour?" asked Sandiyya. Marine fishing laws require all boats to be equipped with lifejackets, buoys and even portable toilets. Few boats in Veraval have lifejackets and for toilets the men sit precariously on the narrow bulwark, hold on to the rigging and point their backsides outward as the sea pitches the boat from side to side.

In Veraval, the sun-bleached marine police station sits on a deserted beach outside the town. Inside, a Constable, thumbed through a large register to find me the information on deaths at sea this year. There were two: a Bhagwan-bhai from a village in Valsad and Ramlu Badi of Dagalu in Srikakulam, as they appeared in the careless handwriting of a station officer. There was no other information; when I tried to find Dagalu in Srikakulam, I was told there's no such village.

One morning at the start of June, with the sun rising over Veraval *bundur*, the *Parashuram* set out on another long trip down the western coast, packed with over 7 tonnes of ice and enough ration for Apparao and his crew. This was the last trip of the season. The radio crackled with greetings of "Jai Somnath" between the other boats sailing out, and through his cabin window Apparao could see the giant temple on the edge of the coastline. They'd pass Mumbai in a day or two. The sea was a lot rougher because of the strong monsoon winds, and the men held on to the ropes. Normally, they could stand on their feet as the sea tossed the boat and still haul in the nets and sort the fish, but the men hadn't been home in eight months. No accidents on this last trip.

Apparao thought about the festivities in Machilesam the previous year. It had been his village's turn to host the *panchayat* for the feast of their guardian deity, Polamamba-mata. Most of the other tandels did nothing but eat and drink for the four months they were home. Not him; there were debts to settle and work that needed to be done on that first-floor bedroom. He felt the engine roaring under him as he turned the boat southward in the direction of the other boats. The screen of his fish-finder glowed with numbers and broad strokes of blue. Somewhere in there was that prize catch.

For more

icsf.net/en/occasional-papers/article/EN/160-a-study-of-migr.html?limitstart=0
A Study of Migrant Fishers from Andhra Pradesh in the Gujarat Marine Fishing Industry

Looking Ahead

Implementation of the FAO SSF Guidelines, through appropriate legislation, would go a long way to help shore up the livelihoods of the small-scale fisherfolk of Pakistan

The Committee on Fisheries (COFI) of the Food and Agriculture Organization of the United Nations (FAO), at its Thirty-first Session in June 2014, formally adopted the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines).

The International Fund for Agricultural Development (IFAD), a specialized agency of the United Nations, granted a project in December 2015 to a consortium comprising the World Forum of Fisher Peoples (WFFP), the World Forum of Fish Harvesters and Fish Workers (WFF), the International Collective in Support of Fishworkers (ICSF) and Centro Internazionale Crocevia (CIC) to promote awareness about the SSF Guidelines and to mobilize support for their implementation across countries of the Global South.

(The workshop) was the first in a series in Pakistan as part of the efforts to mobilize support for the implementation of the SSF Guidelines.

The National Workshop on Capacity-building for the Implementation of the SSF Guidelines, held in Karachi, was the first in a series in Pakistan as part of the efforts to mobilize support for the implementation of the SSF Guidelines.

The workshop was organized by the Pakistan Fisherfolk Forum in collaboration with WFFP at Hotel Regent Plaza, Karachi during 24-25 August 2016.

The participants of the national workshop included: women and men leaders of inland, marine and coastal fisheries; fishworkers and fishing communities from across the entire country; representatives of federal and provincial agencies, particularly those dealing with fisheries, environment, labour, trade and human development; representatives of civil society organizations (CSOs) and NGOs, scientific organizations, and the representatives of FAO, IFAD, ILO and others in Pakistan.

At the outset, the participants paid tribute to the late Tahira Ali Shah, the PFF's leader who lost her life in March 2015 during one of the major campaigns of PFF. Her struggle for the uplift of the marginalized fishing and peasant communities of Pakistan was acknowledged at the occasion.

Jamil Junejo, Manager, Programmes of the PFF, welcomed all the participants of the workshop. Muhammad Ali Shah, Chairperson, PFF and WFFP, gave a detailed and technical presentation on the SSF Guidelines. He said the major role of the guidelines was to move towards responsible fisheries. "Until and unless this objective is achieved, we cannot save the fisheries and protect the lives of the fisher people," he said. He also presented the history and salient features of the SSF Guidelines.

Human-rights laws

The opening session discussed implementation of the guiding principles of the SSF Guidelines, human-rights laws and the constitution of Pakistan. Mir Hasil Khan Bizanjo, the Federal Minister for Port and Shipping, was the key speaker. "Small-scale fishermen suffer from starvation while the mafia

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is depleting the marine resources badly," said the federal minister. He further added that the use of the destructive nets is a major threat to small-scale fishing and must be banned. Sindh and Baluchistan governments should take notice of it, he suggested.

The Minister for Livestock and Fisheries Sindh, Muhammad Ali Malkani, said that until and unless there is an effective endorsement of the SSF Guidelines from all stakeholders, implementation will be a challenge. He announced that the Sindh government would soon establish a Fisheries Advisory Council for which he seeks guidance of the fishing communities.

Haji Shafi Muhammad Jamote, member of the Sindh Assembly, said that the human and industrial waste in the canal waters and the sea was affecting the common citizens and marine resources. He said overfishing was a big issue and suggested that industrialists be discouraged from fishing and the small-scale bona fide fishermen be encouraged.

Nasar Hayat, Assistant Representative, Head of Progaramme, FAO Pakistan, said that every legislation is made for the benefit of the small-scale fishers and they should be made part of it. Under the SSF Guidelines, access to resources is the basis for poverty alleviation in the world and these Guidelines were made under such a programme. If people have sustainable access to resources, they will have food security and their poverty would also reduce. Pakistan was part of the process of the SSF Guidelines in a significant way during the consultation phase. Pakistan has a big role in the development of the SSF Guidelines and now it is the responsibility of the government to implement it in their legislation. He assured the technical assistance of FAO, if required at any level.

Aly Ercelan, senior researcher, said that national policy on food security is under the consideration of the federal government as well as in the provinces. The SSF Guidelines should be seriously taken into account. At the federal level, a draft of the policy is not enough. Natural resources should be used in a way that they are not wasted and the policy should follow the SSF Guidelines.

PANEL DISCUSSIONS

Social Development, Employment and Decent Work for Responsible/ Sustainable Fisheries

Caroline Bates, Officer-in-Charge, ILO, said oceans are resources for fish and sources of livelihood. In many countries, fishing is the only way of eking out a livelihood. So, decent working conditions for the fishing community are essential. She said that providing decent working conditions to the fishing community was part of ratification and implementation of the ILO conventions. However, Pakistan has not yet ratified the Work in Fishing Convention, 200 (No. 188).

Saeed Baloch, Secretary General, PFF, said under the Sustainable Development Goals 2030, ILO discusses improvement of working conditions of the workers. However, fishermen have not been considered. The social development of fishworkers, including basic amenities of living, has not been provided for. Female workers should get equal wages and must not face harassment. He said the sustainable fisheries policy in Pakistan

GUL HASSAN

The National Workshop on the SSF Guidelines was held in Karachi, Pakistan, as part of the efforts to mobilize support for the implementation of the SSF Guidelines

Box

- PFF has always played a major role in the abolition of illegal occupation of Rangers on the inland water bodies on the coastal belt of Sindh. However, this still needs to be implemented in its true sense for which PFF has been consistently advocating. As the feudal lords and various other influential people exploit the fishing in inland waters, there is a need to gain support from legislation to make the inland waters immune from private contractors who exploit the poor fishermen.
- Fishing communities remain aloof from developmental work. Several water bodies in Punjab are auctioned off.
- Providing basic facilities of life to fishermen has been a long-standing issue. No benefit has been provided by the government to the poor fishermen. Rights-based social movements, NGOs and the work of civil society for the uplift of poor fishermen remain neglected by the state authorities.
- The sea belongs to the small-scale poor fishermen who deserve a good standard of life. In order to meet European Union (EU) requirements, whole fisheries were revamped without considering the adverse impacts on small-scale fisher peoples.
- Around 1.5 mn people live along the coastal areas of Pakistan and while they contribute to the nation's gross domestic product, they suffer the most. Marine resources are at the bottom of the federal development agenda.

should also focus on these matters in the light of the SSF Guidelines.

Khawer Parvez Awan, Director Inland Fisheries, Sindh, said until all stakeholders, including fishermen, boatowners and the government, work together, decent work would not become practical. He said the Sindh government fully supports the SSF Guidelines.

Zulfiqar Shah, Co-director, Pakistan Institute of Labour Education and Research, said that work of fishermen is no more a decent work in the conditions they are currently working in. After the 18th amendment of the Constitution, labour issues in Pakistan are to be sorted out by the labour department. He said that PFF model is effective. He urged FAO and ILO to push the Pakistan government towards the implementation of the SSF Guidelines.

Tenure rights to land and water bodies, livelihoods and responsible/ sustainable fisheries in light of national and international laws, especially the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the context of National Food Security

Representatives from the following governmental and civil society organizations participated in the discussion: fishing community persons; the Fisheries Departments of Baluchistan, Sindh and Punjab provinces; Marine Fisheries, WWF-Pakistan; IUCN and the Labour Adviser to the Chief Minister, Balochistan.

The current status of actions under relevant laws remains inadequate, missing or adverse as compared to those required to acknowledge and promote livelihoods of peasants, in general, and fishers, in particular, when compared to the Tenure Guidelines of Land, Fisheries and Forests. Fishers are even more insecurely placed than land-based peasants, though perhaps the latter are often more harshly treated by landowners and the state than are fishers. The SSF Guidelines could and should be used but they have not resulted in a Food Security Policy that is serious about eradicating hunger and malnutrition. Agrarian reforms that include redistribution of access to water and land have not been seriously reconsidered since the 1970s. In the face of current threats to tenure, compensation for voluntary displacement remains a distant hope for fishers—of which two examples are most odious: the continuing land and water grabs of the Defence Housing Authority, and forced dispossession of fishers by new housing and industrial schemes on the Sindh Coast such as the Zulfikarabad city scheme and the Special Economic Zones.

Natural and Man-made disasters and Climate change

Experts on environmental governance, representatives from the Meteorological Department, the National Institute of Oceanography, the Provincial Disaster Management Authority and others participated in the discussion. It was noted that climate change was not a sudden occurrence. Anthropogenic activities have increased carbon discharge or emissions. Developed countries are creating a fund that would give US$1 bn annually to the developing countries for the purpose of mitigation and adaptation to climate change. Natural disasters would be of short duration but they would be intense. As per the research

conducted by IUCN, which was also endorsed by the Senate of Pakistan, sea intrusion will adversely affect the coast of Sindh by 2030 and 2060. It was suggested that the

- The adverse impacts of climate change on fisheries must be taken into consideration while devising the policies related to the fishing profession.
- Degradation of mangrove forests on the coast of Sindh is underway. Only 15 per cent of the plants are healthy, out of the total of 80,000 acres.
- The frequency of cyclones, floods and other disaster has increased on the coast of Sindh. As a result, the poor populations are subject to displacement.
- The Sindh coast, mainly because of natural disasters and sea water intrusion, has been affected along with the local population. There is a rise of 1.7 mm in sea level annually. There are 17 major creeks in the Indus Delta on the left bank and the right bank, starting from the Korangi creek from Karachi to the Pakistan-India border.
- According to revenue department data, 132,000 acres of land have come under water in the Indus delta. The tidal link, instead of discharging the saline water of Sindh into the sea, is flowing in the reverse direction, and sea water is moving upwards through the river gateway.

Protecting life and livelihoods: SSF Guidelines for legislation, policies and research for fisheries and fishing communities

Muhammad Ali Shah said the SSF Guidelines are an instrument of FAO. Around 200 mn fishermen in the world depend on fisheries, of which 90 per cent of are small-scale fishermen. Their future is endangered. Now, the time has come for responsible fisheries. FAO has realized it and the issue of food security would be addressed through the SSF Guidelines. The goal cannot be achieved without the participation of fisher communities. The fisheries authorities of many countries have endorsed the SSF Guidelines.

A responsible fishery is not only the responsibility of the government, he said, but also of all other stakeholders. Participatory policies should be formed and the SSF Guidelines present an example of participatory guidelines. He sought a national commission on the implementation of the SSF Guidelines. He endorsed the Advisory Council suggested by the provincial minister. The Director General of Fisheries of all the four provinces must be part of it. Representatives of the fisheries sector and environmentalists must be part of it. The SSF Guidelines are meant for the whole country. Consultation meetings for Baluchistan and Sindh would soon be called.

Way Forward

The participants of the workshop unanimously agreed on the formation of a committee for the implementation and legislation on the SSF Guidelines. The committee would communicate with the participants of the workshop and the legislators, in order to enact a law for the implementation of the SSF Guidelines under the local circumstances. The committee would write letters to the concerned people in this regard and the process of the implementation of the SSF Guidelines would be carried forward.

For more

sites.google.com/site/ssfguidelines/pakistan

Pakistan: Implementation of the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the context of Food Security and Poverty Eradication (SSF Guidelines)

Boon or Doom?

While cage culture in inland open waters can help increase fish production in India, there is a need to be wary of hasty and arbitrary policymaking

Cage aquaculture, though relatively new to the inland aquaculture scenario of India, brings in new opportunities for optimizing fish production from reservoirs and lakes, and also developing new skills among fishers and entrepreneurs to enhance their earnings. Generally perceived as a boon for increasing production, this mode of production can as well turn out to be a harbinger of doom, if allowed to grow unchecked. This article stresses the importance of (a) following the existing guidelines on cage culture, (b) the need for developing norms for better environmental impact assessments, and (c) the importance of exercising caution while aggressively pursuing cage culture in inland open waters of India.

...culture of fish in enclosures such as cages and pens installed in open water bodies offer scope for increasing production...

Considering the ever-increasing and often conflicting cross-sectoral demands for water and land, there are limitations for growth in pond-based aquaculture. In this context, culture of fish in enclosures such as cages and pens installed in open water bodies offer scope for increasing production, obviating the need for more land-based fish farms. However, mindless proliferation of this activity for increased production can lead to some very serious environmental and social problems. The first and foremost is the high nutrient input that the water body receives in the form of unused feed and metabolic wastes of caged fishes. Equally important is the physical obstruction to the fishing activities of traditional fishers and the resultant conflicts. Exotic species, after escapement from cages, can play havoc with the ecosystem and its biodiversity. High input of feeds can lead to eutrophication and related damage to the ecosystem. Eutrophication upsets the nutrient cycles and the community metabolism of reservoirs, making them barren. It must be borne in mind that our reservoirs support fisheries on which the livelihoods of thousands depend.

After the recent introduction of pangas (*Pangasianodon hypophthalmus*), which is an air-breathing fish allowing high stocking density, 3-5 tonnes of fish are being produced from a small cage of 6m x 4m x 4m. Considering that at least 6 - 10 tonnes of feed go into the system per cage per production cycle, the staggering scale of artificial nutrient loading it can cause is mind boggling. A mad rush for cage culture in reservoirs has already started in the country and if continued unabated, the situation might go out of control, leading to a disaster, much greater in scale than the shrimp culture debacle of the 1990s.

Ecological disaster

Laguna de Bay is a living example of how uncontrolled growth of pen culture triggered off an ecological disaster in the Philippines. Cage culture is a relatively new area of fish production in India and its environmental impacts are not fully understood. There is a wealth of literature abroad on assessing the nutrient loading, which is directly

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related to the feed input and feed conversion rate (FCR). But these models are not directly applicable in India due to the different environmental regimes under which these have been developed, especially the variations in temperature and trophic status. Efforts are on to develop such models in India, but the results will not be available for a while.

Research institutes in India that develop cage-culture technologies often neglect studies on its environmental impact, although such studies are essential and complementary. Our research institutes should pay attention to assessing the carrying capacity of reservoirs and inform the government and policy-makers how to proceed with developing cage culture in the country. Hasty and arbitrary policymaking at the state level to allow cages in large numbers in reservoirs without assessing the environmental impacts is a matter of deep concern, especially in the backdrop of our bad experience with coastal aquaculture in the 1980s and 1990s when unregulated growth without addressing environmental concerns resulted in disastrous consequences to ecosystems. Following the guidelines of the Code of Conduct for Responsible Fisheries of the Food and Agriculture Organization of the United Nations (FAO-CCRF) for dealing with data-deficient systems, our policy towards environmental impact assessment (EIA) of cage culture should be based on a precautionary approach.

Recognizing the importance of cage culture in inland open waters, a National Level Committee was set up on 25 April 2016 to develop guidelines with a mandate to (a) assess the potential of this culture system to contribute to increased production, employment, income generation and other benefits, (b) assess the possible environmental and socioeconomic impact, (c) suggest precautions to be taken, and (d) suggest the modes of propagating and scaling up this technology to optimize benefits in a sustainable manner. The committee developed a set of guidelines that provide several recommendations covering many aspects on cage culture such as (1) the relevance and scope for cage culture in inland open waters, (2) definition of cage and cage culture, (3) cage size, shape and materials, (4) site selection, (5) cage maintenance, (6) species selection, (7) stocking density, (8) feed and feeding and FCR, (9) fish health monitoring, (10) safety measures, (11) market, post-harvest facilities and infrastructure, (12) environmental precautions and impact assessment, (13) carrying capacity, (14) ownership, (15) beneficiaries, (16) governance, (17) and (18) social relevance.

These guidelines are addressed to all stakeholders, including farmers, self-help groups (SHGs), co-operative societies, other community organizations, business process development facilitators (BDFs), farmer producer organizations (FPOs), Fisheries Departments of the Indian states, the Department of Animal Husbandry Dairying and Fisheries, Government of India, and its institutes, research organizations and environmentalists. But it is pertinent to note that at present, India does not have an umbrella agency that oversees/regulates freshwater aquaculture activities or implements guidelines/best management practices (BMPs). Equally glaring is the lack of a uniform policy across the country that governs freshwater

NFDB

Cage culture in Chandi Reservoir, India. Generally perceived as a boon for increasing production, this mode of production can as well turn out to be a harbinger of doom

aquaculture. Thus, there is no scope for these guidelines to be readily implemented at this stage. Nevertheless, these can still (a) guide the departments/agencies of the state and central governments in formulating development plans based on cage culture, (b) inform policies to be framed in future, and (c) guide farmers and entrepreneurs for practising responsible cage culture in the country.

The following are the major highlights of the guidelines:

- Due to ecological reasons, cage culture in rivers needs to be discouraged.
- Subject to other conditions, it can be practised in estuaries, lagoons, lakes and large/medium reservoirs.
- Cage culture shall be allowed in water bodies having a surface area 1,000 ha or more at FRL. (Exception to this can be made only in case of 'very deep abandoned mines', which are less than 1,000 ha in area, but too deep for practising culture-based fisheries, subject to all other conditions prescribed).
- Cage culture shall be allowed in reservoirs with an average depth of 10 m (average depth is calculated as: area in hectares divided by water holding capacity in m3).
- The cage site at the reservoir should have at least 10 m depth round the year.
- Cage culture should not be attempted in any water body having total phosphorus and total nitrogen levels in the water exceeding 0.02 mg/l and 1.2 mg/l, respectively.
- Environmental impact assessment is necessary before clearing cage-culture projects. This will be done/facilitated by recognized organizations, following the standard procedure.
- The state governments should demarcate, list and notify water bodies that are suitable for cage culture on the basis of its trophic characteristics and other criteria of site selection, and upload the list of water bodies and their suitability on geographic information system (GIS) platform with the help concerned institutions.
- It will be mandatory for the cage-culture operators to record the water quality parameters like dissolved oxygen, pH, CO2 and total alkalinity, inside and outside the cages, from day one of the operation, keeping in view the need for long-term environmental impact. Any increase in nutrients level away from the cage area should be taken as a warning.
- It will be mandatory for the cage-culture operators to collect data on the trophic status in and around the cages as well as the areas away from the cages periodically and report to the authorities to assess the impacts in terms of nutrient loading. Studies on other chemical and physical quality parameters of water and sediments also shall be collected as per the risk perception.
- NFDB and central organizations will build capacity at state governments to interpret such data and arrive at conclusion.
- *Pangasianodon hypophthalmus* and *Genetically Improved Farmed Tilapia* (GIFT tilapia) are allowed to be cultured, but all other exotic species (including illegally introduced fishes) are strictly prohibited for cage culture.
- As far as possible, use of antibiotics and chemicals should be avoided. However, in the event of it becoming necessary under exceptional circumstances, the use should be judicious and it must be clearly understood that only approved drugs/chemicals, permitted by government regulatory authorities at standard doses shall be used.

The carrying capacity of a water body to hold cages is the most vital input for decisionmaking in cage culture. But, unfortunately, we are not in a position to arrive at carrying capacity at decent precision levels due to paucity of data. Therefore, guidelines on carrying capacity have been based on a precautionary approach. Provisions of the FAO-CCRF clearly stipulate the need to follow

the 'precautionary approach' while dealing with data-deficient systems. Accordingly, taking into account the general trend of nutrients in Indian reservoirs and the possibility of nutrient loading from cage culture, the guidelines prescribe the following carrying capacity on a precautionary-approach basis (Table 1):

Table 1. Limits set for cage culture in reservoirs under the guidelines

Reservoir area (ha)	Maximum number of cages allowed (1 unit is 6m x 4m x 4m)
< 1000	Not allowed
1001 to 2000	500
2001 to 3000	1000
3001 to 4000	1500
4001 to 5000	1900
5001 to 10000	3000
>10000	5000

As standalone or in in batteries (of 6, 12, or 24 units) as required

Large-scale production through cage culture can adversely impact prices, leading to a glut in the market, which can act as a major disincentive to present and potential entrepreneurs. A few cases of glut have been reported, especially with regard to problems in marketing of *pangas*. With many newer species such as tilapia, seabass, cobia, etc, lined up for cage culture, a careful strategy involving marketing plans, value addition and market infrastructure should be evolved.

Unlike land-based aquaculture undertaken on private land, cage culture is practised in common-property resources. Therefore, the question "who owns the cages installed in reservoirs" needs an important consideration. While answering the question, the following facts need to be considered:

a. Almost all large and medium reservoirs in the country are owned by the government or government-controlled agencies, which are used by fishers as 'common-property resources' with 'free' or 'almost free' access.
b. Fish produced from the reservoirs is essentially a natural resource in the form of 'ecosystem goods and services', on which the traditional and local fish communities have the 'natural primary rights'.
c. The livelihoods of many poor people depend on catching fish from reservoirs.
d. Reservoir fishing is used sometimes as a means to rehabilitate people ousted from the dam projects.

Considering the above facts, it is essential to ensure that expansion of cage culture does not impair the livelihoods and income of fishers. Cage culture can adversely impact the interests of local fishers by denying them access to fishing grounds, obstructing their pathways, and by way of a decline in fish catch. Fish catch can be adversely affected in many ways such as by lowering the natural productivity, eutrophication, algal blooms or through the impact of exotic species. At the same time, it is equally important to utilize the additional fish production potential through cage culture. Considering the need to avoid conflicts, the best way to achieve the goal is to empower fishers to take up this activity collectively. Pursuing a purely revenue approach (as being followed by some of the state governments) by allowing individual investors and corporate houses to undertake cage culture will be against the spirit of inclusive growth and can create social tensions. Thus, the community (or a group of members of the community) should own the cages as a common property and they should be the beneficiaries of this technology.

Co-management principles

A strong governance platform based on co-management principles is essential for responsible cage-culture operations to be undertaken by the community. But the existing fishermen's co-operative societies have a poor track record of functioning responsibly to work as a group. This throws up a big challenge to the government on how to organize and empower the fisher communities and develop capacity among them to enable

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Preparation of a bamboo cage. Drafting hasty policies without delving deep into the areas such as ecosystem processes can cause irreversible damage to the sector and the ecosystem

them to take up cage culture. SHGs, co-operative societies or other such groups should be given licenses to undertake cage culture. Under any special circumstances, should a private entrepreneur or investor be brought to the scene, governments, through strong policies, should protect the interest of the local fishers and fisher communities, who have the primary rights to the natural resource. A Conflict Management Cell should be established to address complaints.

Cage culture in inland open waters is a fast-growing activity that could have many environmental and social impacts, which may not be predictable. But adequate precautions need to be taken. The ultimate goal should be increased fish production through environmentally sustainable and socially inclusive means.

The additional income generated from the reservoirs through the growth of cage culture should be shared by the fisher community rather than an investor walking away with all the benefits, while the fishers get only wages. Apart from an increase in fish production, a meaningful social impact should be in the form of generating additional income and improved standard of living for the fisher—the main stakeholder—who belongs to one of the weakest sections of society.

Considering India's rich and varied open-water resources like reservoirs, lakes and floodplain wetlands, enormous scope exists to increase production through enclosure aquaculture. Utilizing a modest fraction of their surface area, large and medium reservoirs can contribute a substantial quantity of fish to the total inland fish production. Although cage culture has not yet reached the desired commercial proportions capable of making any impact on the production figures, it is growing at a very fast pace, giving hopes and also causing some concern. The reservoir ecosystem is complex and so are its problems. Concerted efforts by scientists, government agencies and policy-makers and, above all, the community organizations and NGOs, will be required to optimize the benefits from reservoirs and to keep off undesirable paths by learning lessons from our past ecological mistakes, including those of other countries. Evolving simplistic solutions to problems and drafting hasty policies without delving deep into the areas such as ecosystem processes, socioeconomic milieus and governance regimes, will not only be useless, but can also cause irreversible damage to the sector and the ecosystem.

For more

nfdb.gov.in/PDF/GUIDELINES/Guidelines%20for%20Cage%20Culture%20in%20Inland%20Open%20Water%20Bodies%20of%20India.pdf

Guidelines for cage culture in inland open water bodies of India

Lake Appeal

A workshop in Tanzania focused on building capacity to improve small-scale fisheries in the context of food security and poverty eradication

The Tanzania national capacity-building workshop towards implementation of the Voluntary Guidelines for Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines) took place at Monarch Hotel, Mwanza, on 31 August and 1 September 2016. It was attended by 52 participants (45 per cent, women), representing a wide spectrum of small-scale fisheries stakeholders, including civil society organizations (CSOs), academia, research institutuions, the government, fisheries training institution, private sector organizations and the women fish processors and traders from the major great lakes of Tanzania, namely; Victoria, Nyasa and Tanganyika. This was the first workshop conducted in the counry since the adoption of the SSF Guidelines by the FAO Committee on Fisheries (COFI) at its 31st Session in Rome in June 2014.

The workshop aimed to set a stage for implementing the SSF Guidelines in Tanzania. More than a half of the participants were hearing about the guidelines for the very first time; hence there was a need to first raise awareness to improve understanding of the SSF Guidelines and their guiding principles; and their relevance for resolving some of the issues confronting fishing communities at the intra- and inter-sectoral levels in the inland fisheries in Tanzania as well as to to identify strategies to be put in place in order to implement the SSF Guidelines.

The workshop was organized around plenary presentations and discussions, and working group sessions. There were ten plenary presentations. The first was an overview on the small-scale fisheries guidelines described in the SSF Guidelines, drawing on the 2008 Bangkok Global Conference on Small-scale Fisheries towards securing Sustainable Small-scale Fisheries, during which the idea for putting a specific focus on small-scale fisheries was conceived, and going forward to June 2014 when the 31st session of COFI endorsed the SSF Guidelines.

The two presentations that followed were meant to give a background to the workshop. They included a feedback on the East Africa Consultation Workshop on improving small-scale fisheries in the context of food security and poverty eradication that was hosted by the FAO Sub-Regional Office for Eastern Africa in Addis Ababa, Ethiopia, during 15-18 September 2015. The workshop facilitated an understanding of the principles of the SSF Guidelines and their application in order to support their implementation for sustainable small-scale fisheries at regional and national levels. The third presentation highlighted the important and significant role played by CSOs in the SSF Guidelines development process.

This was the first workshop conducted in the counry since the adoption of the SSF Guidelines by the FAO Committee on Fisheries (COFI) at its 31st Session in Rome in June 2014.

Thematic areas

Of particular interest were the plenary presentations that unpacked the contents of the key thematic areas of the SSF Guidelines, namely, governance of tenure in small-scale fisheries and resource management;

*This article is by **Editrudith Lukanga** (elukanga@gmail.com), Executive Director, EMEDO, Tanzania*

social development, employment and decent work; value chains, post-harvest and trade; gender equality; and disaster risks and climate change. The role of research in the implementation of the guidelines was also explored.

Resource materials for capacity-building programmes were developed prior to, and during, the workshop to be used as training tools for future training programmes.

Videos developed with the support of the International Collective in Support of Fishworkers (ICSF) were played to aide in raising awareness on (i) the role and place of women in the fisheries value chain, (ii) the challenges that women face and (iii) the efforts in place to improve the situation. The video clips raised a dialogue among workshop participants who acknowledged that they have been powerful tools for training and capacity building towards implementation of the SSF Guidelines. Issues that were aired through the videos are real and reflect the actual situation the women face and therefore efforts are needed to ensure that women in the small-scale fisheries sector get proper recognition and due attention in terms of favourable policies and development that is economically, socially and environmentally sustainable, through a human-rights-based approach.

A summarized Swahili version of the SSF Guidelines was also very helpful. Most of the Swahili-speaking participants expressed their appreciation for having the draft Swahili version that would help them give feedback to their organizations.

The the key proceedings of the workshop were filmed, and video clips of interviews highlighting key issues on inland fisheries in Tanzania have been produced to be used to promote awareness as training material for future workshops.

In order to further unpack and contextualize the SSF Guidelines' thematic areas, the participants were divided into six working groups to identify issues, decide what needs to be done, identify responsibilities, and discuss how the SSF Guidelines can be used to improve the situation of small-scale fisheries.

- Working Group 1: Social development, employment and decent work

(a) What needs to be done to promote the social development of small-scale fishing communities (for example, the coherence amongst agencies/departments, policy development, implementation measures and schemes, and capacity development).
(b) Employment and decent work

What needs to be done to promote decent work across the value chain for all small-scale fishworkers (men and women) in the formal and informal fishery sectors.

- Working Group 2: Secure tenure rights to land and fisheries (Governance of tenure in small-scale fisheries and resource management)

What needs to be done to strengthen tenure rights of inland and marine small-scale fishing communities to land and water bodies.

- Working Group 3: Value chain, post-harvest and trade

What needs to be done to enhance women's role, status and contribution in fisheries and in the fishing/domestic spheres.

- Working Group 4: Disaster risks and climate change

What needs to be done to strengthen the resilience of SSF communities to climate events and natural disasters.

- Working Group 5: Gender equality

What needs to be done to improve gender equality in the entire fisheries value chain, and to promote equal participation of women and men in decision-making processes and organizations, as well as in appropriate technologies, and supportive policies and legislations.

How can the SSF Guidelines be used to improve gender equity of small-scale fishers and fishworkers?

- Working Group 6: Ensuring an enabling environment and supporting implementation

How can the SSF Guidelines be promoted in Tanzania? Can the Union/state government provide a

EMEDO

The Tanzanian workshop, attended by 52 participants, set the stage for the implementation of the SSF Guidelines. More than half of the participants, representing a wide spectrum of small-scale fisheries stakeholders, were hearing about the Guidelines for the very first time

national-level platform with cross-sectoral representation to oversee implementation of the Guidelines? How can these Guidelines be mainstreamed into national and state policies and legislation put in place in relation to food security, poverty elimination and sustainable fisheries management of small-scale fishing communities?

- Based on the SSF Guidelines, what are the national, specific water-body-level priorities for implementation over the next 10 years that can help eliminate poverty, ensure food security and improve the lives and livelihoods especially of the vulnerable and marginalized groups and women in small-scale fishing communities?
- What sort of monitoring systems are needed to assess progress towards implementation of the objectives and recommendations in the SSF Guidelines?

All the thematic groups were asked to suggest specific actions for the government (at the national, state and local levels), the CSOs, other institutions, and the communities themselves. They were also asked to identify government departments/agencies that could be involved in using the SSF Guidelines to improve the socioeconomic situation of small-scale fishers and fishworkers.

The discussions revealed a clear appreciation of the significant role played by women in the small-scale fisheries sector, which has not, however, been sufficiently recognized and appreciated. The workshop, therefore, recommended the following measures to implement the SSF Guidelines:

- Enhance capacity-building on fisheries governance to fisheries sector stakeholders, including policy-makers, implementers and managers, and integrate them into a sector plan.
- Improve knowledge and support services to implement sound policies and legislation through stakeholders' participation.
- Enhance the capacity of fisheries stakeholders to understand the implications of climate change and help them undertake mitigation measures in order to reduce the envisaged impact.
- Establish village community banks and link them with financial institutions.
- Invest in technology that improves the quality of fish and reduces post-harvest losses.
- Allocate adequate funds to support the implementations.
- Support women to get more organized through establishment of women fisherfolk associations.
- An appeal needs to be made by the Director, Fisheries Development Division, to the FAO for support.
- There is need to hold similar workshops to focus on other water bodies, in the light of implementing the SSF Guidelines.

For more

sites.google.com/site/ssfguidelines/tanzania

Tanzania Workshop: Implementation of the SSF Guidelines

Tempered Down

On temperaments, communities and conflicts in the river fisheries of Bihar, amidst rigidly persistent caste and class discrimination

Social and institutional interactions impinge significantly on how resource declines are experienced by fisherfolk, as local scarcity of resources can aggravate and transform historically entrenched conflicts over fishing rights, access and ownership. Owing to conflicts emerged from historical relations, or institutional changes, or state-driven policies, a dichotomous 'fishing communities versus the rest of the world" framing of the problem is commonplace.

The primary assumption in this outlook is that the heterogeneity of socio-cultural practices within these fishing communities could, or should, be glossed over to focus on broader inequalities and injustices meted by the state and other institutions. But often this leads only to a coarse-resolution awareness of fishing conflicts and their potential outcomes for human livelihoods.

Fishing communities in Bihar, mostly landless and marginalized, eke out a difficult existence...

Often there is a need to look deeper at the micro-scale, at what goes on not just between, but also within, conflict-ridden fishing communities. This becomes particularly necessary for a nuanced understanding of fisheries systems situated within highly stratified and unequal societies, and threatened ecological settings.

The basin-level alteration of river-flow regimes by dams, barrages, engineering developments and pollution has contributed significantly to impoverished fisheries in terms of both quantity and quality in India's Gangetic basin. In the lower Gangetic floodplains of Bihar, rigidly persistent caste and class discrimination has formed the proverbial backdrop against which river fishery conflicts have been emerging, changing, and continuing. Importantly, fishing rights, access to fishing grounds, and ownership conflicts cannot still be separated from floodplain systems of land ownership (for example, freehold tenure, tenancy, etc.) and control of riparian productivity by powerful and influential landowning people, locally called the 'bosses'.

Fishing communities in Bihar, mostly landless and marginalized, eke out a difficult existence with no meaningful institutional structure to bind them together. The common district boundary of Bhagalpur in eastern Bihar, and a somewhat fluid political identity of being from the Nishad or Mallah castes are the only things that may be held as constant for these people. But otherwise nothing seems adequate to group them: the label of a homogeneous 'fishing community' risks undermining the complexity and diversity of fisherfolk that reside in the Barari, Kahalgaon, and Naugachhia towns of Bihar (See Map).

Diversity of fishing

Differences in geographic locations and ecological specificities of 'places' they fish in also correlate with a diversity of fishing practices and seasonal movement patterns. Owing to these divergences, their interactions with different state and non-state institutions influence the variability of ways through which their local fishing grounds are

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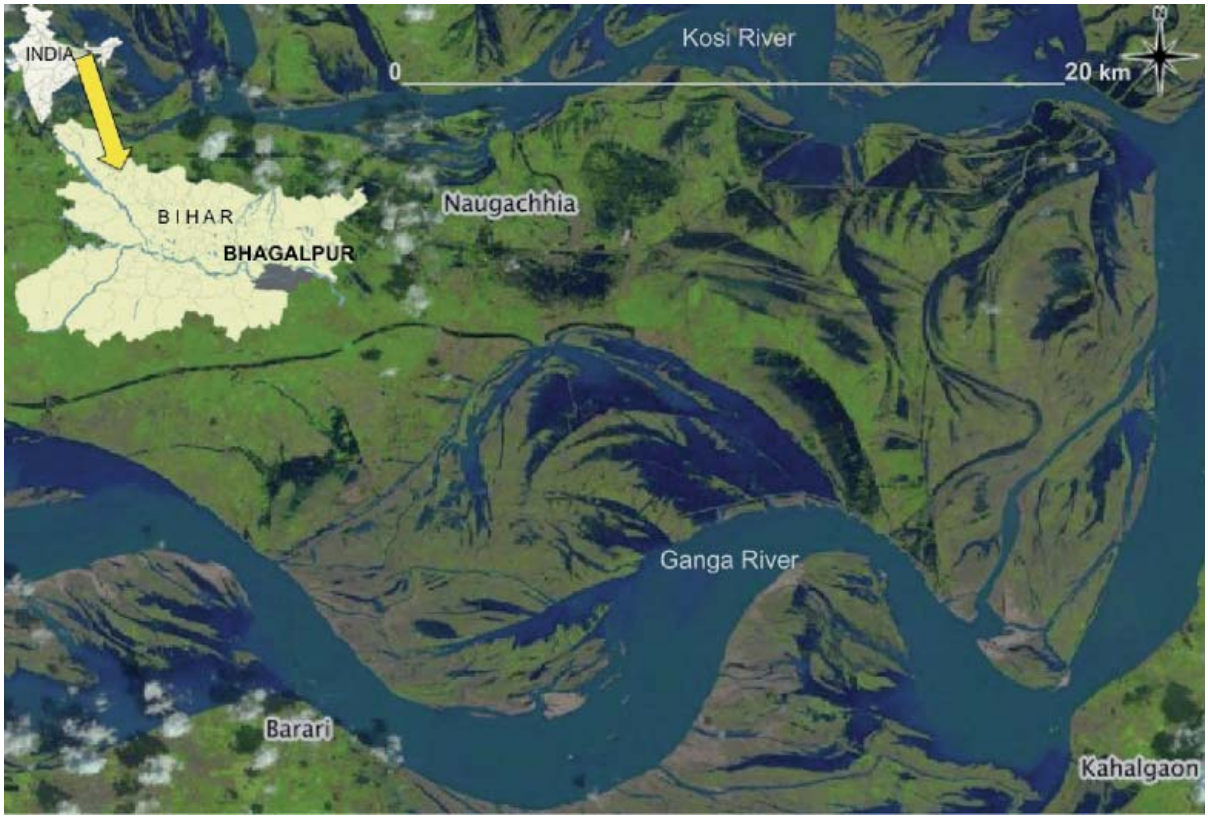
controlled. The settlements bear different 'temperaments', which also represent other fishing communities across the Gangetic floodplains, and which we attempt to sketch out, based on our long-term interactions, both formal and informal.

Table 1 compares the fishing practices, access to fishing grounds, movements, group associations and experiences of conflicts faced through interactions with fishers from the three settlements. We also describe their responses to resource declines and intergroup interactions, to dwell on the heterogeneous meanings of 'fishing community' for people, despite a common history.

The river fisheries of Bihar shifted from a private regime to an open-access regime in 1991, following the Ganga Mukti Andolan, a social movement that sprung up in the 1980s, demanding the overthrow of private control of rivers in Bihar called *Panidari* (water-lording). The fishers of Kagzi Tola in Kahalgaon were at the forefront of this movement and, in a sense, they represented the whole fishing community of Bhagalpur district. The Andolan did succeed as private control was overthrown in 1991 by the state, but it failed on account of actually creating alternative systems of property rights or community management of river fisheries, landing up fishers in a 'free-for-all' open-access situation. It also did not do enough to resolve issues of caste identity that underlay the floodplain-dwelling groups that participated in it.

Kahalgaon fishers travel far and wide, and always have to fish, despite the primary drive and weakness for hunting and eating the flesh of soft-shelled river turtles. This drive takes them to the floodplains of the Gandak River in western Bihar and the Ghaghra in Uttar Pradesh, where turtles are still in relatively better numbers than in the Ganga. Some fishers have even travelled to the Yamuna and Chambal, and some even to Goa to help capture and kill sea turtles. These long travels are accompanied by double-faced actions: often these fishers pay rent

Map: Map showing the Barari, Naugachhia and Kahalgaon towns with Mallah fishing settlements in the Bhagalpur district of Bihar, India



to local bosses and criminal gangs to fish (whose practices they hate so much) to gain access to fish and hunt in their territories. However, the same Kagzi Tola fishers do not take kindly to other fisherfolk coming into, and fishing around, the rocky islands at Kahat, their fishing territory.

The river is perhaps the deepest at this point anywhere on the Ganga, has complex habitats, a stable channel, eddies, and counter-currents where several fish species reside in good numbers. The strong guard of this productive fishery itself goes against their demand for 'exclusive rights for fishing castes'.

The Naugachhia fishers are the other extreme of Kahalgaon but because Naugachhia is not located on the riverbank, fishing in small bands in the Ganga and Kosi rivers (in other fishers' grounds) is what they practise. They go out to Bhagalpur or somewhere along the Kosi coast for several days, only to return home during festivities or illnesses. Used to being 'floating outsiders', friendliness is an essential survival strategy, and applies to everyone they meet:—other fishers, conservationists, and criminal gangs as well.

The mood in the Barari fishing settlement near Bhagalpur city is one of general agreement, irrespective of discussions. There is no surplus anger or warmth, but rather there is a patient, measured behaviour maintained in interactions. Though these fishers too regularly fish in the river, they are relatively distracted and indifferent. Threat is a routine part of life, without question. They regularly see the local bosses, partake with their fish catch when threatened, and report these incidents as if these were norms and hence acceptable, "*yeh to chalta hai* (this keeps happening)".

The Ganga at Bhagalpur is a busy river: there is the long Vikramshila bridge over which vehicles keep moving noisily; there are waterway-dredger vessels digging up the river every now and then; there is a highly polluted side-channel that takes the sewage and garbage from Bhagalpur city, and pilgrims, motorboats, crowded ghats and markets make up for the other elements.

Three settlements that once shared a common history of oppression and poverty show divergent temperaments as they confront their gravely insecure livelihoods in a rapidly degrading river and dangerous fishery setting. With a

Table 1. A comparison of the characteristics of three Mallah fishing settlements in the Bhagalpur district indicates a gradient of differences in fishing practices and preferences

Name of Settlement	Sub-caste	Range of Influence	Grouping patterns	Fishing effort & practices	Propensity to exit from fishery	Role in resistance	Tolerance for other fishers
KagziTola (Kahalgaon)	Banpar	Ganga River and some tributaries in Bihar, Bengal and eastern UP	Mixed groups, corporate groups, bands	Main river, localized around Kahalgaon but widespread fishing across the region	Low, shift to labour and exit known only during extreme years	Led	Low
Makkhatakiya (Naugachhia)	Nishad	Kosi, Ganga rivers	Bands	Inlets and side-channels with vegetation, ponds and floodplain wetlands	Moderate to High, shift to pond fisheries and wage labour	Supported	Usually, they are the 'other' fishers, High
Barari (Bhagalpur)	Gorhi (Mahaldar)	Barari area	Family groups	Main river, highly localized	High, many have shifted to local alternative occupations	Passive	High

NACHIKET KELKAR

Fishing in River Ganges, India. Fishing communities in Bihar, mostly landless and marginalized, eke out a difficult existence with no meaningful institutional structure to bind them together

continuing exodus, the number of fishers actively fishing today might be less than 30 per cent of the number 10-15 years ago. For those who remain, importantly, the socio-ecological setting and lived experience have, at least partly, shaped their variable attitudes. What is striking is that these differences severely limit their ability to reflect critically on the open-access cage they are stuck in.

In this context, the uniform application of fisheries policies, schemes and community-wide extension programmes might achieve heterogeneous outcomes. A closer look at how temperaments are formed, maintained and expressed in response to conflicts appears essential in planning sustained dialogue with communities living on the edge of declining riverine fisherie.

For more

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Muehlmann, S. 2013. Where the River Ends: Contested Indigeneity in the Mexican Colorado delta. Duke University Press: USA, p. 220

www.cambridge.org/core/books/life-on-the-ganga/B8459012B50 449DEB8807 BB87F593241
Assa Doron, 2013. Life on the Ganga Boatmen and the Ritual Economy of Banaras. Cambridge University Press

SUBSIDIES

WTO members engage on new fisheries subsidies proposals

Members engaged in detailed discussions on three new proposals aimed at achieving an outcome on fisheries subsidies at the upcoming Ministerial Conference of the World Trade Organization (WTO) in Buenos Aires, Argentina, in December 2017. The proposals from the European Union (EU), the African, Caribbean and Pacific (ACP) group of members, and six Latin American members—Argentina, Colombia, Costa Rica, Panama, Peru and Uruguay—all seek to achieve the 2020 targets set out in the United Nations' Sustainable Development Goals (SDGs).

SDG 14.6 calls for prohibiting certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminating subsidies that contribute to illegal, unreported and unregulated (IUU) fishing, and refraining from introducing new such subsidies, by 2020. Goal 14.6 also recognizes that appropriate and effective special and differential (S&D) treatment for developing and least-developed members should be an integral part of the WTO fisheries subsidies negotiations.

The three proposals presented at the 9 December meeting of the Negotiating Group on Rules (NGR) all share the same objectives: achieving the goals set out in SDG 14.6; ensuring effective disciplines while also providing special and differential treatment for developing and least-developed country (LDC) members; securing an outcome at the Eleventh Ministerial Conference (MC11) in Buenos Aires. In addition, the proponents call for the negotiations to proceed on a standalone basis, that is, there should be no linkage with other issues being discussed as part of the rules negotiations.

The EU proposal, which was first introduced at the previous NGR meeting on 11 November, seeks to prohibit subsidies linked to overcapacity (including those used to increase the capacity of, or support the construction of, fishing vessels) and to IUU fishing, provides special and differential treatment for developing members and LDCs, and highlights the importance of members notifying all kind of subsidies that support, directly or indirectly, marine fishing activity.

The ACP proposal primarily targets subsidies provided to large-scale commercial or industrial fishing and subsidies to fishing activities outside of members' maritime jurisdictions. The proposal would impose a ban on all IUU subsidies and all subsidies granted to fishing vessels or fishing activity negatively affecting fish stocks that are in an overfished condition; flexibilities would be included allowing developing members with small-scale fishing sectors to increase their capacity to fish.

The joint proposal from Argentina, Colombia, Costa Rica, Panama, Peru and Uruguay advocates using a flexible approach to the application of disciplines by developing members and LDCs, inspired by that adopted in the Trade Facilitation Agreement. In particular, under the proposal these countries could apply transition periods (to be defined through negotiations) for implementing the specific disciplines to be established, in some cases subject to the receipt of technical assistance and support for capacity building.

Summing up the discussions, Ambassador Wayne McCook of Jamaica, the chair of the NGR, noted commonalities in the proposals, in particular their reliance on SDG 14.6. It is clear that members will need to look at the impact of certain subsidies that contribute to overfishing and to overcapacity of fishing fleets, as well as how to address IUU fishing, he said. Members have been working on these issues for more than a decade, so any solution will require new creativity, which, he said, was perhaps being seen in some of the proposals now being put forward.

Canada told members that a group of members participating in a plurilateral initiative on fisheries subsidies were planning to hold their first substantive meeting early next year and that any member wishing to take part in the initiative could join in. So far, 16 members have signaled their interest, Canada said.

The next dedicated session on fisheries subsidies is tentatively scheduled to take place on 24 January 2017.

Source: https://www.wto.org/english/news_e/news16_e/fish_09dec16_e.htm

ORGANIZATIONAL PROFILE

Sole of Discretion

Sole of Discretion are a collective of small-scale fishers fishing out of Plymouth harbour. They are committed to procuring fish and shellfish that have been caught with as little damage to the marine environment as possible, have contributed to the livelihood of small-scale fishers and their communities, and to get these high quality and delicious fish to consumers.

One of the key advantages is traceability, as they know all their fishers and can trace the fish back to the boat. Their boats are under 10 meters long, and use rod and line, static gill and trammel nets and mid-water trawls for shoaling species such as sardine or herring.

Some of the flat fish species are occasionally caught using light-weight bottom trawl, so that the gear does not impact or plough the seabed, the vessels carry low horse-power engines, and cover ground that is not coral or rock identified on the netters through VMS tracking and, over time, habitat mapping.

The group of fishers havedocumented substantial data and video footage which will become publicly available and is worked on

in collaboration with local universities. The fishers are working in collaboration with Exeter University, to help identifying ways of sustainable fisheries. There is a trading company registered under the Community interest company, so that the fishers get the maximum profits as well, and the prices are often higher than the market price.

These low-impact fishers have been receiving prices that are governed by the landings of the highly commercial factory vessels, where the prices are agreed in advance. This is being carried out to reward good practices and preserve the ecology of the sea. There are no discards of any fish, unless there is legal obligation. One of the major aspects of this group, is that the static-net fishers use relatively less fuel per kilo of fish than trawl caught fish.

Passive fishing methods typically use 0.1-0.4 litres of fuel per kilo as compared to 0.5-1.5 litres of beam trawled caught fish. This initiative has been undertaken to reward the already diminishing number of small-scale fishers, whose population has come down to 2,500 fishers from 10,000 fishers ten years ago.

One of the key campaigns has been that the small-scale fishers should be allocated quota according to the environmental and social considerations as well as economic considerations, as newly required under Article 17 of the Common Fisheries Policy.

www.soleofdiscretion.co.uk/marine-biology/

Fishers and Fish Farmers

An estimated 56.6 mn people were engaged in the primary sector of capture fisheries and aquaculture in 2014, of whom 36 per cent were engaged full-time, 23 per cent part-time, and the remainder were either occasional fishers or of unspecified status. The proportion of these workers engaged in aquaculture increased from 17 per cent in 1990 to 33 per cent in 2014. For the first time since the period 2005–2010, the total engagement in fisheries and aquaculture did not increase. Overall, employment in the sector decreased, almost entirely due to a decrease of about 1.5 mn fishers, while engagement in aquaculture remained more stable. In 2014, 84 per cent of the global population engaged in the fisheries and aquaculture sector was in Asia, followed by Africa (10 per cent), and Latin America and the Caribbean (4 per cent). Of the 18 mn people engaged in fish farming, 94 per cent were in Asia. Women accounted for 19 per cent of all people directly engaged in the primary sector in 2014, but when the secondary sector (processing, trading) is included, women make up about half of the workforce.

The total number of fishing vessels in the world in 2014 is estimated at about 4.6 mn, very close to the figure for 2012. The fleet in Asia was the largest, consisting of 3.5 mn vessels and accounting for 75 per cent of the global fleet, followed by Africa (15 per cent), Latin America and the Caribbean (6 per cent), North America (2 per cent) and Europe (2 per cent). Globally, 64 per cent of reported fishing vessels were engine-powered in 2014, of which 80 per cent were in Asia. In 2014, about 85 per cent of the world's motorized fishing vessels were less than 12 m in length overall (LOA). The estimated number of fishing vessels of 24 m and longer operating in marine waters in 2014 was about 64 000, the same as in 2012.

Source: FAO. 2016. The State of World Fisheries and Aquaculture (A Flyer), http://www.fao.org/3/ai5692e.pdf

WORLD FISHERS AND FISH FARMERS BY REGION

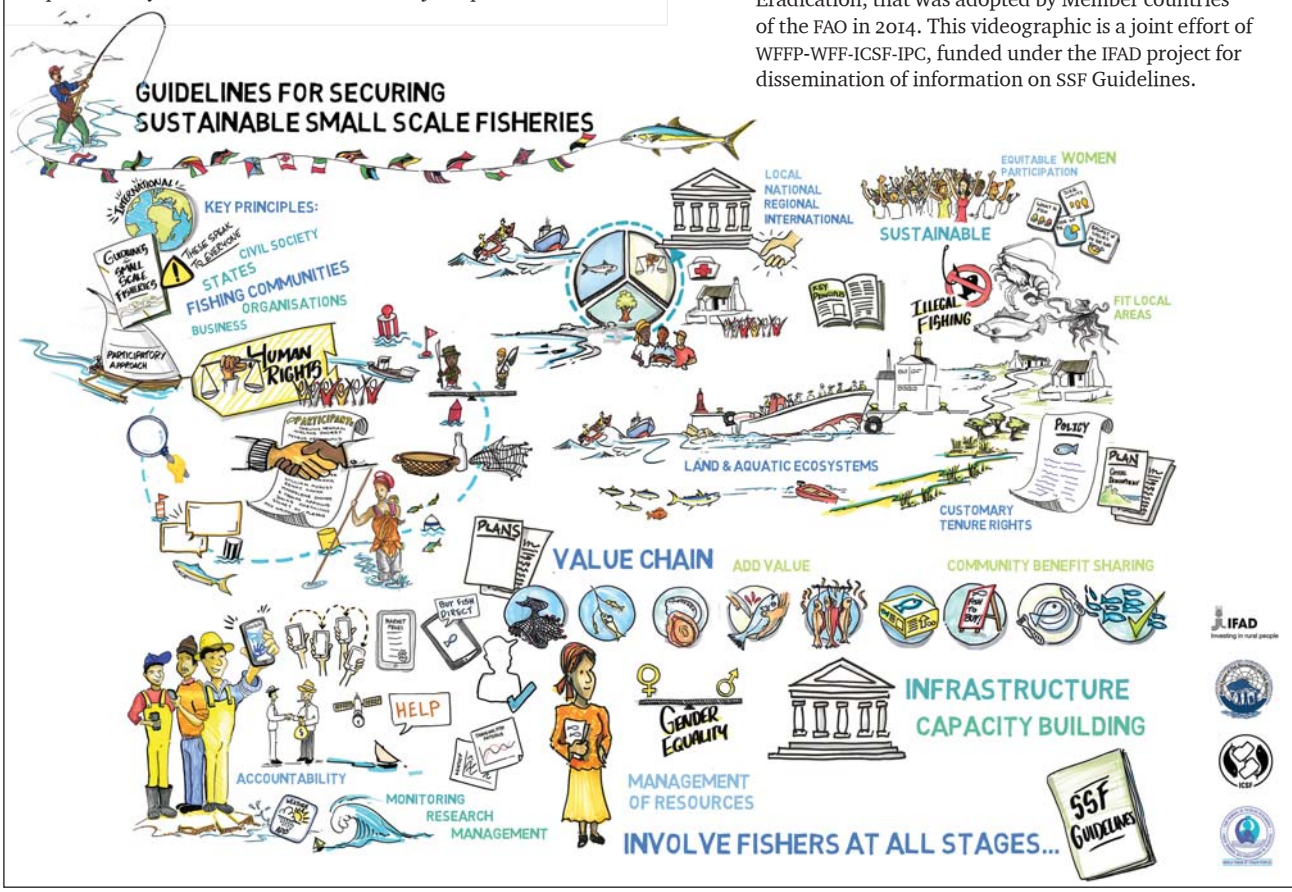
	2000	2005	2010	2012	2013	2014
			(Thousands)			
Africa	4 175	4 430	5 027	5 885	6 009	5 674
Asia	39 646	43 926	49 345	49 040	47 662	47 730
Europe	779	705	662	647	305	413
Latin America and the Caribbean	1 774	1 907	2 185	2 251	2 433	2 444
North America	346	329	324	323	325	325
Oceania	126	122	124	127	47	46
WORLD	46 845	51 418	57 667	58 272	56 780	56 632
OF WHICH, FISH FARMERS						
Africa	91	140	231	298	279	284
Asia	12 211	14 630	17 915	18 175	18 098	18 032
Europe	103	91	102	103	77	66
Latin America and the Caribbean	214	239	248	269	350	356
North America	6	10	9	9	9	9
Oceania	5	5	5	6	5	6
WORLD	12 632	15 115	18 512	18 861	18 818	18 753

WEBLINKS

Infographics on small-scale fisheries guidelines

https://www.youtube.com/watch?v=tmR0jtGCq7c&feature=share

This infographic gives you a brief idea about the Voluntary Guidelines for Securing Small-scale Fisheries in the context of Food Security and Poverty Eradication, that was adopted by Member countries of the FAO in 2014. This videographic is a joint effort of WFFP-WFF-ICSF-IPC, funded under the IFAD project for dissemination of information on SSF Guidelines.



INFOLOG: NEW RESOURCES AT ICSF

ICSF's Documentation Centre (dc.icsf.net) has a range of information resources that are regularly updated. A selection:

Publications

FAO. 2016. Lessons learned in water accounting: the fisheries and aquaculture perspective in the System of Environmental-Economic Accounting (SEEA) framework, by Daniela Ottaviani, Sachiko Tsuji & Cassandra De Young. FAO Fisheries and Aquaculture Technical Paper No. 599. Rome, Italy.

http://www.fao.org/3/a-i5880e.pdf

Water accounting seeks to provide comprehensive, consistent and comparable information related to water for policy- and decisionmaking to promote a sustainable use of water resources as well as equitable and transparent water governance among water users. One of the frameworks for environmental and economic accounting is constituted by the System of Environmental-Economic Accounting (SEEA), which the United Nations Statistical Commission endorsed as an international standard in 2012.

Scoping study on decent work and employment in fisheries and aquaculture: Issues and actions for discussion and programming

http://www.fao.org/3/a-i5980e.pdf

This scoping study is the result of an exploratory mapping and scoping exercise, based on a desk review of recent literature on labour conditions in fisheries and aquaculture. The review was undertaken to identify and discuss issues and challenges—as well as possible actions and measures by interested fisheries and aquaculture stakeholders—related to the promotion of decent employment in the sector.

Indigenous peoples human rights defenders field handbook on human rights documentation and advocacy

©Asia Indigenous Peoples Pact

http://iphrdefenders.net/indigenous-peoples-human-rights-defenders-field-handbook-on-human-rights-documentation-and-advocacy/

Community-based Indigenous Peoples Human Rights Defenders (IPHRDs) are the target users of this handbook. It is primarily intended to guide members of the IPHRD Network and their organizations, institutions and communities in gathering information on specific cases of human-rights violations. It is important that users of this handbook are already knowledgeable on human rights, in general, and are familiar with international human rights instruments.

Videos

https://www.youtube.com/watch?v=1UIdDeugSyM#t=76

The fishing industry employs more than 50 mn people around the world and those who earn their lives from the sea are often exposed to challenging and risky conditions. The ILO's Work in Fishing Convention, 2007 (No. 188) was adopted to ensure that fishers have decent working conditions on board fishing vessels. The Convention also puts in place a mechanism to ensure compliance with, and enforcement of, its provisions by States. Now, fishing vessels and those on extended international voyages may be subject to labour inspections in foreign ports.

FLASHBACK

A Useful Toolkit

Thursday, 14 June 2007, will go down in history as a particularly significant day for fishers and fishworkers all over the world. That was the day the 96th Session of the International Labour Conference (ILC) of the International Labour Organization (ILO) adopted the Work in Fishing Convention, 2007, which seeks to guarantee innovative new labour standards to improve the conditions for millions of men and women working in the fishing sector worldwide.

Adopted in the year of the silver jubilee of the 1982 United Nations Convention on the Law of the Sea, the Fishing Convention is the first ILO instrument in fishing since the adoption of the 200 nautical mile exclusive economic zone regime by coastal States in the 1970s. This time around, unlike at the 93rd Session of the ILC in 2005, more countries, including China, which accounts for the largest share of fishing capacity and the largest number of fishers in the world, voted for the adoption of the Convention.

The Convention has a three-tier structure. First, all provisions of the Convention, upon its ratification, would apply to fishing vessels above 24 m in length, and fishers working on board such vessels. Second, many of the provisions would apply to the majority of commercial fishing vessels and fishers working on them, regardless of size of the vessel. Third, some of the prescriptive provisions would apply to fishing vessels below 24 m over an unspecified period of time. The latter tier, presumably, applies to industrial fishing operations employing vessels below 24 m.

Except for minimum age, the other provisions of the Convention that would apply to the small scale and artisanal sub sector are non-prescriptive; it has been left to the ILO member countries to adopt laws, regulations or other measures to implement them. In particular, countries with large fisher populations and fishing fleets, such as China, India and Vietnam, which voted for its adoption, should ratify and implement its provisions at the earliest.

The Work in Fishing Convention, 2007, is just a toolkit. The ball is now in the court of national governments. They should consult all relevant stakeholders, especially organizations representing fishworkers, and use the Convention to develop effective measures to protect the working and living conditions of fishers, both in large- and small-scale fishing.

—from Comment in SAMUDRA Report No. 47, July 2007

ANNOUNCEMENTS

MEETINGS

27 March to 7 April 2017 (two weeks)
Preparatory Committee established by the UN General Assembly resolution 69/292: Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction—third session

17 to 18 April 2017 (two days)
Ad Hoc Working Group of the Whole on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects—eighth meeting

15 to 19 May 2017 (one week)
United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea—eighteenth meeting

5 - 9 June 2017, New York
Our Oceans, Our Future: Partnering for the Implementation of SDG 14
https://sustainabledevelopment.un.org/oceanconference/about
The high-level United Nations Conference to Support the Implementation of Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development will be convened at the United Nations Headquarters in New York from 5 to 9 June 2017, coinciding with World Oceans Day, to support the implementation of Sustainable Development Goal 14. The Conference will be co-hosted by the Governments of Fiji and Sweden. The Conference aims to be the game changer that will reverse the decline in the health of our ocean for people, planet and prosperity. There are preparatory meetings for this conference organized from 15 to 16 February 2017 in New York.

6 to 8 September 2017 (three days)
Ad Hoc Working Group of the Whole on the Regular Process for Global Reporting and Assessment of the State of the Marine Environment, including Socioeconomic Aspects - ninth meeting

A.K. KIMOTO / FAO

Endquote

Treat the earth well: it was not given to you by your parents, it was loaned to you by your children. We do not inherit the Earth from our ancestors, we borrow it from our children.

—a Native American saying