

# SAMUDRA

REPORT

THE TRIANNUAL JOURNAL OF THE INTERNATIONAL COLLECTIVE IN SUPPORT OF FISHWORKERS



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## **Tropical Rights Systems**

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Nile Perch

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## **Safety of Fishing Vessels**

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Shore-based Fishing

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## **Coastal Area Co-management**

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Intensive Industrial Aquaculture

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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.

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BRIAN O'RIORDAN/ICSF

# SAMUDRA

REPORT

THE TRIANNUAL JOURNAL OF THE INTERNATIONAL COLLECTIVE IN SUPPORT OF FISHWORKERS

NO.48 | NOVEMBER 2007

SERGE RAEMAEEKERS/RHODES UNIV

## FRONT COVER



"Dawn at Chakara"  
Watercolor study by Susan Beulah  
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## PUBLISHED BY

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## PRINTED AT

Nagaraj and Company Pvt. Ltd.,  
Chennai

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## BACK COVER



A woman selling crabs and fish  
at the Royapuram Fishing Harbour,  
Chennai, India  
photo: KG Kumar/ICSF



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KG KUMAR/ICSF

Part of the skeleton of a whale washed ashore on Krusidai Island in the Gulf of Mannar National Park and Biosphere Reserve, India. There are 4,254 different kinds of marine protected areas (MPAs) established around the world, as of 2005, covering an area of 1.8 mn sq km

# Reserving a Role for Communities

**Communities, if seen as rights holders, can be powerful allies in conservation and management of coastal and marine resources through protected areas**

In 2004, Parties to the Convention on Biological Diversity (CBD) set themselves the goal of effectively conserving at least 10 per cent of the world's marine and coastal ecological regions by 2012. According to recent estimates, less than one per cent of the waters under national jurisdiction are under protection. Undoubtedly, this decision has implications for small-scale fishing coastal communities, the primary traditional users of coastal and marine areas.

Coastal fishing communities, threatened as they are by biodiversity loss and degradation of coastal ecosystems, have been demanding effective action to protect and manage coastal and marine habitats and resources. In several parts of the world, they have been known to take their own initiatives to protect and manage their resources, given the close links between their livelihoods and the health of the resource base.

Clearly, communities can be powerful allies in efforts for conservation and management of coastal and marine resources. Problems arise, however, due to conservation approaches with pre-determined agendas that serve to alienate indigenous and local fishing communities. The current target orientation in some countries to expand areas under marine protected areas (MPAs), while short-circuiting participatory processes, is a case in point. Not surprisingly, such approaches are proving ineffective from the perspective of both conservation and livelihood.

Empowering indigenous and local fishing communities to progressively share the responsibility of managing coastal and fisheries resources, in keeping with Programme Element 2 on Governance, Participation, Equity and Benefit Sharing in CBD's Programme of Work on Protected Areas (Annex to Decision VII/28), would undoubtedly meet the goals of both conservation and poverty reduction (see Statement by Indigenous people, local communities and traditional

fisherfolks to the "Anglophone Africa Subregional Workshop on the Review of, and Capacity Building for, the Implementation of the CBD Programme of Work on Protected Areas", pg. 37).

For this, however, much work remains to be done in ensuring that provisions in existing international legal instruments supporting the rights of indigenous and small-scale fishing communities with respect to conservation initiatives, are reflected

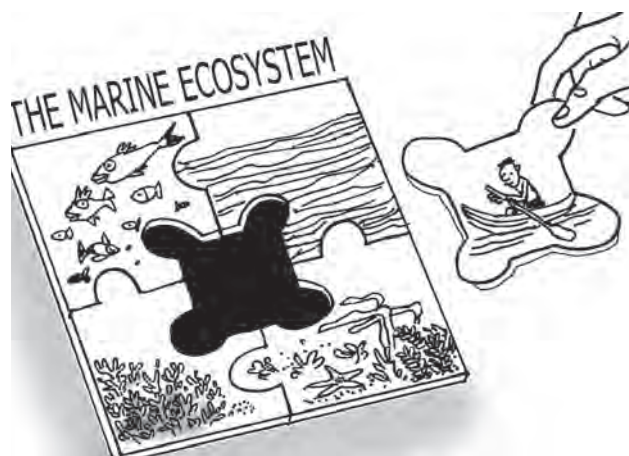
in national legislation, policy and practice. In particular, there is a need to recognize the traditional and customary rights of fishing communities to resources, as well their rights to engage in responsible fisheries, in keeping with the principle of sustainable use of biodiversity.

Communities traditionally dependent on the resource base

must be seen as rights holders in decision-making processes. This means that the choice of appropriate management/conservation tools, objectives and plans, governance structures, provisions for community representation, and implementation and monitoring, should be decided in consultation with local communities, and the governance structure itself ought to represent the various social groups within the community, including women.

As important is the need to adopt appropriate strategies and tools within a wider marine and coastal management framework. Establishing MPAs is pointless if, for example, pollution and uncontrolled development continue to jeopardize the health of coastal and marine ecosystems at the larger level. This was highlighted by participants, including representatives of fishing-community organizations, at a recent workshop on marine reserves in India (see "Declaration of Charter", pg. 47).

As CBD's Working Group on Protected Areas meets in Rome, Italy from 13 to 17 February 2008, it would do well to take note of these issues. The future of both effective conservation and millions of livelihoods is at stake.





# Misconceptions, Outright Prejudice

Pre-existing fisheries-rights systems, under which many nearshore small-scale tropical fisheries operate, function in radically different milieu from those in temperate zones

4

In his report on the Sharing the Fish Conference 2006 in Fremantle, Australia, ("Who's sharing the fish?", SAMUDRA Report No. 43, March 2006), Derek Johnson was shocked by the lack of representation from the South. Why? Overlooking, ignoring or belittling the tropics has always been the norm. Tropical small-scale fisheries are so different from their counterparts in temperate latitudes that it is misleading and dysfunctional to consider them within a common framework. So perhaps it is just as well that they were under-represented at Fremantle.

An enormous conceptual gap separates a great many pre-existing marine resource-management systems from the predominant Western thought on the subject.

In a simplified manner, there are, in any fishery, whether tropical nearshore or temperate industrial, four focal problems that require management. These are:

- (1) the flow of the resource (that is, the continued, regular availability of harvestable fish);
- (2) stock externalities (that is, the economic and, therefore, social impacts of harvesting interactions among fishers);
- (3) technological (gear) externalities (that is, the mutual incompatibility of various gear on a fishing ground); and
- (4) allocation problems (that is, competition for access to resources distributed unevenly in space and time).

Whereas Western models of fisheries management focus on fish stocks and stock externalities, and assume an open-access resource regime, pre-existing systems in many tropical regions, as has been well documented in the Pacific Islands, for example, take a different approach; they base management on the three inter-related factors of stock externalities, gear externalities and allocation problems, and base implementation on defined geographical areas to which access is controlled.

The essential difference is that Western fisheries management has focused on modelling the biological and physical flow of fish resources onto, and through, fishing grounds, and, in implementation, on attempting to manage the resultant stock externalities. In other words, it focuses on trying to manage what is unknown, and perhaps inherently unknowable, and thus unmanageable. In striking contrast, pre-existing Pacific Island management systems make no such attempt. Rather, they focus on the interaction among stock externalities, technological externalities and allocation problems, human problems that are inherently manageable. This implicitly accounts for the complex multi-species and multi-gear nature of the resource, thereby avoiding inherently irresolvable issues. This difference has generally never been widely appreciated.

## Tropical fisheries

Tropical nearshore fisheries development projects are characterized

*This article is by **Kenneth Ruddle** (mb5k-rddl@asahi-net.or.jp) of the School of Policy Studies, Kwansei Gakuin University, Kobe-Sanda Campus, Japan*

by a Western scientific bias made worse by a general lack of interest in, or willingness to, understand pre-existing local management systems. Conservation of fish stocks became the main goal of development assistance, based on transplanted Western fisheries-management models, with fisheries policy and management based on a conventional temperate-zone bioeconomic model.

Most fisheries biologists and the social scientists who advise them often have only limited experience in the tropical milieu. Not surprisingly, therefore, they commonly fail to appreciate differences between the temperate-zone industrial fisheries, with which they are familiar from their own training and research, and tropical nearshore fisheries.

This means that erroneous interpretations are passed on to donors and assistance personnel. Usually, none of the following seven characteristics of tropical nearshore fisheries and their importance for management are widely appreciated.

- (i) Fishing limited geographically to nearshore areas: Fishing activities are generally over limited areas because craft are small and often non-motorized, fish cannot usually be kept fresh, and neighbouring areas might be off limits owing to exclusive rights systems. There-

**...Western fisheries management focuses on trying to manage what is unknown, and perhaps inherently unknowable, and thus unmanageable.**

fore, opportunities for increased catches are limited.

- (ii) Fishing areas defined socially: In many tropical areas, marine tenure and the associated rights limiting entry are centuries-old, with fisheries management based largely on such qualitative controls as limited access, closed seasons, areas and species, and a range of behavioural prohibitions. This is in contrast to the

MECKI KRONEN/SPC



Boy with handline in Masklynes, Vanuatu, South Pacific



Tuna being dried in Cox's Bazaar, Bangladesh

all-too-common and incorrect generalization that the problem with fisheries is their open-access nature, a major error resulting from Garrett Hardin's lack of understanding of common-property resources in fishing communities.

- (iii) Fishing communities are numerous and dispersed geographically: Often geographically isolated with numerous fishing communities and complex distribution channels, tropical nearshore fisheries are difficult and expensive to develop and manage using Western models that require comprehensive data collection.
- (iv) Biological and technical complexity: Compared with temperate areas, tropical nearshore fisheries are typically far more numerous in terms of catch composition or areas fished and gear types. Hence they are of unfamiliar complexity to temperate-region scientists and planners, who typically deal with single-species fisheries.
- (v) Employment options are limited and alternative jobs are scarce: Cultural factors like caste systems limit or preclude occupational mobility and limit employment alternatives, as do a lack of education and access to basic information. In many parts of the world, a redistribution of wealth through social inter-dependence and

traditional credit systems is the norm. That may also bind fishers to their communities and occupation, as does the 'ethos' of the fisher and a sense of sub-cultural identity. Further, the opportunity cost of labour is zero or close to zero, and there often exist strong barriers to exit from the fisheries sector. Labour costs are low but capital costs, high, and these are often complexly inter-related. For example, crew sizes may be determined more by the social imperative to share limited economic opportunities and benefits than by workload. Such relationships can be devastated by the introduction of capital-intensive techniques, which heighten inequity and lead to conflict among segments of the overall fisheries sector and within communities.

- (vi) Geographical and social territoriality is widespread: In addition to its positive aspects in terms of resource management, this limits the mobility of small-scale fishers geographically and socially, and prevents access to fishing communities by outsiders.
- (vii) Economic rent extraction: The factors noted above combine to create market imperfections such that nearshore fishers in many tropical regions receive less than the free-market price for their catch, yet pay excessively for inputs, and usuriously for loans. These are the principal ways in which rents are extracted. They are also extracted by the requirement to share catches in small, traditional communities and among kin, as well as by other customary practices, such as ritual performance and donation.

Many of those difficulties could be overcome were it not for the persistence of an extremely negative connotation associated with the term 'tropics' among fisheries scientists based in the temperate latitudes. Daniel Pauly summarized the prevailing attitude in an insightful essay inspired by a peer review, which, in its entirety, read: "Rubbish, may apply in the tropics—but not here" (Pauly, D. 1994. "May apply in



the tropics—but not here!”. In D. Pauly (Ed.), *On the Sex of Fish and the Gender of Scientists: Essays in Fisheries Science*, London: Chapman and Hall).

There is little doubt that an elitist bias virtually deifies objective Western science and regards other knowledge systems as illegitimate, and those who challenge conventional theories and formal models are belittled. Such deeply embedded attitudes inhibit unconventional projects and research, and innovation is dissuaded when only empirical, quantitative methodologies are acceptable. This results in a standardized technological transfer being promoted by the structure of research institutions and professions. Indeed, R.E. Johannes (1981, *Words of the Lagoon: Fishing and Marine Lore in the Palau District of Micronesia*, Berkeley: University of California Press) contended that the crux of the issue that handicaps the development of nearshore tropical fisheries is the lack of integration of knowledge, with elitist natural scientists routinely overlooking the practical knowledge possessed by artisans.

The historical roots of this prejudice are deep. One of the massive, if insidious, impacts of both historical and contemporary globalization has been the imposition of standard Western systems of resource management. In every respect, this is the cultural equivalent of a major reduction in biodiversity. Coastal communities throughout the tropics experienced this early in the colonial era, when many communities were wrongly deprived of their traditional rights to fisheries and other resources. In some cases, these have only recently been restored to them (Ruddle, K. 2007. “Wronging Rights and Righting Wrongs”. In W. Taylor, M. Schechter and L. Wolfson (Eds.), *Globalization: Effects on Fisheries Resources*, Cambridge: Cambridge University Press).

The most pernicious impacts of this conventional and long-applied Western model derive from the modern assumption of the lack of prior local institutional arrangements among fishers to govern a fishery, and that fisheries are unregulated by local collective action. The bioeconomic management model, therefore, argues that, to manage stock externalities, institutional arrange-

**There is little doubt that an elitist bias virtually deifies objective Western science and regards other knowledge systems as illegitimate, and those who challenge conventional theories and formal models are belittled.**

ments must be imposed on local fishing communities by some external level of government. Such schemes are based on the assumption that the institutional context of the fishery is one of open access. This is simply not true for vast tracts of the world's nearshore waters, particularly in tropical regions.

There are several reasons why those of us who have long emphasized the practical importance of considering pre-existing management systems are also partly responsible for this situation. An important reason was the pessimism expressed in one of the earliest articles on pre-existing systems, R.E. Johannes' 1978 paper, “Traditional Marine Conservation Methods in Oceania and Their Demise” in the *Annual Review of Ecology and Systematics*, 9. In the mid-1970s, pre-existing systems of community-based marine resource management were everywhere in decline, the victims of Westernization. Despite their functional elegance, the author was naturally pessimistic about their future. Unfortunately, many of those who read

MECKI KRONEN/SPC



Canoe fishermen in Kiribati, South Pacific

this early article based their unwavering opinions on it. Probably many did not bother to keep up with the related literature over the next 25 years, and, more than likely, they failed to read

**Natural scientists have routinely overlooked the practical knowledge possessed by artisans...It is one manifestation of the elitism and ethnocentrism that runs deep in much of the Western scientific community...**

Johannes 2002 follow-up article, "The Renaissance of Community-based Marine Resource Management in Oceania" in the *Annual Review of Ecology and Systematics*, 33. Belying Johannes pessimism of a quarter century earlier, an amazing transformation had occurred in the ensuing 25 years, particularly in Vanuatu, Samoa and Fiji, where new fisheries-management designs have been based largely on the pre-existing systems. We all felt vindicated.

The second reason has undoubtedly been the use, from the very beginning, of the notoriously imprecise term 'traditional', as in 'traditional management' and 'traditional (ecological) knowledge'. This has probably not presented pre-existing systems in either

an accurate or favourable light. Worse, its use enables proponents of Western management models to claim that if something is 'traditional' *ipso facto* it is unsuited to modern conditions. In particular, it provides a perfectly tailored excuse for donors with different agendas, like promoting participatory democracy cloaked in a co-management design, to claim, for instance, that chiefly, authority of 'traditional management systems' is undemocratic and, therefore, antithetical to modernization. Further, some tropical societies may see the term 'traditional' as pejorative and synonymous with 'backward', which might incline them to accept a Western management model as part of a development assistance package.

Third is that the uncritical acceptance and romanticization of 'traditional' ecological knowledge, inflated claims about its environmental wisdom without determination of its validity, and selectively using facts to fit preconceived cases, have provoked a backlash. Particularly regrettable has been the conflating of an imputed sacredness with profound ecological wisdom, or the use of such phrases and terms as 'sacredness of ecological systems' or 'sacred ecology' of indigenous peoples.

Many of the earlier studies on non-Western management systems proposed using pre-existing local systems for a modern purpose in precisely those locations (for example, Samoa, Vanuatu and Solomon Islands) where traditional systems remained either still functional or well remembered. That advice was taken with the now excellent results clearly visible. This approach needs reinforcement and wider application. In furtherance of that is an immediate need for a radically different approach to fisheries management that recognizes that:

- (1) the underlying characteristics of nearshore fisheries in tropical countries are vastly different from those for which the conventional Western approaches were developed;
- (2) the various Western approaches to managing fisheries have not been successful in tropical nearshore fisheries; and

KENNETH RUDDLE



Sharks caught by small-scale fishermen in Cox's Bazaar, Bangladesh



MECKI KRONEN/SPC



In Lau, Fiji, it is common for women to use tidal changes to capture fish in pools using gillnets

- (3) there exist, in many tropical developing countries, pre-existing systems that provide proven alternative approaches to management and blueprints for new systems, since they are already pre-adapted to the characteristics of tropical nearshore fisheries and cultural milieux.

The earlier literature on pre-existing systems continue to provide a background and useful guide to further work. Those interested in further reading can obtain a copy of “The Collected Works of R.E. Johannes: Publications on Marine Traditional Knowledge and Management” from <http://www.intresmanins.com/publications/irmirej.html>

Many important articles can be downloaded from Traditional Marine Resource Management and Knowledge Information Bulletin, published by the South Pacific Community, by going to <http://www.spc.int/coastfish/News/Trad/trad.htm>

A publications list can be obtained by emailing the author at [mb5k-rddl@asahi-net.or.jp](mailto:mb5k-rddl@asahi-net.or.jp)



#### For more



[www.spc.int/coastfish/](http://www.spc.int/coastfish/)

**Secretariat of the South Pacific Community**

# The Dilemma of the Nile Perch

Ecolabelling could be a strategy to secure long-term market access of a fishing sector that secures the livelihoods of around 150,000 fishers in the Nile-perch fishery

10

**T**he Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH is an international co-operation enterprise for sustainable development, with worldwide operations. GTZ is a German federal enterprise, and supports the German government in achieving its development-policy objectives. The German Federal Ministry for Economic Co-operation and Development (BMZ) is one of its main clients.

Currently, GTZ is involved in a pilot project in Tanzania to introduce ecocertification in the fishing industry around the Nile perch (*Lates niloticus*), and is

ous ups and downs since its introduction in the 1990s. Consumer opinion shifted between 'fish of the month' and an 'African nightmare', based on the documentary film *Darwin's Nightmare*, which, due to a very negative presentation of the Nile-perch industry and the region, raised a lot of concerns. This article clarifies certain problems, and proposes ecolabelling as a strategy to secure long-term market access for a sector that, at present, secures the livelihoods of approximately 150,000 local fishers.

A lot has been published on the effects of the Nile perch's introduction into Lake Victoria, most of it controversial due to a sudden intense predation and reduction of the unique, indigenous cichlid stocks.

Therefore, opinions range, in general, from criticism as an ecological catastrophe to the appraisal as an economic success story, based on the significance of the fishery for local incomes, employment and export revenue for the riparian States of Kenya, Tanzania and Uganda. The latter comprised approximately US\$250 mn in 2004. Representatives of the African States repeatedly refer to these facts to stress the importance of the Nile-perch fishing sector.

## Chemical use

During recent years, cases of contamination of fish consignments, the outbreak of a local cholera plague, and the alleged use of chemicals during fishing operations led to import bans

**The current discussion about Nile perch is clearly dominated by a 'European' point of view, that is, one focused on pure nature and species conservation.**

conducting a feasibility study in Senegal about the possibility of ecocertification. In October 2006, GTZ organized a regional workshop in Nairobi to explore the possibility of ecolabelling in Lake Victoria. GTZ is also promoting responsible aquaculture, *inter alia*, through the introduction of environmental and social standards and guidelines for product certification. For example, with the support of GTZ, Naturland initiated their first pilot project for the organic production of shrimp in Ecuador.

The German market for Lake Victoria Nile perch has gone through numer-

This article by **Uwe Scholz** ([uwe.scholz@GTZ.de](mailto:uwe.scholz@GTZ.de)), Programme Adviser, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), was earlier published in *Eurofish Magazine* 6/2006 and also in *Globefish* (<http://www.globefish.org/index.php?id=3513>)



into the European Union, resulting in local unemployment and a huge loss of foreign exchange. A detailed analysis of all the published pros and cons related to the introduction of the Nile perch would be very time-consuming. Therefore, the following statements should be sufficient. Since its introduction into Lake Victoria, the species has established itself well and has become part of the fish fauna. It can no longer be removed or controlled to such an extent that the indigenous cichlids will not be subject to predation. The full history of the introduction is still a bit vague, as the only documentation available concerns the release of a limited amount of perch in February 1954 into Lake Kyoga, which is located downstream of Lake Victoria—at this time still separated by the Owen Falls. Today, Nile perch accounts for about 50 per cent of the landings, followed by the lake sardine (*Rastrineobola argentea*, locally named *dagaa* or *omena*) and larger cichlid species such as the Nile tilapia (*Oreochromis niloticus*), a species that was also introduced during the 1960s. Lake sardines are today the major staple source of protein supply for the local population, while tilapia are the preferred fish species for consumption in urban centres. In other words, the fish fauna of the lake is not, as is often stated, entirely depleted of all species except the Nile perch. A lot of indigenous fish species have found long-term protection in the rocky shores or overgrown shallow waters of the lake.

The current discussion about Nile perch is clearly dominated by a 'European' point of view, that is, one focused on pure nature and species conservation. Stated facts are often similar to the dialogue concerning animal protection in African nature reserves, in particular, the militant rejection of partly necessary cutback of abundant species that become destructive for people and the environment, for example, elephants. Debates and controversies are both useful and essential, since they draw attention, and may lead to an increased support for African countries in their attempts to cope with the problems. However, the deliberations are often dominated by an inflexible

animal-rights viewpoint. A similar discussion in relation to a proposed culling of dangerous elephants in Malawi led a Chief of the Angoni to make the following statement: "They (the Europeans) love animals more than us."

In a region where the survival of the population is dependent on fishing, and issues like social security or compensation for loss of earnings are non-existent, people see no direct benefit in a fanatic protection of, for example, indigenous cichlids. For that to occur, income from aquarium-fish trade (which has still to be established) or 'cichlid tourism' should exceed income from Nile-perch fishing, which is unlikely to be the case.

A complete ban of the Nile-perch fishery, as demanded by the environmental organization Greenpeace, is not a solution, because the fish has established itself firmly in the ecosystem, and should rather be fished and consumed. It thus makes more sense to make use of the species, while, at the same time, paying attention to social and environmental aspects and, in doing so, trying to improve the livelihoods and living conditions of the local population. To do this, local initiatives for better fisheries management at the village level (beach management groups) and the regional Lake Victoria Fisheries Organization (LVFO), which co-ordinates



Nile perch accounts for about 50 per cent of the landings from Africa's Lake Victoria

the management efforts of the fisheries departments, should be supported.

**An additional prerequisite would be that consumers in Europe are prepared to pay a premium for ecolabelled Nile perch, and that fishermen involved in better fisheries-management practices would benefit from this added value.**

Ecolabelling aims at producing and marketing fish in an ecological and socially compatible way. In the case of Lake Victoria perch, a labelling process such as that of the Marine Stewardship Council (MSC) would be a suitable tool, but it would have to be modified to the conditions of the African small-scale fishery in conjunction with capacity development of accredited local certifiers. An additional prerequisite would be that consumers in Europe are prepared to pay a premium for ecolabelled Nile perch, and that fishermen involved in better fisheries-management practices would benefit from this added value. The prerequisite of the price premium seems to be, meanwhile, accepted, as more and more trade chains and wholesalers have reacted to consumer pressure by offering a variety of MSC-certified products.

GTZ has gained a lot of experience with development co-operation projects in the fisheries sector worldwide. In co-operation with MSC and other partners like the Food and Agriculture Organization of the United Nations (FAO) and the World Wide Fund for Nature (WWF), GTZ is currently in the process of developing a concept for an increased support of the Developing World Programme of the MSC, which also targets tropical small-scale fisheries like the Lake Victoria Nile perch fishery. In a GTZ-supported stakeholder conference in Nairobi, during 4-6 October 2006, Lake Victoria was chosen for ecolabelling pilot initiatives, implemented under the co-ordination of the LVFO. The regional fisheries organization additionally received a mandate from the fisheries ministers of the riparian States, in July 2006, to assess the potential of ecolabelling.

According to Thomas Maembe, LVFO Executive Secretary, ecolabelling pilot

initiatives are welcome, and will be supported by the States concerned, as transparency, good fisheries management and labelling are seen as tools for long-term market access of Nile perch fisheries products to the important European markets. They are also seen as being of benefit to the population living around the lake, which sometimes hardly has any alternative to fishing.

In this regard, GTZ will co-finance a MSC pre-assessment of Lake Victoria, together with the German processors and importers association, Bundesverband der deutschen Fischindustrie und des Fischgroßhandels e.V. All parties have agreed to participate, and the project will commence once the administrative handling is arranged.

Since March 2007 a pilot project for ecolabelling the Nile-perch fishery in Lake Victoria has been running in Bukoba, Tanzania, in order to gain some first-hand experiences about the bottlenecks. Partners in this process are the European importer, Anova, the local Processor, Vicfish, and the certifier, Naturland. The first results are not expected before end 2007.

In recent months, GTZ has also provided backstop for an MSC initiative in Senegal. In May 2007, a feasibility study for the MSC on Senegalese small-scale fisheries was commissioned. This study is currently in the validation process, and findings will be announced in due course.

#### For more

[gtz.de/en/presse/18444.htm](http://gtz.de/en/presse/18444.htm)

#### GTZ Press Release on Certification

[www.anovafood.com/page.asp?lStrId=63&lStrArtNr=5.3.&lIntMenuStyle=5&lIntLevel=11&lStrLang=EN&lStrBuyer=&lStrPagePath=Sustainability%20%3E%20Naturland](http://www.anovafood.com/page.asp?lStrId=63&lStrArtNr=5.3.&lIntMenuStyle=5&lIntLevel=11&lStrLang=EN&lStrBuyer=&lStrPagePath=Sustainability%20%3E%20Naturland)

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#### Press Release by Global Nature Fund on World Wetlands Day 2005



# Fishing Safely

**An International Plan of Action (IPOA) on the safety of fishing vessels and fishermen could become a milestone**

**T**he Food and Agriculture Organization of the United Nations (FAO) has estimated that the global fishing fleet currently consists of about 1.3 mn decked vessels and 2.7 mn undecked vessels. About 86 per cent of the decked vessels are concentrated in Asia. There is little information available for the undecked/non-motorized vessels but it is estimated that Asia accounts for about 83 per cent of them. While virtually all decked vessels are mechanized, only about one-third of the undecked fishing boats are powered, generally with outboard motors. The remaining two-thirds are traditional craft of various types, operated by sail and oars.

Available statistics on fisheries employment are scarce, incomplete and of low quality. According to FAO records, employment in the primary capture fisheries and aquaculture sectors in 2004 was estimated to have been about 41 mn fish harvesters, including full-time, part-time and occasional workers. The great majority of these are in developing countries, principally in Asia. In 2004, the number of fishermen accounted for three-quarters of the total number of fish harvesters, that is, about 30 mn, of which 16 mn are working full-time in the marine sector. About 98 per cent of fishermen are working on board fishing vessels of less than 24 m in length, and about two-thirds, on vessels of less than 12 m in length, both decked and undecked.

Fishing at sea is probably the most dangerous occupation in the world. The International Labour Organization (ILO) estimates that 24,000 fatalities occur worldwide each year in capture fisheries. The consequences of loss of

life fall heavily on the dependents of fishermen. In many developing countries, these consequences can be devastating: widows have often a low social standing; there is no welfare State to support the family; and, with lack of alternative sources of income, the widow and children may face destitution.

The safety of fishing vessels and fishermen involves several inter-related components such as design, construction and equipment of the vessels. However, social and economic pressures, as well as overcapacity and overfishing of coastal resources, are probably the major factors that have negated the results of efforts to improve safety at sea. Furthermore, issues of safety on fishing vessels are different from those on merchant vessels, where, for example, the majority of hazardous operations are carried out in the safety of the port, unlike on fishing vessels (particularly

**Fishing at sea is probably the most dangerous occupation in the world.**

small fishing vessels), where crews have to work at sea, on deck, in all types of weather, frequently with the hatches open, locating and gathering their cargo from the sea.

## **Matter of concern**

The safety of fishing vessels and fishermen has been a matter of concern for FAO since its inception in 1945, when the organization provided assistance in

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Fishermen pushing a vessel into the sea in the coastal village of Paita, Peru

International Maritime Organization (IMO), in developing guidelines and standards on the safety of fishing vessels and fishermen. The first attempt to address the safety of fishing vessels and fishermen at an international level took place in the early 1960s in the form of the following publications:

- FAO/ILO/IMO Code of Safety of Fishermen and Fishing Vessels, Parts A and B
- FAO/ILO/IMO Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels
- FAO/ILO/IMO Document for Guidance on Training and Certification of Fishing Vessel Personnel

Currently, FAO is working with ILO and IMO in developing new safety standards for small fishing vessels that are not covered by the revised Code and Guidelines. The provisional title of these new standards is "Safety recommendations for decked fishing vessels of less than 12 m in length and undecked fishing vessels". The target completion date for this work, which also includes the development of guidelines for implementation of the Safety recommendations, is 2010. The website of the international correspondence group, which is developing the Safety recommendations and Guidelines, is <http://www.sigling.is/fvs-iscg>

The main reason for accidents in the fishing industry is human error (estimated to be responsible for 80 per cent of accidents in the industry), rather than the design and construction of unsafe boats. Poor fishing practices and seamanship result, for example, in well-designed and constructed fishing vessels capsizing because of ignorance of operational factors that govern the stability of the vessel.

### External advice

It is likely that many developing nations will seek external advice in planning the management of fisheries in their exclusive economic zones (EEZs). FAO is the UN agency with the mandate and competence to promote a holistic approach to fisheries management, including safety of fishing vessels and fishermen, in developing countries.

the establishment of fishery-training institutions in a number of countries. Hundreds of training institutions were established, many of which are still operating. Hundreds of fisheries projects related to training and safety, including courses, workshops and seminars, have been organized, in which many thousands of participants have taken part. FAO has carried out several regional projects on the safety of fishing vessels and fishermen. Currently, a number of projects devoted to safety are under implementation and others are under development.

Safety in the fishing industry cannot be divorced from fisheries management, and this fact is recognized in the provisions of the FAO Code of Conduct for Responsible Fisheries. The Code, which was unanimously adopted on 31 October 1995 by the FAO's governing Conference, provides a necessary framework for national and international efforts to ensure sustainable exploitation of aquatic living resources in harmony with the environment. The Code, which is voluntary, also addresses safety and health in the fishing sector.

There is a long-standing co-operation between FAO and its sister United Nations (UN) organizations, ILO and the

This is in full accordance with FAO's mandate to raise levels of nutrition and standards of living, and follows naturally from the organization's formulation of the Code of Conduct for Responsible Fisheries and its mandate to monitor the application and implementation of the Code and its effects on fisheries worldwide.

By making safety requirements prerequisites to fisheries authorization, progress is guaranteed. To fish legally will be to fish safely. Such a step will require a change of attitude within the fisheries, and, consequently, a firm motivation on behalf of the legislators, but, given that fishing is one of the most dangerous occupations known on earth, this progress seems inevitable.

The main lesson learned from FAO's experiences in the implementation of its various safety activities is that recommendations, however sound, do not form an adequate basis for administrations to act or for industry to respond. Despite the development of instruments and guidelines related to the design, construction and equipment of fishing vessels, the accident rate in the fishing industry is unacceptably high. The main cause of accidents and loss of lives in the industry is not poorly designed, constructed or equipped vessels, but human errors resulting from lack of awareness of safety problems, and poor fishing practices and seamanship. Such practices often place demands on boats that exceed their design limitations. Regulations that result in the vessel being stronger, more stable or more seaworthy may simply result in the operators taking greater risks to improve their catches. This could be avoided by fisheries management measures that deter or prevent skippers from doing so, or by fisheries management measures that might remove some of the economic pressures that force fishermen to take risks.

At the 27th Session of the FAO Committee on Fisheries (COFI), a large number of Members expressed concern about the safety at sea for fishing vessels, especially small-scale fishing vessels. FAO was urged to continue collaboration with IMO, and it was suggested that FAO should develop guidelines on best practices for safety at sea, and that

COFI should consider developing an International Plan of Action (IPOA) on the subject.

An IPOA on the safety of fishing vessels and fishermen, which would incorporate guidelines on best practices for safety at sea, could become another milestone to improved safety, providing the opportunity to address safety in a holistic fashion. An IPOA is a voluntary instrument elaborated within the framework of the FAO Code of Conduct for Responsible Fisheries.

In implementing the existing IPOAs,

### **Safety in the fishing industry cannot be divorced from fisheries management...**

States are required to carry out a set of activities in conjunction, as appropriate, with relevant international organizations, and conduct a comprehensive assessment of the issue in question to determine if a problem exists. If a problem exists, States should adopt a National Plan of Action (NPOA), which is a plan that a State designs, implements and monitors to mitigate the problem.

JOHN SWAMY/SIFFS



The use of a lifebuoy being demonstrated at a training programme in a south Indian fishing village




The NPOA should prescribe appropriate mitigation measures; contain plans for research and development; prescribe means to raise awareness among fishers, fishing associations and other

**States that determine that an NPOA is not necessary may be requested to review that decision on a regular basis, particularly taking into account changes in their fisheries.**

relevant groups; provide information about technical or financial assistance; and prescribe collection programmes of reliable data. This model could be carried forward by an IPOA on the safety of fishing vessels and fishermen.

### Changing fisheries

States that determine that an NPOA is not necessary may be requested to review that decision on a regular basis, particularly taking into account changes in their fisheries. If, based on a subsequent assessment, States determine that a problem exists, they should implement an NPOA. States should report on the progress of the assessment, development and implementation of their NPOAs as part of their biennial reporting to FAO on the Code of Conduct for Responsible Fisheries.

An IPOA would have many advantages. Being a voluntary instrument, it would be unlikely to face the obstacles encountered in the development of a new international instrument. It is foreseeable that it could apply to all sizes of vessels. But as an instrument elaborated within the framework of the FAO Code of Conduct for Responsible Fisheries, it would have greater authority than voluntary guidelines. Following its adoption, an IPOA would require States to carry out, in effect, a national audit of the problem and the underlying causes, and to prescribe a broad range of actions to improve safety. It would also require States to report every two years to COFI on actions undertaken, and thus permit a sharing of experiences and lessons learned. 

#### For more

[www.imo.org/Conventions/contents.asp?topic\\_id=257&doc\\_id=647](http://www.imo.org/Conventions/contents.asp?topic_id=257&doc_id=647)

**International Convention for the Safety of Life at Sea (SOLAS), 1974**

[www.fao.org/fi/website/FIRetrieveAction.do?dom=topic&fid=12272](http://www.fao.org/fi/website/FIRetrieveAction.do?dom=topic&fid=12272)

**Fishing Safety at Sea, FAO**

[www.ilo.org/public/portugue/region/europro/lisbon/pdf/rep-v-1.pdf](http://www.ilo.org/public/portugue/region/europro/lisbon/pdf/rep-v-1.pdf)

**Conditions of Work in the Fishing Sector, ILO**

[www.icsf.net/SU/Dos/EN/57](http://www.icsf.net/SU/Dos/EN/57)

**ICSF's Safety at Sea Dossier**

# Shoring Up

**In the wake of the adoption of the Work in Fishing Convention, 2007, working conditions in shore-based fishing operations must be improved**

**T**he Work in Fishing Convention, 2007, of the International Labour Organization (ILO) defines commercial fishing as all fishing operations, including fishing operations on rivers, lakes or canals, with the exception of subsistence fishing and recreational fishing. Fishers are defined to mean every person employed or engaged in any capacity or carrying out an occupation on board any fishing vessel, including persons working on board who are paid on the basis of a share of the catch, but excluding pilots, naval personnel, other persons in the permanent service of a government, shore-based persons carrying out work aboard a fishing vessel and fisheries observers.

It is worth noting that although the definition of commercial fishing encompasses all fishing operations, the definition of fishers takes into account only vessel-based fishers. Shore-based fishers are thus excluded from the scope of the Convention.

The Provisional Record of the discussion on the definition of the term 'fisher' during the 92nd session of the International Labour Conference (ILC), in June 2004, throws some light on the debate that took place on the issue of an inclusive definition of a fisher (see box) to cover both vessel- and shore-based fishers.

Delegates agreed that for the purposes of ILO's Work in Fishing Convention, a fisher would be seen as a person employed or engaged in any capacity or carrying out an occupation on board any fishing vessel, but that Member States could extend the protection of the Convention to other types of workers, if they so wished. It was noted that

the ILO Constitution allows governments to apply more favourable conditions than those provided for in a Convention or Recommendation.

The onus is then on governments to consider the Work in Fishing Convention, 2007, in the light of the realities within its own fishing sector, and to ensure that the protection provided by the legislation following this Convention is enjoyed by all significant categories of fishers.

In particular, it should be ensured that provisions related to minimum requirements for work, conditions of service, occupational safety and health protection, medical care and social security apply to all significant categories of fishers.

**The onus is then on governments to ensure that the protection provided by the legislation following this Convention is enjoyed by all significant categories of fishers.**

In many countries, particularly developing countries, fishers who engage in harvesting of living resources without the use of vessels—those who glean, dive and shore-seine—are an important part of the fishing population.

## Most marginalized

By all accounts, many of these fishers are amongst the most marginalized and vulnerable among the fishing population, and many are women. This is certainly the case in India, for instance.

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### Discussion under Point 5 (Definitions), Clause 5(c)

From Provisional Record, 92nd Session of the ILC, 2004. "Fifth item on the agenda: Work in the fishing sector – A discussion with a view to the adoption of a comprehensive standard (a Convention supplemented by a Recommendation)" <http://www.ilo.org/public/english/standards/relm/ilc/ilc92/pdf/pr-21.pdf>

#### Discussion under Point 5 (Definitions), Clause 5(c)

The Government member of Brazil, speaking also on behalf of the Government member of Chile, introduced an amendment to address a possible exclusion from protection under the Convention to fishers who were not working aboard ships, given that presence aboard a fishing vessel was a strict requirement under the proposed Convention. It was informed that according to Brazilian legislation, workers working in aqua farming, as well as persons catching crabs in swamps or picking oysters, were also considered fishers.

The Government member of Brazil stressed that the amendment's goal was not to provide an automatic extension of

cover, but to allow member States to fill gaps resulting from too strict a definition of fishers, thus giving discretion to member States to extend the cover of the Convention to other groups of workers they considered fishers". However, the Government member of Norway pointed out that Norwegian legislation did not treat workers involved in fish harvesting as fishers. They were covered by regulations for shore-based workers. Since the amendment created two alternative definitions of fishers, Norway did not support it. Member States could, in any case, extend the protection to other types of workers, if they so wished, it was stressed. The Norwegian position was supported by several other Government members, including Greece and Germany, and by the Employer and Worker Vice-Chairpersons.

The representative of the Secretary-General pointed out that article 19, paragraph 8, of the ILO Constitution allows governments to apply more favourable conditions than those provided for in a Convention or Recommendation. On that basis, the Government member of Brazil withdrew the amendment.

A rapid appraisal, based on secondary literature and interviews with fish-worker and other organizations, on the kinds of shore-based fishing activities across the coastal States in India, is re-

species harvested are used for domestic consumption, sale in the domestic market, or export. The people engaged in shore-based activities are either self-employed, working under a share system, or employed under a contract system, by traders or their agents. Vessels may be used to assist in the transport of fishers, or to carry the harvest, but not for the fishing operation *per se*.

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vealing. Shore-based fishing operations target a wide range of species, such as clams, molluscs, certain shrimp species, seaweed, sea cucumbers and shells. A wide range of gear is employed, including shore-seines, traps, stake-nets, bag-nets, small gillnets and diving gear. The

#### Literature survey

Information on numbers of fishers engaged in shore-based fishing operations is hard to come by. The information in the adjacent table on India is based on a survey of existing literature and information provided by organizations working on fisheries issues. Though only rough estimates, it does indicate that thousands of people are engaged in shore-based fishing



Table: Some Types of Shore-based Fishing

Type of Fishing	Number of People Involved
Fishing for prawns and other species by <i>pagariya</i> fishermen in the Gulf of Kachchh, Gujarat	About 3,230 <i>pagariya</i> households are estimated to be involved in fishing, using stake-nets
Monsoon fishing for <i>Metapenaeus kutchensis</i> (a type of shrimp) in the Gulf of Kachchh, Gujarat, by the <i>miana</i> community	5,000 fishers from the <i>miana</i> community are estimated to be involved in this fishing (Kizhakudan et al., 2003)
Seaweed collection in the Gulf of Mannar, Tamil Nadu	An estimated 5,000 fishers, mainly women, are engaged in this type of fishing (Rajagopalan, 2007)
Crab fishing in Diviseema area of Andhra Pradesh	It is estimated that about 1,000 women from 20 villages are engaged in hand-picking of crabs
Mollusc fishing in Kerala	It is estimated that 4,250 people are involved in mussel collection from Vembanad estuary, of which 600 are estimated to be women. About 1,250 people engage in oyster collection; about 600 are estimated to be women.
Prawn seed collection (using stake-nets or hand-pulled drifting bag-nets) in Sunderbans, West Bengal	An estimated 30,000 people are known to earn their livelihoods from this type of fishing, with a significant proportion being women and children.

Sources: Setu (Gujarat); ICM (Andhra Pradesh); SIFFS (Kerala); DISHA (West Bengal); *Role of Fishermen in Conservation and Management of Marine Fishery Resources in Gujarat, India: Some Case Studies*. J.K. Kizhakudan and S.J. Kizhakudan, 2003. CMFRI, India; *Marine Protected Areas of India* (study in progress). Ramya Rajagopalan, 2007

operations, and that any legislation put in place to improve working conditions in fishing must necessarily cover this segment of the fishing population.

From an occupation-health and safety perspective, those engaged in shore-based fishing operations that take place mainly in the tidal or the inter-tidal zones are exposed to various types of hazards, illness and disease, related to the nature of their occupation, and to natural calamities.

Diving for collection of seaweeds, chanks (*Turbinella pyrum*) and bivalves, for example, though lucrative, is dangerous. Divers may dive to a depth of 10-25 m with just a pair of goggles and flippers (a pair of flat tin plates attached to the feet, a very recent addition to the gear), and without an oxygen mask. In the Gulf of Mannar, fishers may start diving at the age of 15, continuing till the age of 40-45. Premature ageing is prevalent among divers. Even though accidental deaths are rare, ailments like earache and hearing impairment have been reported.

Clam pickers and other fishers, like the women in the *kolim* (a type of shrimp) fishery in Maharashtra, who

wade in the waters for long hours, are exposed to various sorts of occupational health hazards, such as rheumatoid arthritis and backache, due to their posture and their constant exposure to water. These issues of occupational health and safety are clearly important and need to be addressed, to improve



A woman collecting shrimp seed in the deltaic estuarine waters of the Sunderbans, West Bengal, India

conditions of work in shore-based fishing activities.

Shore-based fishers are also highly vulnerable to natural disasters. In the severe cyclone that hit the East Godavari district of Andhra Pradesh, India, on 6 November 1996, as many as 2,560 people lost their lives, of whom, 1,435 were fisher people. While 600 of these were fishers on mechanized boats at sea, the other 830 people—women, men and children—who lost their lives were those engaged in shore-based fishing operations, collecting shrimp seed (“Sea Safety: Reading the Perfect Storm” by Venkatesh Salagrama and D.S. Murty in *SAMUDRA Report* No. 32, July 2002). These were amongst the most vulnerable people in the area.

Similarly, in the December 2004 Indian Ocean tsunami, lives and livelihoods of gleaners, mostly women, collecting shells in the Buckingham canal near Chennai, were badly affected. Given the invisible nature of their work, these communities were initially even excluded from the relief and rehabilitation efforts.

Shore-based fishers, working as they do in tidal and inter-tidal areas, estuaries and coasts, are also victims of the growing levels of pollution in the coastal zone. For example, due to the high levels of pollution in the Uppanar river and estuary in Cuddalore district,

would be in order for the government to ensure that this marginalized segment also derives social-security benefits from any legislation that might be adopted towards implementing the Work in Fishing Convention, 2007.

In this context, the welfare schemes, including social security, of two States—Kerala and Tamil Nadu—merit greater attention. Tamil Nadu, for example, has a group accident insurance scheme for fisherwomen (State scheme). Tamil Nadu has also extended the savings-cum-relief scheme to fisherwomen, a long-standing demand of many women’s groups. The Kerala Fishermen’s Welfare Fund Board implements about 21 welfare schemes for fishermen and nine schemes for allied workers. Significantly, there are several schemes for fisherwomen and wives of fishermen. Another innovative scheme is the Allied Workers Welfare Scheme that aims to induct workers engaged in fishery-related activities as ‘members’ of the welfare fund. There are nine schemes for Allied Workers, including a Group Accident Insurance Scheme, old-age pension, and a maternity-benefit scheme for women workers, cash awards and scholarships for school-leaving children, financial assistance for treatment of fatal diseases of allied workers, financial assistance for the marriage of daughters of allied workers, and a widow pension scheme.

The possibility of introducing or strengthening these schemes in other coastal States, ensuring that any gaps in coverage of shore-based fishers is addressed, should be considered. It would also be useful to examine and replicate, as appropriate, the few social security-related initiatives taken by shore-based fishers themselves, and support organizations. For example, in the black clam fisheries of Vembanad, Kerala, there are seven black clam shell co-operative societies established with a view to organize the clam fishers and the black clam shell trade.

### Hand dredging

Most of the fishers are women who dive and pick the clams, or rake them up from a canoe with a hand dredge locally known as *kolli* or *varandi*. The clams are directly sold to the co-

**Shore-based fishers are also highly vulnerable to natural disasters.**

Tamil Nadu, cases of skin disease and even chemical burns have been reported, forcing fishers to stop fishing due to their failing health.

The linked issue of social security for shore-based fishers also needs to be examined. While no reliable data is available, it appears that shore-based fishers, other than the fishers who are involved in shore- or beach-seining operations, are, by and large, not covered by government schemes for fishers in States where such schemes exist. It

JAYARAJ

operatives, which, in turn, sell them to the lime, pharmaceutical and cement industries. During the off-season, during the southwest monsoon months of June and July, one of these co-operatives provides financial assistance to fishers based on their catch output. Each fisher can avail 2 kg of rice per tin of clams sold to the society, and a loan for the purchase of provisions, during the lean season. The co-operatives play a significant role in the welfare and development of these fishers by providing them financial assistance for various activities.

In the wake of the adoption of ILO's Work in Fishing Convention, 2007, which can go a long way in improving conditions of work in the fishing sector worldwide, it is to be hoped that the Indian government enacts appropriate legislation, after due consultation, ensuring coverage of all significant categories of fishers. Extending provisions of occupational health and safety, and social security to those engaged in shore-based fishing operations, would do justice to women in fishing, in particular. 3



Shoe *dhoni*, a traditional fishing craft found in the south Indian State of Andhra Pradesh

#### For more



[www.icsf.net/SU/Yem/EN/19/art04.pdf](http://www.icsf.net/SU/Yem/EN/19/art04.pdf)  
Article from ICSF's *Yemaya*  
Newsletter

[www.icsf.net/SU/Dos/EN/52](http://www.icsf.net/SU/Dos/EN/52)  
ICSF's Women in Fisheries Dossier

[wif.icsf.net/icsf2006/jspFiles/wif/index.jsp](http://wif.icsf.net/icsf2006/jspFiles/wif/index.jsp)  
ICSF's Women in Fisheries Site



# A Sustainable, Equitable, Small-scale Fisheries

The following Statement was issued at the National Summit for Small-scale Fishers, held in Port Elizabeth, South Africa, during 1-2 November 2007

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**W**e, the participants at this National Summit, representing 100 representatives of traditional small-scale fisher and coastal communities from the four coastal provinces, researchers, academics, community and non-governmental organizations working with fisher communities,

*Noting that:*

This is a historic moment as it is the first time in South Africa's history that small-scale fishers have been recog-

**This is a historic moment as it is the first time in South Africa's history that small-scale fishers have been recognized by government and come together to participate in a national summit...**

nized by government and come together to participate in a national summit, together with government representatives and representatives from civil society;

We comprise many different fisher communities, traditionally harvesting marine resources from the nearshore zone for our livelihoods. Some fishers harvest for immediate food security, others harvest for both food and for a cash income to cover their basic needs;

We include fishers who refer to themselves as 'subsistence', 'artisanal',

'small-scale' and 'traditional' but most of us move within this range of fishers;

We harvest a wide range of marine species in the intertidal and nearshore zone, using low- and medium-cost, primarily low- and medium-tech gear;

Our families have a long tradition of harvesting marine resources and our forefathers and mothers have utilized and developed ways of protecting the country's marine and coastal resources for generations, contributing to a rich tradition, culture and body of indigenous knowledge;

Whereas previously we could utilize the resources we needed to sustain our livelihoods, the apartheid regime took away many of our fishers' rights; in many instances, communities were separated from their means of livelihood;

Our coastal and fisher communities have experienced the systematic erosion of our rights to the sea, increasing poverty and other social problems;

Many coastal and fisher communities are still very marginalized, with very little access to infrastructure, services and information;

*Noting further that:*

This small-scale sector has not received the attention that it deserves in the legislative and policy processes following the introduction of democracy in South Africa;

*This Statement was adopted on 2 November 2007 at the Nelson Mandela University, Port Elizabeth, South Africa*

Subsistence fishers have been issued exemption permits on an inconsistent, late and haphazard basis;

The Long-term Rights Allocation Policy (2005) focused on the commercial sector;

Most traditional, small-scale fishers were excluded from the rights allocation process;

This sector is extremely vulnerable to exploitation by opportunistic forces;

The individual quota system introduced during the medium- and long-term policies has divided our communities and has not led to sustainable management of our intertidal and near-shore resources;

The industrialized commercial sector continues to exploit and control the intertidal and nearshore zone;

Fishers have not participated equally in the development of policies or management systems;

*Noting, in addition, that:*

South Africa's Constitution and the Bill of Rights therein protects the rights of all people, especially previously disadvantaged communities, to food security, traditional and cultural practices, equitable access to natural resources and substantive participation in decision-making processes that affect their well-being;

South Africa has signed the Code of Conduct on Responsible Fisheries as well as a number of other international and national policy and legal instruments that recognize the contribution that the small-scale sector makes to food security and poverty eradication;

Fishers' rights to their livelihoods are indivisible from their human rights, and the development of a sustainable fisheries management system is dependent on fishers' access to basic socioeconomic rights;

Fishers have the right to participate equally in policy- and decision-making;

Our marine resources are vulnerable to overharvesting, climate change and other factors, and we need to develop mechanisms for adapting our management systems and responses to these issues.

*We resolve that:*

A new policy for the small-scale sector, incorporating subsistence, artisanal and traditional small-scale fishers, be developed.

This Summit should identify a Task Team, representing fishers and government from all four coastal provinces, to take this Statement and the outcomes of this Summit and to integrate these into a new Draft Policy.

This Task Team should then advise on the process for taking this Draft Policy to communities for discussion, debate and acceptance.

*This Draft Policy should include the following:*

*Our Vision*

Our vision is a sustainable, equitable, small-scale fisheries in which communities have been empowered to secure their human rights, dignity and social, economic and gender justice, and the well-being and livelihoods of our fisher and coastal communities and marine ecosystems are ensured.

*Our Objectives:*

To recognize and protect fishers' human rights and their traditional fishing rights, in full compliance with national, regional, and international legal obligations;

To restore the rights of those traditional fishers and fisher communities

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Artisanal fishers in the Western Cape of South Africa march on Parliament to hand over a memorandum to the President in March 2006

whose rights were taken away from them;

To protect the history, culture, traditions and social and economic organization of fisher and coastal communities;

To allocate preferential access rights to traditional fisher communities for the use of a basket of marine resources in the nearshore zone;

**Fishers' rights to their livelihoods are indivisible from their human rights, and the development of a sustainable fisheries management system is dependent on fishers' access to basic socioeconomic rights...**

To contribute to poverty relief, food security and local economic development in fisher and coastal communities;

To allocate rights to communities based on the Controlled Regulated Equitable Access Distribution (CREAD) and Territorial Use Rights in Fisheries (TURF) approaches that recognize the diversity and uniqueness of our coast and coastal communities;

To create a flexible framework for fishers to utilize marine resources for subsistence and/or small-scale commercial purposes as their needs and circumstances require;

To develop and implement a developmental, empowering framework that will build the capacity of small-scale fishers;

To ensure the equal participation of fishers in the management of the marine and coastal resources through a co-management approach;

To ensure the participation of local fisher communities in the management of marine protected areas and in the equal enjoyment of the benefits of such areas;

To provide access to financial services and create market opportunities through local economic development initiatives for the small-scale sector;

To create the mechanisms for ensuring the integration of indigenous knowledge in scientific research and decisionmaking;

To secure the use of marine resources in a sustainable manner that

will protect these resources for the use and enjoyment of future generations, and promote rehabilitation of degraded and overexploited resources, where required;

To recognize the role of women in the small-scale fisheries and ensure that women are able to participate in a range of livelihood opportunities within the sector, whilst acknowledging their right to choose the level of their involvement;

To ensure that the elderly and young people are able to participate in, and draw benefit from, the small-scale fisheries sector;

To promote the introduction of alternative livelihoods such as aquaculture for the youth and those who choose to move away from direct fishing but to ensure that these projects do not threaten the health and well-being of our coastal ecosystems;

To ensure that poor fisher and coastal communities enjoy the benefits of new tourism and other developments and that these developments are socially and ecologically sustainable;

To secure a safety net/form of insurance for fishers working in the small-scale sector in order to protect the well-being of them and their families in times of crisis, ill health or death of a breadwinner;

To put mechanisms in place that will promote the safety and well-being of all those living and working in the nearshore zone; and

The principle of developmental governance needs to be applied to small-scale fisheries in order that this sector is integrated into local economic development and coastal management planning processes. To this end, co-operative governance and effective institutional structures and mechanisms are required across local, provincial and national levels of government. 3

#### For more

<http://www.masifundise.org.za/>  
Masifundise Development Trust,  
South Africa



# Getting Their Act Together

Coastal communities in the Veraval-Mangrol coast of Saurashtra in the Indian State of Gujarat are pushing for fisheries and coastal-area co-management

There has been an interesting sharing of ideas in recent issues of *SAMUDRA Report* on the experiences and principles of co-management. All over the world, fisher communities are trying desperately to safeguard their access to fish resources, while, at the same time, being driven to catch more in order to keep afloat. The fishers of the Saurashtra coast of Gujarat, one of the foremost fish-producing States of India, are no exception, as we happened to realize through a study that we had undertaken on "The Impact of Development on Human Population Dynamics and the Ecosystem" in three locations of the west coast of India, with the help of a grant from the McArthur Foundation.

One of the study locations was the large fishing harbour town of Veraval in Gujarat. The findings of the study were rather revealing, not only regarding the nature of the decline of the over-capitalized trawl fishery, but also the poor environmental and social indicators in a place that had a booming fishery for over 25 years through the 1980s and 1990s. In the community feedback workshops held in 2005, people were also taken aback by the findings of the study for while they were aware that their fishery was on the downswing, they felt challenged to realize that a large number of the children of the community were not in school, that there was a fall in the female sex ratio, and that there was a rise in the levels of morbidity and demands for dowry at marriages. As a community that is basically business-oriented and with a desire to simultaneously claim progress, they found themselves in a prisoner's

dilemma. They threw us the challenge of seeking a way out. By doing so, they were actually inviting us to interact with them on a longer-term basis and, despite the fact that we had no earlier plans of doing so, we accepted to get involved.

The fishery in the area is a trawl fishery along a 40-km coastline between the two fishing harbours of Veraval and Mangrol, which account for a third of the fish catches of Gujarat. There is also a vibrant *hodi* fishery of fiberglass-reinforced plastic (FRP) beach-landing craft, interspersed with the trawlers. We decided to get intensively involved in the fishing harbour/community of Mangrol as the community has traditionally been well organized. We were

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also fortunate to get a local team that the local community agreed to host. In preparation for the work, we organized an intensive training programme for the team. There were also four representatives from Mangrol and Veraval, selected by the community, who participated in the programme. They actually represented the trawl fishery.

## Initiating change

We did not initially mind this fact as it was this sector that we thought had to be involved in initiating any change in resource management. The

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boatowners were intensely involved in the training programme and, during the subsequent period, they turned out to be the main agents of change in the community. Besides developing an analysis of the fisheries crisis, they were most intrigued by the connections made to the fall in the female sex ratio, the number of school-age dropouts, the high morbidity rates, and the extensive

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pollution of water bodies, all in a context where the communities were well organized but totally in the hands of men. The inputs on gender analysis and the patriarchal development paradigm helped them to see the negative side of male-dominated communities, where women have no voice, and, as a consequence, the issues of potable water, sanitation and health receive no priority. In fact, the community organizations had seen to it that entry into the trawl fishery was limited to members of the same caste. Yet just as these caste organizations camouflaged disparities in the community, they were unable to manage the manner in which

investments were made in the fishery, which, in turn, aggravated the growing disparities.

The fishery in the area has been kept afloat by, on the one hand, State subsidies on diesel and, on the other, by the opening up of export markets and the development of *surimi* plants. It is otherwise an extremely inefficiently run trawl fishery, which has also contributed to the massive pollution in the harbours. But the government has gradually begun to be less lenient on the diesel subsidies, certain export consignments have been rejected by some importing countries, and the government has begun giving greater importance to developing coastal resources other than fisheries. The fishing communities, therefore, needed to get their act together and think differently about their fishery and its future if they did continue to consider the fishery as a means of livelihood.

Strategies to tackle this problem were developed at the training programme, and a plan was drawn up to set up a coastal area managing council in a year as well as push for co-management of the fisheries. The first step was to develop a general awareness in the community about the inter-relationships among the ocean, the land and the people so that people understand how these affect one another. This was done at several levels through all kinds of community programmes but the strategy in the first year was to:

- develop a forum for women where they could discuss and understand these issues and, at the same time, create a collective to gradually represent their cause and themselves in the community organization (*samaj*);
- create an awareness among the youth and children about the coast and oceans; and
- widen the understanding of the fishers themselves regarding coastal-area issues, and relate these to their fisheries-management possibilities. For this, efforts were made to also include the elected representatives of the municipality in discussions related to these issues so that they would be taken into consideration in town planning.

CHANDRIKA SHARMA/ICSF



A meeting on coastal and fisheries co-management, held in Veraval, Gujarat

## Statement

We, representatives of fishing community organizations from the Veraval-Mangrol region, representatives of fisheries and other departments and institutions of the Government of Gujarat, fisheries scientists and NGO representatives, met in Ahmedabad, Gujarat, 3-4 August 2007, for the "Expert Consultation on Coastal Fisheries and Area Co-management".

We met to discuss the crisis facing our fisheries and coastal resources, and to find a way forward. We recognized that our fisheries resources, the very basis of our livelihoods, are showing signs of decline due to reasons that include excessive fishing pressure. For this, we recognize that we are jointly responsible.

This consultation is not an event by itself. It is the outcome of a long process of dialogue and discussion with the fishing communities in the Veraval-Mangrol region that started several years ago. As a result, we share trust and goodwill and a common commitment to move towards better management of our resources.

We recognize also that our fragile and unique coastal areas, the spaces we have inhabited and used for generations, are being polluted and taken over, and the coastal resources are being indiscriminately destroyed. This has implications for the health of the fisheries and resource base and our livelihoods.

As men and women representing fishing-community organizations and those supporting them, we consider it important to discuss the management of both coastal land and fisheries resources within the same framework. This calls for a new way of looking at development – not only in terms of economic growth but also in terms of well-being for all, with a focus on equity and sustainability.

In our view, it is essential to put in place co-management arrangements for the management of coastal and fisheries resources, based on discussion between community organizations and government representatives, to build a genuine partnership based on trust. We draw attention to the relevant provisions of the Gujarat Marine Fisheries Act (2003), the Coastal Regulation Zone Notification (1991) and the Panchayati Raj Act that recognize the customary rights of the fishing communities to fisheries resources and coastal habitats. We are of the view that these legal instruments can be used to put in place appropriate co-management arrangements.

Achieving co-management calls for a change in the mindset of the representatives of both community and government. A certain amount of preparedness is required for this. It calls for wider awareness of global issues, creative use of tools for participatory processes and human capacity building.

Fishing communities have lived along the coasts for generations, and used coastal areas for repairing nets, berthing boats, drying fish, and so on. Our communities are now faced with threats of displacement to make way for industrial and other infrastructure development. We consider it essential that the priority rights of coastal fishing communities to coastal areas and spaces traditionally used by them should be recognized and strengthened, including through appropriate legal measures.

While we assert the rights of those traditionally involved in fishing, we recognize the need to be mindful of the rights of those from other communities who work in the fishery sector.

We are aware that rights come with responsibilities and obligations, and we are willing to take up our share of the responsibility. We wish to express our commitment to all the above sentiments and values by taking concrete action in the following realms:

- \* Initiate co-management experiments, starting with existing legal instruments.
- \* Initiate a co-management council of all stakeholders in Mangrol to manage the harbour and fisheries and evolve a co-management framework through this process of learning by doing. The financial and administrative transactions of this committee will be transparent.
- \* Community representation (men and women) in any co-management initiative should be at least 70 per cent.
- \* Initiate measures to collect data and information on fishing operations in a participatory manner in order to assess the health of the fishery.
- \* Take measures to reserve the coastal land and reassign unused land on a priority basis for fishing-community habitation, pre- and post-harvest activities and social infrastructure. Lands managed at present by the Gujarat Municipal Board (GMB) and the Gujarat Industrial Development Corporation (GIDC), but which are unutilized, could be earmarked for this purpose.
- \* Initiate steps for the improvement of women's fish-market infrastructure, starting in Chorwad and expanding to other regions.
- \* Set up good-quality health services in fishery areas, improve sanitation facilities for better hygiene, and develop ways to manage waste.
- \* Start higher-education institutions in the proximity of fishery areas.

We commit ourselves to take this process forward in order to creating a more responsible and sustainable fisheries that will contribute to the total well-being of coastal communities.





Women in the fishing village of Mangrol, Gujarat, India, unloading the day's catch

The most interesting results were from an active group of women fish vendors who pressured the municipality and the fisheries department for a better fish market, while another group made a detailed study of the community's problems relating to water, sanitation and attendant infrastructure, which was presented to the members of the *samaj*. In both these cases, the community's men were very responsive and open to the idea that women could also be part of the co-management process.

The discussions on co-management were done separately for the fishing sectors, the community organizations and the women so that all of them could un-

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derstand the issues and felt free to raise doubts and make suggestions from the point of view of their own sectors. It was clear that there were several areas of conflict.

After the discussions, all the representatives got together to discuss the

possibility of a larger plan and who would finally meet the government and scientists to make the proposed presentation on co-management. Importantly, it was the first time that women and men from various sectors, caste and religious groupings had got together to discuss coastal and fisheries issues.

Between 2 and 3 August 2007, an Expert Consultation on Fisheries and Area Co-management was held in Ahmedabad, the capital of Gujarat, supported by the Fish


Code Programme of the Food and Agriculture Organization of the United Nations (FAO), where the State's entire fisheries department was present, together with scientists from the Central Marine Fisheries Institute (CMFRI), the Central Institute of Fisheries Technology (CIFT) and the Fisheries Survey of India (FSI), as well as trader, processor and non-governmental organizations (NGOs) and the Marine Products Export Development Authority (MPEDA).

The community leaders first presented their ideas on co-management, which included both the need for fisheries management and coastal-area management, and articulated why they thought that this was a viable option in their particular context.

They requested the government to create a framework of legislation for co-management, where both their rights to the coastal resources and the responsibilities of the government and the various stakeholders would be clearly defined. Subsequently, the experts responded, and a group discussion followed on the action that could be taken.

An interesting and heated discussion between the trawl-boat owners, the scientists and the government officials had even the women chipping in, but unfortunately the *hodi* owners remained silent.

At the end of the Consultation, a Statement was issued (see box on pg. 27).

The importance of this process has to do with the fact that co-management was proposed by the community representatives from a shore-based fisheries perspective and not a fishing perspective alone. This was possible because of the data available and the focus on the fishery as a means of livelihood that has to be sustained. But this is not an easy process and it still has to be operationalized. We bank on the tremendous amount of goodwill shown by all the stakeholders, which indicates that the stakes in actually managing the fisheries are high. 

#### For more



[www.co-management.org/](http://www.co-management.org/)

#### **A Collaborative Research Project on Fisheries Co-management**

[www.idrc.ca/en/ev-92339-201-1-DO\\_TOPIC.html](http://www.idrc.ca/en/ev-92339-201-1-DO_TOPIC.html)

#### **Handbook of Fisheries Co-management from IDRC**

#### **Correction**

Some errors crept into “The Quota Conundrum” (*SAMUDRA Report* No.47, July 2007), as indicated by the author, Arthur Bogason: On pg. 22, “...while the rest are pelagic species that go for human consumption...” should have read “...the rest are pelagic species, which go more and more for human consumption...” On pg. 24, “...the big seafood companies bought 700 of the 1,043 small boats, transferred the quotas to their trawlers, destroyed the small boats or sold them off, some as leisure craft (to avoid them entering the fisheries again)...” should have been “...the big seafood companies bought 700 of these 1,043 boats, transferred the quotas to their trawlers, destroyed the boats (to avoid them to enter the fisheries again—they could not even be sold as pleasure boats)...” On pg. 25, “Boats using longlines and landing on a daily basis get a 13 per cent reduction of their quotas...” should have been “Boats using longline and landing on daily bases get a 13 per cent lesser reduction from their quotas...” The fish in the photograph on pg. 26 is a spotted catfish, not a cod. Our apologies for the errors.

# Certifying the Uncertifiable?

An Expert Workshop on Guidelines for Aquaculture Certification, organized in Fortaleza, Brazil, from 31 July to 3 August 2007, examined the gamut of issues surrounding intensive industrial aquaculture

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A recent joint initiative of the Food and Agriculture Organization of the United Nations (FAO), the Network of Aquaculture Centres in Asia-Pacific (NACA) and the Government of Brazil (through its Fisheries Secretariat) sought to open up a discussion on guidelines for aquaculture certification, with a particular focus on the Americas. This took the concrete form of an Expert Workshop on Guidelines for Aquaculture Certification, organized in Fortaleza, Brazil, from 31 July to 3 August 2007.

It was the second such workshop on the subject, under the December 2006

According to Rohana Subasinghe, responsible for the implementation of these workshops, "The certification guidelines are aimed at all types of aquaculture in a more generic manner. And the (Brazil) workshop will discuss various aspects of aquaculture (all types, species and practices) that have a relevance to certification."

The Brazil workshop, therefore, seemed like a good opportunity to air in a public international forum the concerns raised by the critics of industrial aquaculture, particularly in Latin America. There are serious misgivings in Latin America about the opportunity costs of developing intensive aquaculture, particularly where significant government subsidies may be provided. This is summed up by Juan Carlos Cardenas, Director of Ecoceanos, a Chilean non-governmental organization (NGO), who emphasizes: "We also need to look at alternatives for aquaculture development that could be instrumental in developing a more democratic and decentralized society that is socially just, environmentally sustainable and culturally diverse."

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mandate given to the FAO Committee on Fisheries (COFI) Sub-committee on Aquaculture "to convene an Expert Consultation and/or workshops which would assist in elaborating norms and reviewing the diverse options and relative benefits of these approaches." The reason given for convening such a consultation was "the emergence of a wide range of certification schemes and accreditation bodies" that were "creating confusion amongst producers and consumers alike".

## Environmental crimes

Industrial aquaculture certainly has its detractors, who accuse it of the worst kinds of environmental crimes and anti-social behaviour. They claim its practices are the antithesis of sustainable development, with profits and other benefits being offshored,

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and social and environmental costs externalized. Industrial aquaculture leaves in its wake an ecological footprint that is both heavy and indelible, and aquatic commons in ruin, local communities abused and displaced, and human rights violated.

Sensitive to such criticism, in recent years, the aquaculture industry and its supporters have tried to clean up their image. The Global Aquaculture Alliance (GAA) is one such high-profile initiative aimed at substantiating the industry's claims of environmentally and socially responsible aquaculture. The FAO, the World Bank (WB) and the World Wide Fund for Nature (WWF) have played key roles in supporting these endeavours. Support initiatives include the Consortium on Shrimp Farming and the Environment (The Consortium) and the Aquaculture Dialogues promoted by the WWF.

The Consortium members include FAO, NACA, the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities of the United Nations Environmental Programme (UNEP/GPA), WB and WWF. Founded in 1999, it has pioneered the development of International Principles for Responsible Shrimp Farming. But many NGOs have been cautious to embrace this initiative, which they see largely as 'greenwash'. When the WB, a Consortium Member, awarded itself and others in the Consortium its Green Award in 2006, it confirmed the NGOs' suspicions, and created even greater scepticism about the virtue of the Consortium as an impartial judge of industrial aquaculture practices.

Organic farming, fair trade and responsible consumerism have long and respected histories in several countries. But in recent years, these concepts have been poached by the commercial sector. The labelling of products as 'green' or derived from 'fair trade' or 'sustainable sources' has become a commercial tool for developing niche markets and for presenting a green and pleasant image to attract customers by the food industry and retail business, especially supermarkets.

The certification of fish and fishery products is a relatively recent phenomenon, especially for aquaculture. In

the case of organic labelling of aquaculture products, NGOs are highly divided. WWF, for example, "collaborates with a range of stakeholders to develop credible, voluntary standards geared toward minimizing or eliminating the main environmental and social impacts caused by aquaculture". In this regard, they have initiated several roundtables—called 'Dialogues'—in collaboration with producers, buyers, non-profit organizations and other stakeholders. There are five such 'Aquaculture Dialogues' currently in process, namely, for shrimp, tilapia, molluscs, pangasius and salmon. Once these processes have reached maturity, performance-based standards will be developed for certifying aquaculture. Such standards will then be passed on to new or existing certification organizations, possibly through processes akin to the setting up of the Marine Stewardship Council (MSC) by WWF and the multinational food giant, Unilever.

### Aquaculture certification

On the other side of the fence, Redmanglar International, a Latin American network of NGOs founded in 2001 in Honduras with members in 10 countries, has been highly critical of aquaculture certification schemes. They have issued several strong

ELLEN HINES



Aerial shot of shrimp farms on the east coast of the Gulf of Thailand

statements to the effect that “shrimp farming certification schemes currently being proposed...do not guarantee an ecologically and socially responsible activity” (2003); and that “current certification schemes will not help to address the massive environmental and severe social impacts caused by the shrimp industry...they may, in fact, legitimize past and current injustices and even lead to further expansion” (2006).

In this particular case, their opposition was sparked off by a GTZ (German Technical Co-operation)-backed initiative implemented by the certifying company, Naturland, in Ecuador. How could such a foreign company consider certifying shrimps as organic when they were produced by companies that had illegally occupied land, cleared mangroves (an offence in Ecuador), degraded the environment, and carried out no environmental or social-impact studies, they demanded.

On average, shrimp-farm workers are paid monthly wages of US\$100 or less, and often, this wage covers the work of entire families who put in 10 to 15 hours each day. In 2006, the basic monthly above-poverty-line earning level for a family of five was around US\$450, with minimum salary levels of around US\$180. These figures are taken from a recent Redmanglar report, published in 2007, in Spanish, titled “Certifying Destruction: An Analysis of the Organic Certification of Industrial Shrimp Aquaculture in Ecuador”, which takes a particularly hard look at this dirty business.

Prior to the Fortaleza workshop, NGOs and others raised some serious questions about whether the workshop process was in fact, open to “foster-

Latin American participants, particularly those from Brazil, complained of being linguistically excluded by the dominant use of English, and the lack of any briefing documentation in either Spanish or Portuguese. Finally, agreement was reached that simultaneous English-Spanish interpretation would be provided for the plenary sessions of the workshop, a concession warmly welcomed by all concerned. In addition, thanks to AVINA support, Instituto Terramar, a Brazilian NGO, translated various relevant FAO documents into Portuguese.

With support from AVINA, Instituto Terramar hosted a pre-workshop preparation meeting in Prainha do Canto Verde on 29 July 2007. This preparatory workshop, where the main participants were Brazilian NGOs, drafted a letter to be distributed during the Expert Workshop in Fortaleza, voicing their concerns. The letter was circulated widely to organizations in Brazil and around the world. The letter reflects the strong misgivings and frustrations of participants, who declared, on the eve of the workshop: “From our perspective, shrimp farming represents a profound damage to society and the environment, and this proposal of certification is an attempt to legitimise, in watersheds and coastal ecosystems, an activity that is not viable.”

Participants from the Prainha preparatory meet presented themselves to the FAO as being open to dialogue, but that, in their view, the certification process had severe limitations. They were also concerned that the recent history of degradation by the aquaculture industry should not be legitimized through certification.

### Presentation

Soraya Vanini Tupinaba, representing the International Collective in Support of Fishworkers (ICSF), was invited to make a presentation by the organizers of the workshop. Entitled “Aquaculture Certification: The Views of NGOs”, this is available on the workshop website (in Portuguese, titled *Certificação da aquíicultura: perspectivas das Organizações sociais*) at <http://www.enaca.org/modules/tinyd11/index.php?id=17>

**NGOs recommended that the cumulative and regional aspects of established farms should be evaluated, and that farms should not be certified as isolated productive units.**

ing a genuine, inclusive, credible and transparent process of consultation”, given the nature of ‘Expert Workshops’, and the limitations of FAO. Would-be

Her presentation highlights five key aspects:

1. *The sustainability of aquaculture* depends on combined and coordinated initiatives that relate to planning, monitoring, and control of the activity, and must take into account the territorial implications of its development.
2. *The context and requirements of certification* raise issues that are significantly different for interests in producing and in consuming countries.
3. *Social and environmental aspects* are not given sufficient weight in the elaboration of certification norms for aquaculture.
4. *Certification systems* should take account of national laws in the processes of defining guidelines/standards in the countries concerned.
5. *The process of establishing certification systems* has not assured the rights of local populations affected by the aquaculture industry. The processes of consensus building in establishing norms for aquaculture certification have been characterized by the absence of participation of these populations and their representatives.

Given the limited number of participants representing social organizations at the workshop, NGOs prioritized the group discussions that focused on the workshop themes of social aspects, environmental aspects and food security. With a focus on social and environmental aspects, NGOs urged that the guidelines/standards should include:

- Respect for human rights and the right to life, and a repudiation of violence against communities.
- recognition of local communities' rights to proper participation.
- References to the health of communities affected by the development of aquaculture.
- References to the impacts on fisheries production and to food security of populations implicated by the development of the aquaculture industry.

- Respect of workers' security as defined by international norms on work, and respect of national legislation.
- Consideration, and inclusion, of gender and age-class aspects, and their implications, in the development of the activity.

Explicit recommendations were made for the protection of traditional and ancestral populations (indigenous communities, communities of African descent, artisanal fishers, and so on).

NGOs recommended that the cumulative and regional aspects of established farms should be evaluated, and that farms should not be certified as isolated productive units. Rather, certification should also take account of the wider, related issues such as aquaculture feeds, which need to comply with sustainability criteria; high-value conservation habitats should be protected, as should marine flood plains and tidal mudflats; the fragmentation of ecosystems should be prevented; and migratory birds protected. Problems related to discharge of effluents should also be looked at, as also other issues such as the depletion/impoverishment of biodiversity and the degradation of ecosystems that are fundamental to traditional activities of communities.

In assessing the workshop, participating NGOs noted that the process of defining aquaculture certification



No to shrimp farms: Several groups believe certification of industrial shrimp aquaculture is 'greenwash'



standards does not end here. Neither is there any guarantee that their considerations and concerns will be incorpo-

tries needs to be fully explained and articulated, and consumer awareness about the context in which these food items are produced must be increased, they emphasized.

In the month following the workshop, the strong opposition and scepticism about aquaculture certification schemes was given vent in the Lampung Declaration, following the North-South Consultation held in Lampung, Indonesia, during 4-6 September 2007. The meeting, attended by representatives of local communities, NGOs, social movements and researchers from 17 countries in Africa, Asia, Europe, Latin America and North America, criticized the attempts of “the industry, with the support of certain international NGOs, to improve its public image by developing certification processes and misleading labels such as ‘ethical shrimp’ and ‘organic shrimp’ to mask ecological damage, human-rights violations, widening income gaps, loss of jobs and other real problems caused by the industry. Such schemes ignore the rights to food security and sovereignty of the communities where shrimp is produced and do not provide space for local communities.” They urged “consumers, retailers, NGOs and governments to reject all the certification schemes developed thus far and those currently in development.”

The next step in developing the FAO/NACA Guidelines on Certification of Aquaculture will, therefore, be a crucial one. On it depends the confidence of the opposition and their willingness to participate further in the process. 3

**The NGOs emphasized that dialogue with international organizations such as FAO/NACA/WWF is not a substitute for developing civil-society initiatives.**

rated in future plans. They therefore, await, with considerable anticipation, the publication of an updated version of the Guidelines for Aquaculture Certification from FAO/NACA. This will show whether or not the issues they raised in Fortaleza have been taken into account.

However, they do feel that their participation in the event was positive. Although they still have some reservations and some opposition to aquaculture certification, they felt that the organizers of the event valued their inputs. The Brazilian government too sought out the Brazilian organizations with the aim of initiating a debate on shrimp certification in Brazil.

On the final day of the workshop, the NGOs assessed that their participation had gone well. Of particular note was the understanding gained on the impacts of the salmon industry in Chile. Juan Carlos Cardenas of Ecoceanos explained that industrial aquaculture is environmentally unsustainable, socially unjust, and deals with products that are not safe for consumers.

The NGOs considered it important for international and national networks and organizations to discuss a follow-up strategy to cope with the next initiatives to be launched by FAO/NACA and national governments. In this regard, it is necessary to fine-tune and co-ordinate intervention strategies amongst NGOs and others working on the impacts of industrial aquaculture (mainly shrimp farming and salmon farming) in Latin America.

The NGOs emphasized that dialogue with international organizations such as FAO/NACA/WWF is not a substitute for developing civil-society initiatives. The unsustainability of aquaculture indus-

#### For more

<http://www.redmanglar.org/redmanglar.php>

**Redmanglar International**

[http://www.eng.walhi.or.id/kampanye/pela/tambak/070906\\_shrimp\\_mr/](http://www.eng.walhi.or.id/kampanye/pela/tambak/070906_shrimp_mr/)

**Lampung Declaration**

<http://www.terramar.org.br/>

**Instituto Terramar (in Portuguese)**

[www.ecoceanos.cl](http://www.ecoceanos.cl)

**Ecoceanos (in Spanish)**

<http://www.puresalmon.org/index.html>

**The Pure Salmon Campaign**

<http://www.enaca.org/modules/tinyd10/index.php?id=1>

**FAO-NACA Aquaculture Certification Website (in English)**

<http://www.gaalliance.org/>

**Global Aquaculture Alliance**

# Shocking Reality

**An 'illegal' fisher in a Cambodian village reforms himself after realizing the ill effects of 'electro-fishing'**

**U**y Sokhey is a young man who lives and works in the Tumpung Cheung Community Fisheries (CF) in the Tumpung Cheung village of the Battambang Province of Cambodia. In his early twenties, he is a father of two little children and lives in a small and poorly provisioned house with a zinc-sheet roof and thatched walls. He is poor.

Leng Chunnapp, his wife, is a CF Committee member, who is in charge of extension work in the CF. She is a very lively person, who recounted for us how her husband stopped illegal fishing on the very first occasion that he tried it. The police arrested him for illegal 'electro-fishing', and, since he could not pay the bribe to stay out of jail, he was packed off to the local prison. Chunnapp, who was pregnant at that time, had to get the help of the Village Chief and the Commune Council chief to get her husband released.

Looking back at the event, Sokhey says that he decided to try his luck at electro-fishing because of the desperate need for money at a time when his wife was pregnant. Life was tough and the need for cash was great. Fishing with a cast-net, which cost between US\$10-20, yielded only at best 6-7 kg of small fish. That would fetch about 12,000-14,000 Riel (US\$3-4). But with electro-fishing, for a slightly higher investment of US\$30-40, even an unskilled and untrained person could hope to get 20-30 kgs of large-sized fish. That amount would easily fetch 40,000-50,000 Riel (US\$10-13). Expert electro-fishers can get as much as 30-40 kg in a haul. It is this significant difference that attracts

people to illegal electro-fishing, Sokhey explains.

The batteries used for electro-fishing are generally the ones that fishermen use at their homes for generating electricity to light a bulb or to power the television set. It costs about 1,100 Riel (US\$0.3) to charge a battery. In domestic use, the charge normally lasts for a week. If used for electro-fishing, the battery's charge lasts for just a day. One of the incentives for electro-fishing is maximum usage of the batteries in the home.

Electro-fishing presents more risks than being arrested by the military or the police. First, there is the monetary risk of having to pay about US\$12-15 to the military personnel who live near the areas where the fishing is done.

**Electro-fishing presents more risks than being arrested by the military or the police.**

Then there is the risk of an electric shock. The battery is strung on the person's back during the operation. The fisher then wades into the water. Normally, electro-fishing is done in knee-deep water.

## Shocking operation

However, sometimes fishers venture deeper to catch more fish. But if the battery nodes get wet during this operation, the result is a shock for the

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V. VIVEKANANDAN

A boy filleting fish in a Cambodian fish market

tion of the CF, over half the people in the village did electro-fishing. Now, he says, the number is much lower, probably down to a fifth. However, the habitual offender can still be found.

Batteries are widespread because of the lack of electricity in the village. So will electro-fishing stop once there is rural electrification in Cambodia? Sokhey's answer to this query gets to the heart of the issue. He discounted the hypothesis thus: "If a family has rice enough for the full year, then very few people will continue electro-fishing." Poverty is at the crux of illegal fishing. What role can CF play in the future to address this issue? **3**

fisher. One person in the village died in this manner. The other risk is the overflowing of acid from the battery onto your back. This can lead to burns. However, these risks have been greatly reduced with the new non-acid batteries. The miniaturization of the batteries has also made it easier to carry the equipment to the water. This technological change has given a longer lease of life to electro-fishing.

Now that the batteries are so small it is easy for people to go to fish with both a cast-net and an electro-fishing apparatus. On spotting the patrolling group of the CF or the police, they will hide the electro-fishing gear in the flooded forests and use the cast-net and feign to be a rule-abiding family-scale fisher! The law says that to be arrested, you must be apprehended with the gear in your possession. So if you hide the batteries, you can always say that the batteries in the flood forest are not your own! Some persons even fish with the electro-fishing gear and bring the fish back home or to the market in the cast-net!

Uy Sokhey says he will not go back to electro-fishing. He has also tried to dissuade others from doing so with some success. He says that he realized that harming the natural resource was like destroying the country. His wife's involvement in the CF and her role as the extension worker has also influenced Sokhey. He says that before the forma-



# Be Consultative, Participatory

## The Statement to the Anglophone Africa Subregional Workshop on the Review of, and Capacity Building for, the Implementation of the CBD Programme of Work on Protected Areas

**W**e, the indigenous peoples, local communities and traditional fisherfolk from the Anglophone Africa Subregion, are pleased to be part of this review process of the implementation of the Convention on Biological Diversity (CBD) programme of work on protected areas.

Noting and acknowledging the recognition by the CBD of the important role played by indigenous peoples, local communities and traditional fisherfolk in the conservation of biodiversity and subsequent implementation of the programme of work on protected areas;

Recognizing the value and importance of partnership by all stakeholders in the conservation and sustainable use of biological diversity through participatory establishment and management of protected areas with regard to the inclusion and application of traditional knowledge and practices in accordance with article 8(j) and the related provision;

Aware of the disconnect existing between the national processes and community initiatives, thus leading to the delay of achieving the target of goal 2.2 of the implementation of the CBD programme of work on protected areas;

Noting with concern the existing financial, capacity and technical gaps that have greatly hindered the implementation of the CBD programme of work on protected areas;

We, the indigenous peoples, local communities and traditional fisherfolk

wish to put forward the following recommendations:

The governments should improve communication with indigenous peoples, local communities and traditional fisherfolk by using the existing local, national and regional indigenous organizations and/or existing government administration structures.

The governments should put up effective mechanisms, including financial mechanisms, of empowering and building the capacity of indigenous peoples' local communities and fisherfolk to fully and effectively participate in the management of existing, and the es-

**The governments should provide an enabling environment by formulating policies and legislation in a consultative and participatory manner for more effective establishment and management of community-managed and -owned conservancies.**

tablishment and management of new, protected areas.

The governments should provide an enabling environment by formulating policies and legislation in a consultative and participatory manner for more effective establishment and management of community-managed and -owned conservancies.

There is need to obtain prior informed consent from the indigenous

*This Statement was issued by representatives of indigenous peoples, local communities and traditional fisherfolk at Cape Town, South Africa, during the Anglophone Africa Workshop, 13–16 August 2007*



Participants at the Anglophone Africa Subregional Workshop on the Review of, and Capacity Building for, the Implementation of the CBD Programme of Work on Protected Areas, held at Cape Town, South Africa

ly where transboundary movement of species is involved.

We, indigenous peoples, local communities and traditional fisherfolk, are hereby emphasizing the importance of collaborating and working in partnership with the CBD secretariat, our respective national governments and other stakeholders in achieving the 2010 and 2012 biodiversity targets and the implementation of the programme of work on protected areas.

peoples, local communities and traditional fisherfolk before implementing not only the programme of work on protected areas but all other development projects.

While implementing the programme of work of protected areas, there is need to respect and uphold the livelihoods and traditional lifestyles of indigenous peoples, local communities and fisherfolk.

We call upon our respective countries, in consultation with indigenous peoples, local communities, traditional fisherfolk and other stakeholders, to develop guidelines that ensure real and effective engagement and participation, which also take into account the marginalized groups in society such as women and the youth.

Tourism developments projects with regard to protected areas, just like other development projects, must be planned and implemented with full participation of indigenous peoples, local communities and traditional fisherfolk, and these groups should access, and derive equitable benefits from, these projects.

We call upon the governments to respect the Akwé: Kon guidelines with regard to concessions on fragile ecosystems that could negatively impact on biodiversity conservation, especial-

#### For more



[www.cbd.int/doc/meetings/pa/wgpa-02/information/wgpa-02-inf-03-en.pdf](http://www.cbd.int/doc/meetings/pa/wgpa-02/information/wgpa-02-inf-03-en.pdf)  
**Report of the Workshop on CBD Site**





SERGE RAEMAKERS/RHODES UNIV.

A South African fisher in protest against the Draft Fisheries Policy 2005 outside the Provincial and National Parliament in Cape Town



# Towing the Line

The Chile-Peru border dispute jeopardizes the region's deep-sea artisanal shark fishery

40

The crew of the *Gamalu II*, a 30-ft fishing boat based in the Peruvian port of Ilo, were happy to arrive safely home. Their August shark-fishing trip had been eventful, to say the least.

Two hundred miles or so out to sea, all radio contact had been lost when a wave broke over their wheelhouse, smashing the windows, soaking their equipment and putting their high-frequency (HF) radio—their only means of

restrictions on their movements, they have to constantly chance their luck and pit their wits against the Chilean navy border patrols.

The *Gamalu II* had set sail 31 July 2007 and returned to Ilo port on 22 August 2007. With a catch of 800 kg of mako shark, 3,000 kg of blue shark and 350 kg of fins, the gross estimated earnings for the trip would be around US\$8,200. According to local sources, mako-shark meat fetches between US\$1.5 and US\$2 per kg, blue shark, between US\$0.8 and US\$1.5, and fins, between US\$11 and US\$12 per kg.

Under current arrangements with Chile, vessels wanting to sail through this sea area must request permission three hours in advance before arrival at the border. Subsequent authorization then takes between one and three hours. While in Chilean waters, Peruvian fishing vessels must report their position every six hours.

When they return from international waters, permission must be requested again. With its radio out of action, the *Gamalu II* had no way of asking for permission.

## Crew deported

Without prior permission, or if caught fishing in Chilean waters, the fishermen can be intercepted and their small boats towed back to the port of Arica. Here their catch would be dumped, the crew deported back to Peru, and the vessel owner obliged to pay a heavy fine of around 3 mn pesos (around 4,000 Euros or US\$5,920). The Chilean navy does not listen to excuses, or take account of equipment failure, or involuntary

While in Chilean waters, Peruvian fishing vessels must report their position every six hours.

communication—out of action. Their desperate attempts to repair it proved in vain.

Faced with the choice of a 700-plus-mile round trip back home to evade crossing the Chilean patrolled seas, or cutting the corner and taking a straight line home, they chose the latter to avoid running out of fuel.

The legal course would have involved sailing north to cross the line of parallel marking the border with Peru, and then turning east.

Picked up by a Chilean spotter plane, they were chased by the Chilean navy, but narrowly escaped capture and the consequent loss of their valuable catch. The plight of these feisty Peruvian deep-sea fishermen is pitiable.

Due to a festering border dispute and arrangements that place severe

This article by **Brian O’Riordan** ([briano@scarlet.be](mailto:briano@scarlet.be)) is based on inputs from:

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- Oannes: Señor de las Olas, Foro Hispano Americano de Intercambio de Información sobre Temas de Mar ([www.oannes.org.pe/](http://www.oannes.org.pe/))
- Rodrigo Barría Reyes, “Chile - La vida en el límite marítimo: El complicado control de la Armada chilena sobre los pesqueros peruanos”, article in *El Mercurio*, Santiago de Chile, 27 August 2007
- Wikipedia: Controversia de delimitación marítima entre Chile y el Perú ([es.wikipedia.org/wiki/Controversia\\_de\\_delimitaci%C3%B3n\\_mar%C3%ADtima\\_entre\\_Chile\\_y\\_el\\_Per%C3%BA](http://es.wikipedia.org/wiki/Controversia_de_delimitaci%C3%B3n_mar%C3%ADtima_entre_Chile_y_el_Per%C3%BA))



blackouts in communication. Any non-authorized vessel is treated as illegal.

On Monday 13 August 2007, Chile recalled its Ambassador to Peru in protest over Peru disputing the position of the maritime boundaries between the two countries. It followed the publication by Peru of an official chart showing a maritime territory claimed by Chile as an 'area of controversy', in need of resolving (Supreme Decree No 047-2007).

Peru considers that the maritime borders with Chile have never been properly demarcated. Not so, says Chile; the boundaries are clearly defined in the provisions of international treaties that are in force. Peru claims that the border should follow a straight line that bisects the coastline, passing through agreed baselines. For Chile, the border follows a line of parallel, 18° 21' 00".

The international treaties referred to by Chile include the 1952 Maritime Zone Declaration (Santiago Declaration: Declaración de Zona Marítima) and the 1954 Agreement on Special Maritime Frontier Zone (Convenio sobre Zona Especial Fronteriza Marítima), signed by Chile, Peru and Ecuador. The former recognizes that the jurisdictional rights of each country extend 200 nautical miles out to sea.

The latter establishes a special 10-mile-wide zone, either side of the line of parallel that constitutes the maritime border, starting from outside territorial limits (12 nautical miles). The purpose of this corridor is to regulate the frequent 'innocent and accidental' violations of the maritime boundary zone between the countries by artisanal fishing operations.

Peru says that the 1954 Agreement on the Special Maritime Frontier Zone is only a fisheries agreement, and not a border treaty. According to Peru, it is only by mistake that maritime limits are mentioned, and that these are not defined in any treaty.

The affair was given impetus following Chile's ratification of the United Nations Convention on the Law of the Sea (UNCLOS) in 1997. The nautical charts submitted by Chile to the UN in September 2000 showed the 18° 21' 00" line of parallel as forming the maritime

frontier between the two countries. Peru responded by sending a note to the UN rejecting this line of parallel as

**Peru considers that the maritime borders with Chile have never been properly demarcated.**

the maritime boundary between the two countries. Peru is unwilling to ratify UNCLOS, which it sees as violating its national sovereignty.

Then, in 2005, a draft bill was submitted to the Peruvian Congress that proposes where the baselines of Peru's maritime boundaries should be. It sets out to establish where the Peruvian coastline ends, where its territorial sea begins, and the extent of Peru's maritime jurisdiction out to a distance of 200 miles. It defines the maritime border with Chile as a line bisecting the coast at right angles and extending 200 nautical miles out to sea. The bill was approved on 3 November 2005, and, on 12 August 2007, through Supreme Decree 047 - 2007, a new map of Peru's maritime boundaries was approved as part of Law No 28.621 on the Baselines of Peru's Maritime Dominion. It high-

TORIBIO MAMANI MACHACA



Crew of the fishing vessel *Pamela*, which has just returned from a 15-day fishing trip outside Chile's EEZ



Inside the radio room of Pamela, a fishing vessel based in the port of Ilo, Chile

naval exercises also recognize the area south of this line of parallel as Chilean territory.

UNCLOS indicates that, in general, in such a dispute between two States, a median line should be taken as the boundary, based on points equidistant to the baselines claimed by either side, and following geographic lines such as lines of latitude or lines of meridian. In the case of Peru, if the baseline is taken from the point of Concordia, as defined in the 1929 Treaty of Lima, and the border follows the line of parallel that runs through this point,  $18^{\circ} 21' 08''$ , then Chile's maritime zone begins only 80 nautical miles from the fishing town of Mollendo, 40 miles from the port of Ilo, and zero from Tacna.

For the fishermen of southern Peru and northern Chile, the relative positions of maritime boundaries are clearly all-important. Some Chilean industrial-fishing-sector estimates put the market value of resources extracted annually from the area under dispute at around US\$500 mn. Some US\$300 mn come from sales of anchoveta, and another US\$200 mn from mackerel and horse-mackerel sales. Chile and Peru are world leaders in catching fish, and their economies are heavily dependent on fish exports. In 2005, Chile was ranked third, after China and Peru, with catches of 5.33 mn tonnes, and with fish exports worth US\$3.08 mn. One-third of Chile's fish catch comes from Northern Region I of Tarapaca, which borders Peru. It seems unlikely to give up access to this 'area of controversy'.

In southern Peru, the boundary lines have far-reaching implications for the deep-sea artisanal fishermen of Ilo and neighbouring fishing hamlets (*caletas*). They have to cross this marine territory to access their fishing grounds outside the 200-mile zone, facing the coast of Chile. Either that, or undertake a zig-zag 700-mile-plus round trip, at huge extra costs in fuel, and wear and tear on vessels, equipment and crew, considerably increasing their risks.

### Artisanal fleet

According to the Peru Ministry of Production Statistics, 56 per cent of the artisanal fleet of Ilo, some 269 vessels, engage in longline fishing. Based in

lights the area of around 38,000 sq km over which Chile claims sovereignty as an 'area of controversy'.

So far, Chile has refused Peru's requests to open negotiations on signing a maritime boundary agreement. It argues that the treaties of 1952 and 1954 constitute boundary treaties between the two countries. Peru has announced that it will try to resolve the dispute peacefully using conciliation procedures available under international law.

With this in mind, Peru is preparing a case to present to the International Court in The Hague, in similar fashion to Nicaragua and Honduras. Under the Bogota Pact of 1948 (the American Treaty on Peaceful Solutions), to which both Chile and Peru are signatories, in cases where a solution cannot be found, both parties have the right to go to the International Court of Justice, where the decision on the interpretation of treaties or questions of international law is binding.

In practice, Chile continues to exercise sovereignty over this 'area of controversy'. Its naval patrols are mandated to detain and tow back to Arica any vessels that stray across the parallel  $18^{\circ} 21' 00''$  into Chilean-claimed waters, confiscate the catch and deport the crew, after imposing a heavy fine on the vessel owners. The joint Chile-Peru



the port of Ilo, Toribio Mamani, who has been following the fishing in Ilo for most of his life, confirms that all these vessels are engaged in deep-sea fishing. According to Toribio, as fishing crews rotate, there are probably at least 2,000 fishermen working out of Ilo on these vessels. He reckons that an additional 1,500 or so work from adjacent centres, such as Vila Vila, Moro Sama in Tacna Region and Matarani and Mollendo in the Arequipa Region.

Toribio provides a repair-and-maintenance service from his electronics workshop in Ilo. On a completely voluntary basis, and at his own cost, he also operates a radio link with the fishermen out at sea. This is used to feed messages to, and from, the fishermen's families, serving as an emergency communication channel, and through which he is able to provide verbally transmitted weather reports, and other such information. His equipment is basic, and he dreams of being able to provide fishermen with meteorological information on a real-time basis, and to be able to know the exact positions of the artisanal fleet on a real-time basis in case emergencies arise.

"Our deep-sea fishing vessels have two main seasons," says Toribio. "During the six months from September to February, they target *perico* or *dorado* (dolphin fish or *mahi mahi*, *Coryphaena hippurus*), with fishing trips lasting one week on average. From April to August, their main quarry is the blue shark (local name *tiburón azul*, *Prionace glauca*) and shortfin mako shark (local name *tiburón diamante*, *Isurus oxyrinchus*), with sporadic catches of swordfish. Shark-fishing trips last between 15 and 20 days, depending on how far away the fish are. When the wind reaches around 28 or 29 knots (Beaufort 6-7), it is not possible to work, and vessels must try to keep position with sea anchors made of nylon rope."

A small part of the shark catch landed in Ilo is consumed locally. Most is transported to Lima, where it is distributed to other centres. Shark meat is a popular dish in Peru. Specialized traders buy the fins for export.

Writing in Chile's *El Mercurio* on 27 August 2007, in an article entitled "Chile: Life on the Maritime Frontier:

The Chilean Navy's Complicated Job of Controlling Peruvian Fishermen", Rodrigo Barría Reyes graphically described

**In southern Peru, the boundary lines have far-reaching implications for the deep-sea artisanal fishermen of Ilo and neighbouring fishing hamlets...**

the plight of these fishermen. He takes up the story from the angle of the Chilean navy's search operation for the Ilo-based vessel, the *Gamalu II*, "a tiny and aged Peruvian fishing vessel that is sailing through Chilean waters with all the grace of a chunk of Styrofoam", and which "all day has had to evade the frenetic search of the *Contramaestre Ortiz*, the Chilean naval vessel that is giving its all, with engines at 1,600 rpm, to reach and capture it."

Here, such a task, out at sea almost 200 km off the Chilean coast, is enormous. To find a tiny little boat in this infinite sea is a painstaking task that must combine technology and persistence, says Barría Reyes. He describes the naval vessel leaving the port of Arica, with the ship's commander, Frigate



TORIBIO MAMANI MACHACA

The plight of these feisty Peruvian deep-sea fishermen is pitiable due to a festering border dispute with Chile

Captain Jorge Felipe Keyer, playing his favourite Los Cuatro Cuartos compact disc, with “Los que nunca volverán” (“Those who never return”) through the ship’s loudspeaker system. Commissioned in 1993, the *Contramaestre Ortiz* is 42.5-m long, displaces 518 tonnes, has a crew of 33, a top speed of nearly 20 km/hr (15 knots), and is armed with 20-mm, 40-mm and 60-mm machine guns. It is heading for the exact area where “Peru currently disputes as its own a portion of sea that Chile has no intention of giving up.”

Be that as it may, the voyage of the *Ortiz* is no more than routine in a zone where the search for Peruvian fishing boats that enter illegally or that fish with no licence inside the 200-mile exclusive economic zone (EEZ) is a constant. “It’s a completely routine job for us and has nothing to do with the boundaries affair that has arisen in recent weeks,” explains Kenneth Pugh, responsible for Naval Zone IV, the maritime area that stretches from Arica to Taltal. The current issue is this, says Barriá Reyes: The fishermen of Ilo port have a penchant for the *tiburón azul* fishery—for blue shark—a species whose fins are particularly important, being considered as a potent aphrodisiac in some Asian markets. The problem for the Peruvians is that this shark prefers only those wa-

up to the minimal safety conditions required to undertake crossings that usually last 15 days. If they have no permission or are fishing in Chilean waters, then we intercept them and tow their small boats back to Arica. The *Gamalu II* is precisely one of these ‘poor little boats’ that spend hours evading the *Ortiz*, which, despite having two lookouts on either side of the boat with their eyes glued to their binoculars and radar screens, was unable to distinguish something so small on the water.

In the hunt for *Gamalu II*, suddenly another Peruvian fishing boat appears, the *Pamela*. “To see these Lilliputian boats bobbing about like pieces of driftwood, one cannot but help be moved and amazed by the courage and lot of their crew”, says Barriá Reyes. Crew members are generally four in number, and live on survival rations, with no toilet facilities and sleeping spaces on deck.

Most of the boat is given over to the bait storage and, in the lower part, in spaces with ice, every effort is made to preserve the shark catch. What they do have is navigation equipment and global positioning system (GPS) units, which allows them to know perfectly well whether they are in Chilean or Peruvian waters.

The *Pamela* has asked for permission, which is why she is not boarded. Megaphone in hand, an official of the *Ortiz* fires questions, while the Peruvians answer in a lively voice. “Where are you from? – Ilo; When did you set out? – Two days ago; Where are you headed? – International waters...”

Meanwhile, from the Iquique air base, a navy plane has taken off and is soon over Chilean waters, combing the area. In truth, without such aerial support, no search attempts whatsoever undertaken by navy ships would yield positive results in this maritime vastness.

### Aerial surveillance

The airplane locates the Peruvian fishermen, identifies them and advises the *Ortiz* where it can intercept them. The *Ortiz*, which was already headed back to Iquique, turns, accelerates its engines and sets off in hunt of a vessel that does not have permission to sail

**What they do have is navigation equipment and global positioning system (GPS) units, which allows them to know perfectly well whether they are in Chilean or Peruvian waters.**

ters between 18 and 20 degrees, which are located a little further out than 200 nautical miles, facing the Chilean coast.

“What they usually do, is ask for authorization to cut the journey by passing through Chile’s bit of the sea and so arrive in international waters where they proceed to catch shark”, Captain Juan Carlos Diaz, maritime governor of Arica, told Kenneth Pugh. “But it is not so rare for the Peruvians not to ask permission, fishing directly in Chilean waters or that their boats don’t match



in Chilean waters and which may have fished in the national economic zone.

The chase lasts for several hours. The *Ortiz* doubles the speed of the *Gamalu II*, but although it can be seen as a tiny speck on the radars, the look-outs scrutinizing the horizon ceaselessly cannot locate it. Suddenly, there to starboard, they manage to make out the silhouette of the *Gamalu II* a long way off, making its escape.

"It looks like they are going to escape. Normally, they don't sail at more than 10 km per hour. Let's see if they burn out their motor or run out of fuel," says the commander of the *Ortiz* in hopeful tones, and in full pursuit. On the bridge, activity is frenzied. There are people on the communication system, on the radar, tracing routes on a map and on lookout. Everyone is analyzing and calculating what can be done to catch up with the *Gamalu II*.

The satellite phone rings. From the command centre ashore, the chief asks about the chase. The commander of the *Ortiz* hangs up and advises his crew: "We will do what we can to catch her. But if she crosses the border, then there is nothing we can do". A rapid-assault craft is readied, while a boarding party prepares suits and rifles. But the *Gamalu II* does not end up burning its motor out, nor does it run out of fuel. With the *Ortiz* only 2 km away, the Peruvians manage to cross the border.

Captain Keyer picks up a microphone and issues a statement: "The Peruvian vessel has crossed the maritime border. The chase is over. Everyone did well. Next time, he won't escape!" While the *Ortiz* changes course for Iquique, from out of the loud speakers come the patriotic melodies of Los Cuatro Cuartos.

According to Rodrigo Barría Reyes, the Chilean navy carries out patrols in the northern frontier zone every two weeks, and in 2006, six Peruvian boats were taken to Arica and their crews deported. So far this year, 350 Peruvian vessels have requested permission to cross Chilean waters; around 30 per cent of Peruvian boats sighted by the Chilean navy plane are not found by the navy's ships.

Peruvian fishermen invest around 3 mn (US\$5,920) pesos in their 15-day

fishing trips in search of sharks. Peruvian fishermen may earn between 150,000 and 200,000 pesos (US\$296

and US\$395) on one of these voyages.

While the *Ortiz* was in hot pursuit of the *Gamalu II*, in the port of Ilo the families of its crew were desperately awaiting news. Having lost radio contact, they were expecting that its radio distress buoy would be activated at any time. But, as there was no emergency as such, the crew could not do this.

"It arrived at the expected time. Everyone safe and sound. The fishermen's families and children were the happiest. As soon as it had come alongside, I asked the captain of the *Gamalu II* what had happened, and why he had been out of radio contact for one week. He told me that there were strong prevailing winds and high seas where they were fishing. In a sudden squall, a wave had crashed over the wheelhouse,

**Clearly, resolving the problems of these feisty Peruvian fishermen is far from simple...**

BRIAN O'RIORDAN/ICSF




Without prior permission, or if caught fishing in Chilean waters, the fishermen can be intercepted and their small boats towed back to the port of Arica

smashing the windows and soaking all their HF radio communications equipment.”

Clearly, resolving the problems of these feisty Peruvian fishermen is far from simple, but Toribio feels that there are at least three areas where some ac-

day, where a boat is working, to be able to locate it in case of emergency, or to see it on a computer screen...These are dreams, my friend, but we are making progress, and with the arrival of the *perico* season, we are developing a fluid radio system both as backup and to provide necessary information...”

Meanwhile, silence has temporarily fallen on the diplomatic dispute between Peru and Chile over their maritime border, a dispute that the Peruvian deep-sea artisanal fishing fleet have learned to live with, and adapt to. 

**...the right of Peruvian vessels to innocent passage across Chilean waters should be recognized.**

tions could be taken:

- in cases of involuntary communications blackout, as with the *Gamalu II*, penalties could be waived or reduced;
- the Chilean authorities should be open to mitigating circumstances; and
- the right of Peruvian vessels to innocent passage across Chilean waters should be recognized.

Toribio points out: “It is just over a year now that we have been requesting permission (from the Chilean authorities) to go and fish in international waters. This has the merit of far fewer artisanal vessels being captured than in previous years when making the crossing to and from these waters.”

Meanwhile, Toribio dreams on: “We long for telecommunications equipment that would enable more effective transmission of information to our artisanal fishermen... for example, having a radio repeater and autopatch that would make it possible to use a telephone for radio communication, or a small portable transceptor. Imagine having an operating system that allows for the transfer of meteorological data via HF radio signal and a high-seas vessel with radio, laptop and an interface through which any kind of information can be received; where they could comfortably download information that I had stored on my shore-based computer...Imagine our fishermen with satellite-communications equipment, and being able to know, at each hour of the

#### For more

[www.defensamarina.org](http://www.defensamarina.org)

**Defensa Marina**

[http://es.wikipedia.org/wiki/Controversia\\_de\\_delimitaci%C3%B3n\\_mar%C3%ADtima\\_entre\\_Chile\\_y\\_el\\_Per%C3%BA](http://es.wikipedia.org/wiki/Controversia_de_delimitaci%C3%B3n_mar%C3%ADtima_entre_Chile_y_el_Per%C3%BA)

**Wikipedia Entry in Spanish**

# Declaration of Charter

The following Declaration of Charter was adopted at the workshop on "Fisheries and Marine Reserves in India", held in New Delhi, India

Over 50 participants, from across different sections of society—State-level traditional fisher representatives and national functionaries, conservation and environmental groups, fishworker, civil society groups and marine park managers, scientists, academics and experts, were involved in a three-day workshop, between 8 and 10 October 2007, on "Fisheries and Marine Reserves in India" and their relevance.

The objective of the workshop was to facilitate a movement towards sustainable models of development and resource utilization, in order to protect and preserve India's seas and coastal zone for the present and future generations.

The workshop covered discussions and sessions on preserving the health and productivity of India's oceans, and examined mechanisms and options by which the participants can work together to achieve common goals. This included providing an overview of the scientific, institutional and evaluative experiences on marine reserves as a tool for conservation of biodiversity and enhancing fisheries.

## Declaration

Conscious of the importance of fisheries as a vital sector of development and high dependence of millions of fisher and coastal communities on the ocean and the coastal environment for their food and livelihood security;

Recognizing that marine ecosystems, in particular, coastal ecosystems, are rich spawning and breeding grounds, and provide vital coastal-protection benefits;



Three-day workshop, between 8 and 10 October 2007, on "Fisheries and Marine Reserves in India" and their relevance

Concerned that the marine environment and, in particular, coastal ecosystems, are under increasing threat of degradation of habitats and depletion of resources resulting from overexploitation and overcapacity, discharge of pollutants from land and at sea, destructive infrastructural and industrial projects, existing and proposed, and impacts of activities such as agriculture, intensive aquaculture and forestry; and the adverse impact of these on the livelihoods of traditional fishing communities and other dependent communities,

This assembly of concerned fishing community representatives, scientists, academics and experts, environmental, conservation and civil society groups hereby declares that it will:

*The New Delhi Greenpeace Workshop was conducted during 8-10 October 2007*

GREENPEACE





ICSF

An artisanal fisherman of the South Indian State of Tamil Nadu on his traditional *kattamaram*: Local communities need to be involved in conservation and management of coastal and fisheries resources



Commit to promote greater co-operation and co-ordination amongst groups concerned with coastal, marine and ocean issues-with equal emphasis on conservation of marine ecosystems and ensuring that the livelihoods of communities dependent on these resources are sustained.

#### Strongly recommend

1. The sharing of scientific knowledge and traditional wisdom, expertise and experience on ecosystem-based management approaches, especially in the context of balancing conservation and livelihoods.
2. The promotion of scientific research and long-term continuous monitoring of ecosystems.
3. The promotion of scientific research and long-term continuous monitoring of the socio-economic development of the fishing communities.

Demand that the exclusive economic zone (EEZ) of India should be retained as common property and heritage.

Recommend the enactment of an overarching and comprehensive legislation, which is justiciable, with the following elements:

- Covers the Indian EEZ and coastal zone, based on the ecosystem approach, precautionary principle and polluter-pays principle, to ensure sustainability of both the seas' resources and livelihoods and intergenerational equity.
- This would include setting aside sufficient marine reserves, with legislative support, for the conservation and restoration of the India's coastal and marine biodiversity and to serve as fish reserves. This would be done in consultation with, and participation of, local communities.
- Ensure local community participation in all aspects of decision making and implementation with regard to conservation and management of fishery resources and developmental activities. This should involve a Local Management Network (including community, civil society and governments), which should address social-security concerns such as compensa-

tion, sharing of benefits, education and employment.

- Should be in consonance with international instruments on conservation and management, for example, the Code of Conduct for Responsible Fisheries of the Food and Agriculture Organization of the United Nations (FAO) and the Convention on Biological Diversity (CBD).
- Should uphold the inalienable traditional and customary rights of fishing communities.
- Its implementation should be transparent, with provisions for social auditing and stringent penalties.
- Prevent, prohibit and regulate all destructive fishing practices. With regard to overcapacity, the process of phasing out should be from bigger to smaller craft and gear.
- All activities impacting the marine environment, such as ocean dumping and other land-based activities, should be strictly regulated under this legislation. Further, any intervention in the EEZ should be subjected to an environmental impact assessment with a clear, legally mandated mechanism to ensure impartiality and objectivity.
- Legislative support for aquarian reforms. In fisheries and other marine-related issues in existing laws)

And until such a legislation is in place, as an interim measure, the implementation authorities be equipped with adequate resources for the enforcement of existing rules and regulations. ¶

#### For more



[www.mpaglobal.org](http://www.mpaglobal.org)  
**Searchable Database on the World's MPAs**

[www.fao.org/fi/website/FIRetrieveAction.do?dom=org&xml=mpas.xml](http://www.fao.org/fi/website/FIRetrieveAction.do?dom=org&xml=mpas.xml)  
**FAO's Site on MPAs as a Tool for Fisheries Management**

## PERU

### Anchovies or sardines?

Anchovies can be sardines—if tinned! Well, at least so believes Peru's Production Minister, Rafael Rey, who has sent a request to the Ministry of Economy and Finance (MEF) to modify—urgently—the classification criteria used for the exports of canned sardines, because they represent barriers restricting access to international markets.

Rey explained: "Canned sardines produced in our country from the species *Engraulis ringens* (locally known as *anchoveta*) are being classified for export under the tariff certification Code No. 1604.19. This corresponds to 'other (prepared and preserved) fish products', instead of Code No. 1604.13, which corresponds to sardines. This is blocking our entry to export markets, in contravention of what was agreed between the Codex Alimentarius and the World Trade Organization (WTO), which allows canned sardines

to be prepared from various species including anchoveta", he said.

A draft Supreme Decree has been sent to the Economy Minister that modifies the

enable Peru's fish exporters to benefit from advantages on the international market, with no additional cost to the Peruvian State. At the same time, it is intended to reinforce



tariff code, so that the anchoveta species can be used for producing canned sardines for export. This will

Peru's position, where the case for labelling these as 'canned sardines' has been successfully defended in international

List of species that can be labelled as 'canned sardines' under Codex Standard 94:

- *Sardina pilchardus*
- *Sardinops melanostictus*, *S. neopilchardus*, *S. ocellatus*,
- *S. sagax*, *S. caeruleus*
- *Sardinella aurita*, *S. brasiliensis*, *S. maderensis*, *S. longiceps*, *S. gibbosa*
- *Clupea harengus*
- *Sprattus sprattus*
- *Hyperlophus vittatus*
- *Nematalosa vlaminghi*
- *Etrumeus teres*
- *Ethmidium maculatum*
- *Engraulis anchoita*, *E. mordax*, *E. ringens*
- *Opisthonema oglinum*

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## ORGANIZATIONAL PROFILE

### Redmanglar International

Founded in August 2001 in Choluteca, Honduras, Redmanglar International is a Latin American network to protect mangroves and coastal communities. Its main objectives are to defend mangroves and coastal-marine ecosystems against neglect and damage, and guarantee their vitality and that of the traditional user communities who live in harmony with them.

Recently, Redmanglar International gathered over 70 delegates from its 10 member countries and international observers for its Third General Assembly, which took place from 8 to 13 October 2007 in Cuyutlán, Colima State, on the Pacific coast of Mexico, adjoining the mangrove-rich Cuyutlán lagoon. The meeting was hosted by Bios Iguana A.C., who in the militant spirit of the network, noted, on the 40th anniversary of Ché Guevara's execution on 9 October 1967 in Bolivia, "If Ché were alive, mangroves would thrive" (Si el Che viviera, el

mangle defendiera).

The weeklong meeting discussed the international, regional and national contexts that affect mangrove ecosystems and coastal communities, and reviewed the situations in the 10 member countries of the network. It denounced the globalization processes through which marine coastal areas are being appropriated by economic interests, with little consideration for environmental conservation or the lives and livelihoods of local communities. It also highlighted the importance of community-based approaches to defending and managing coastal marine ecosystems, and the failure of national laws and law enforcement in providing adequate protection.

The meeting closed with the election of ASPROCIG (the Producers and Sustainable Community Development Association of Cienaga Grande in Bajo Sinú, Colombia) as the new Executive Secretariat. ASPROCIG takes over from C-CONDEM of Ecuador.



forums. In 2002, the Appellate Body of the WTO acknowledged that Codex Standard 94 is a "relevant international standard" under Article 2.4 of the Technical Barriers to Trade (TBT) Agreement. This standard allows preserved sardines or sardine-type products to be prepared from 21 fish species.

Yet, the Peruvian customs authorities have refused to accept that anchoveta can be exported when labelled as 'canned sardine'. They insist that the label must tally with the export declaration form and the code used there.

This identifies the product and refers to the original contents (*anchoveta*), as demanded by the Harmonized System (of Tariffs). For them, this takes priority over all other agreements, including the WTO and Codex Alimentarius.

In recent years, anchoveta has comprised more than 90 per cent of Peru's 6-10-mn tonne fish catch, with 99 per cent of the catch being reduced to fishmeal and oil. In 2006, more than 6 mn tonnes of anchoveta were landed in Peru, producing around 1 mn tonnes of fishmeal, fetching around US\$1,600 mn in exports.

## ICELAND

# Research participation

Fishing vessel owners want to participate more in marine research in Iceland's waters and take part in making decisions regarding the fishing industry. A professor of fish science says more money should be put into research, reports *Iceland Review*.

"I totally support the Marine Research Institute's claims that the situation is very

serious. [...] We have to comply with the Institute's recommendations for the next fishing season and make a long-term plan on how to organize research and how to harness the cod stock in the future," Guðrún Marteinsdóttir, a professor in fish science at the University of Iceland's Biology Institute, told *Fréttablaðið*.

"Regarding cod it is very important to increase research on stock types, spread, behaviour, the biological

history of subspecies, spawning territory and where the fish mature," Marteinsdóttir continued, suggesting ISK 70 to 100 mn (USD 1.1 to 1.6 mn, EUR 830,000 to 1.2 mn) should be spent on investigating cod each year.

"I believe the industry should participate to a much greater extent in both research and decisions on the total

quota. It is best that those who have the most interests participate more in research," Fridrik J. Arngrímsson, the managing director of the Federation of Icelandic Fishing Vessel Owners, told *Fréttablaðið*.

Arnbjörg Sveinsdóttir, the director of the fishing industry committee of the Althingi parliament said increased participation of fishing vessel owners should be considered.



## POEM

# Sea calm



How still,  
How strangely still  
The water is today,  
It is not good  
For water  
To be so still that way.

— Langston Hughes

## VERBATIM

"Living with the fishermen quite intimately for some months, I could not help being deeply impressed by the quality of job satisfaction that they get out of their involvement in the hazardous and strenuous technological pursuit."

BIKASH RAYCHAUDHURY  
IN 'THE MOON AND THE NET: STUDY OF A TRANSIENT  
COMMUNITY OF FISHERMEN IN JAMBUDWIP'

## AQUACULTURE IN SUSTAINABLE DEVELOPMENT

The global production of fish from aquaculture has grown rapidly during the past four decades, contributing significant quantities to the world's supply of fish for human consumption. Aquaculture now accounts for nearly half (45 per cent) of the world's food and this increase is expected to reach 50 per cent in 2015. Started primarily as an Asian freshwater food-production system, aquaculture has now spread to all continents, encompassing all aquatic environments and utilizing a range of aquatic species.

Table 1: Top 20 food-fish aquaculture-producing countries

Country	Production ('000 tonnes)	Percentage (%)
China	32,414	67.3
India	2,838	5.9
Viet Nam	1,437	3.0
Indonesia	1,197	2.5
Thailand	1,144	2.4
Bangladesh	882	1.8
Japan	746	1.5
Chile	698	1.5
Norway	657	1.4
Philippines	557	1.2
Egypt	540	1.1
Myanmar	475	1.0
USA	472	1.0
Korea	436	0.9
Taiwan	305	0.6
France	258	0.5
Brazil	258	0.5
Spain	222	0.5
Italy	181	0.4
Malaysia	176	0.4
Rest of the world	2257	4.7
<b>Total</b>	<b>48,150</b>	<b>100</b>

Source: FAO

Table 2: Aquaculture production (volume and value) in 2005 in different regions of the world

Country/Region	Production Volume (mn tonnes)	Production Volume Percentage	Production Value (bn US\$)	Production Value Percentage
China*	32.4	67.3	35.99	51.2
Rest of Asia-Pacific	10.7	22.3	20.6	29.3
Western Europe	2	4.2	5.42	7.72
Latin America and the Caribbean	1.4	2.9	5.24	7.47
North America	0.6	1.3	1.3	1.86
Near East and North Africa	0.6	1.2	0.83	1.19
Central and Eastern Europe	0.3	0.6	0.67	0.91
Sub-Saharan Africa	0.1	0.2	0.25	0.36
<b>World Total</b>	<b>48.1</b>	<b>100</b>	<b>70.3</b>	<b>100</b>

Source: FAO

\* For ease of reference, Asia-Pacific region is separated into China and the rest of Asia-Pacific

## BOOKSHELF

### Sri Lankan fishermen

**SRI LANKAN FISHERMEN: RURAL CAPITALISM AND PEASANT SOCIETY.** Paul Alexander.

Australian National University Monographs on South Asia, No. 7. Canberra, Australia. 1982. ISBN 0 908070 06 3

The economy of Sri Lankan beach-seine fishermen appears wildly irrational. Although 20 beach-seines, each costing a household's annual income, would be sufficient for continuous fishing, members of the community own 108 nets and the average net is launched only seven times a year. Because of seasonal fish movements, some nets make tremendous profits, but more than half do not recover their operating costs. Alexander demonstrates that these inequalities are the product of

the impact of capitalist relations of production on a semi-subsistence economy.

In the course of his meticulous analysis of both fieldwork and historical data, Alexander discusses many theoretical issues of current concern. His accounts of the nature of common-property resources; of the conflict between individual and community goals; and, particularly, the relationship between the development of capitalism and the rise of factional conflict, are especially interesting. In addition to anthropologists interested in Sri Lanka, maritime societies and political economy, the work should be of considerable interest to fisheries economics and development experts.

## FLASHBACK

### Marine Protected Areas

We welcome the World Parks Congress' recommendations and hope national and provincial governments will establish MPAs in consultation with local communities and other stakeholders, and that they will refrain from current practices, especially in several Asian countries like the Philippines, Thailand, Indonesia and India, to establish MPAs by keeping out all fishers, including artisanal and small-scale fishers who use environmentally sustainable fishing gear and practices. Even in "strictly protected areas", we would argue for permitting artisanal and community-based fisheries to operate, as long as their fisheries are not a threat to the health of the marine ecosystem, as determined by science-based observations. We would further argue that an ecosystem-based approach to fisheries management should consider fishers as part of the ecosystem, and not as outsiders.

The most difficult challenge to establishing inclusive MPAs, however, would be the conflicting jurisdiction between the environment and fisheries agencies at the government level in most developing countries. In several Asian countries, the environment ministries are responsible for setting up MPAs. Unfortunately, they are notorious for their draconian, species-based protectionist approach and for a colonial perspective that views nature as a preserve to be protected from the human species. The responsibility to set up MPAs should ideally be taken away from the environment ministries and transferred to the fisheries departments, and it is high time that fisheries departments give greater emphasis to sustainable fisheries and healthy coastal, marine ecosystems.

A consultative, ecosystem-based approach, adopting precautionary principles to industrial and other forms of destructive fisheries and land-based sources of pollution, could be an effective management tool.

—from "Parking in the right place", *Comment in SAMUDRA Report No. 36, Nov 2003*



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## MEDIAWATCH

### International Journal of the Commons

The *International Journal of the Commons* (IJC) is a new journal set up by the International Association for the Study of the Commons (IASC). As an interdisciplinary peer-reviewed open-access journal, the IJC is dedicated to furthering our understanding of institutions for use and management of resources that are (or could be) enjoyed collectively. The inaugural issue carries the following papers on fisheries: *Scale and*

*Costs of Fishery Conservation* by James Wilson; *The Influence of Community Management Agreements on Household Economic Strategies: Cattle Grazing and Fishing Agreements on the Lower Amazon Floodplain* by David G. McGrath, Oriana T. Almeida, Frank D. Merry; and *Governance Challenges of the Implementation of Fisheries Co-Management: Experiences from Malawi* by Friday Njaya. [www.thecommonsjournal.org/index.php/ijc](http://www.thecommonsjournal.org/index.php/ijc)

## ANNOUNCEMENTS

### MEETING

**High-level Special Event on Role of Aquaculture in Sustainable Development.** 19 November 2007, FAO, Rome

Aquaculture has an important role to play in global efforts to eliminate hunger and malnutrition, and makes significant contributions to poverty reduction and economic growth. The main challenge for policymakers and development agents is to create an 'enabling

environment' to support the expansion needed to meet this potential.

FAO will organize a High-level Special Event to take place on Monday, 19 November at FAO headquarters. The meeting will address "the role of aquaculture in sustainable development" in a broad sense. This would include considerations for contribution to economic development.

### SYMPOSIUM

**Symposium on Small-scale Fisheries, Brazil**

From 5 to 8 December 2007, the Federal University of Rio Grande (FURG), Brazil, will host the II Symposium on Small-scale Fisheries. The event is meant for fisheries specialists to discuss and share information and experiences on the different aspects of small-scale fisheries, including research, and management and conservation of fishery resources in Brazil, Uruguay,

Argentina and Chile. Information in Portuguese about the symposium can be found at <http://www.simpósio.pesca.furg.br/>. Workshops will focus on acoustics in fisheries; fishery production dynamics; inland fisheries in the lower Amazon; benthic invertebrate fisheries; management, theory and practice; the bioeconomics of fishing; and the Argentinean model of industrial fisheries management.



## Endquote

***F**ishermen like to talk about their esprit de corps, and it is true that there is a warm camaraderie, a sense of being part of an elite brotherhood. Fishermen are like combat veterans who feel understood only by their comrades who have survived the same battles. But fishing is a constant struggle for economic survival. Each man works for shares of the catch. Anyone who can't keep up, whether because of injury or age, is harassed out of the fishery. There are few fishermen over fifty. And because fishermen are technically self-employed and not salary earners, governments have been slow to recognize claims to social benefits for those who are out of work.*

—from *Cod: A Biography of the Fish that Changed the World* by Mark Kurlansky



