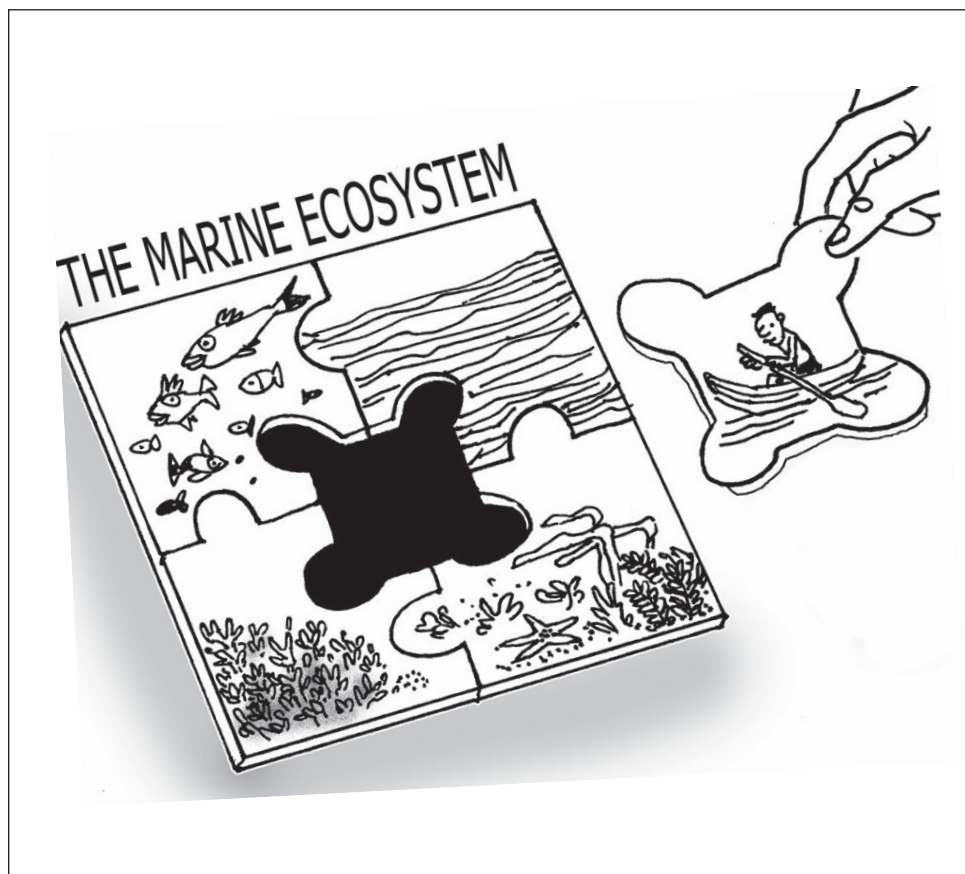


SAMUDRA Dossier

Reserved Parking

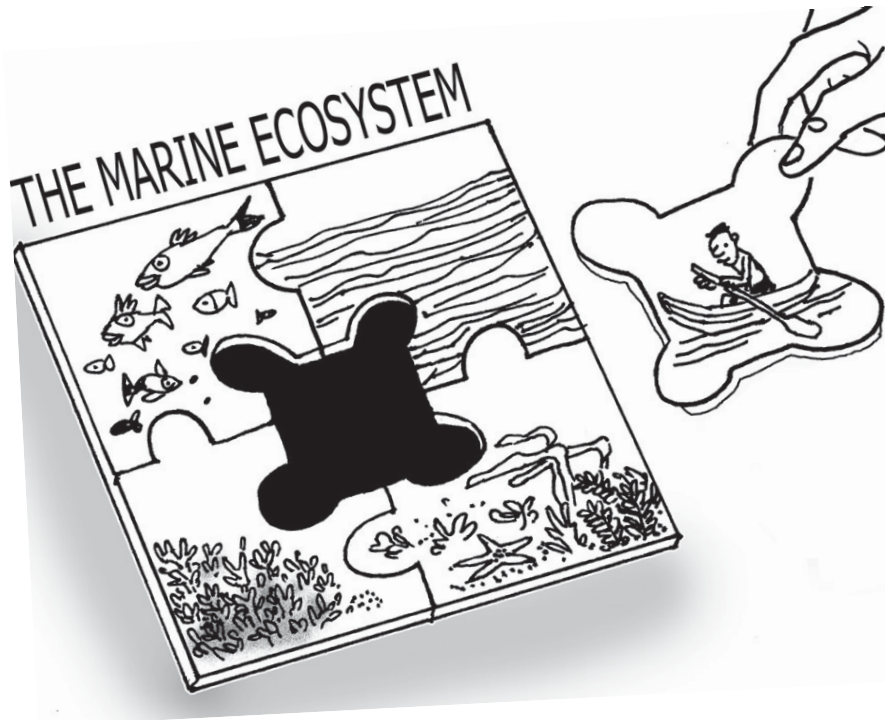
Marine Reserves and Small-scale Fishing Communities:
A collection of articles from *SAMUDRA Report*



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International Collective in Support of Fishworkers
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Preface

As international concern grows about the rapid rate at which the earth's biodiversity is being lost, marine protected areas (MPAs) are being widely propagated as one of the most effective tools available for the conservation of coastal and marine resources. Since most MPAs are located in coastal and marine areas of great biodiversity, their development has direct relevance and concern to the livelihoods, culture and survival of small-scale and traditional fishing and coastal communities.

The articles and other documents in this dossier, drawn chronologically from the pages of *SAMUDRA Report*, the triannual publication of ICSF, touch upon the gamut of issues currently being discussed about the link between fisheries-based livelihoods and biodiversity, community participation in the MPA process, the perceived costs and benefits of MPAs for communities, and the most appropriate way forward for livelihood-sensitive conservation.

Several articles in this collection highlight the fact that conservation and community livelihoods are closely intertwined, and that much before issues of conservation became part of the international agenda, it was coastal fishing communities who were drawing attention to, among other things, the negative impacts of pollution, uncontrolled expansion of destructive industrial fisheries and aquaculture, and technologies such as bottom trawling for shrimp, both on coastal biodiversity and on their livelihoods.

Fishing-community organizations and their supporters who participated in the 1991 Rio Conference—the United Nations Conference on Environment and Development (UNCED)—that led to the adoption of Agenda 21, advocated for protecting both the coastal and marine environment, and small-scale fisheries-based livelihoods, drawing on traditional ecological knowledge systems and principles of sustainable use. Many of their proposals were incorporated into the text of the Rio Declaration agreed on by States.

The UNCED process and the Rio Declaration highlighted the need for sustainable development—socially responsible economic development that protects the resource base and the environment for the benefit of future generations. It put human beings at the centre of concerns for sustainable development, and emphasized the importance of eradicating poverty as an indispensable requirement for sustainable development. At the Rio Conference, States, as evidence of their commitment to sustainable development, signed the legally binding Convention on Biological Diversity (CBD).

Yet, as some articles in this dossier reveal, the conservation approaches being adopted in different parts of the world are not always consistent with agreed principles. The costs of conservation, frequently linked to the setting up and expansion of MPAs, are, in many cases, being borne by fishing communities, particularly by the poorest among them, whose harvesting practices often have minimal impact on the resources base. Reflected in the articles are stories of exclusion from fishing grounds and decision-making processes, and accounts of poverty and human-rights violations, associated with top-down, non-

participatory models of conservation. There is clearly something fundamentally wrong with conservation approaches that take on the poor and the powerless—potential allies in conservation, given their dependence on, and knowledge of, natural resources—while ignoring the environmental destruction being wreaked by the economically and socially powerful.

At the same time, on a more positive note, this dossier also contains articles that show how fishing communities have led conservation initiatives in which, for instance, they have actively sought to be part of MPA decision-making processes, using them as instruments against expansion of polluting industries, shrimp culture, sport fishing, tourism, burgeoning maritime traffic, and oil pollution.

Fishing communities around the world have consistently made the case that it is possible to protect and conserve the environment while continuing with sustainable fishing operations. They have strongly advocated for an integrated approach to fisheries management and conservation of coastal and marine resources, arguing that establishing a reserve without simultaneously applying a management plan in the adjoining areas, will produce only limited results.

We hope this collection of articles will be useful for policymakers, NGOs and others working on issues of coastal and marine conservation, and that it leads to a greater appreciation of fishing-community concerns and perspectives, as well as of their socioeconomic reality, culture and knowledge systems. Only then can conservation become equitable, effective and sustainable in the long term, compatible with the principles of sustainable development. There is no other way to go.

Chandrika Sharma
Executive Secretary, ICSF

The difficult road to Rio

Héctor Luis Morales

Prior to the Earth Summit, fishermen and their organizations have demonstrated a role in defending the environment and their rights as professionals

The Rio de Janeiro United Nations (UN) conference has awakened great hope throughout the world. Its results could also lead to great frustration if government representatives fail to reach a practical agreement to solve the serious environmental problems facing our planet.

The preparatory meetings of the United Nations and the seminars, conferences and publications by governments, research centres, civil organizations and social movements have shown that the road to Rio is difficult, owing to the quantity and gravity of the political, environmental and economic problems that have been detected.

Even though environmental problems and their solutions can be detected and quantified, it is difficult to understand the rigidity of the governments of rich countries in blocking overall solutions proposed in international fora. Negotiations in those meetings do not follow the recommendations of scientists nor the agreements of the social groups affected. Instead, they satisfy the short-term economic interests of the rich countries.

Who will pay the debt for the environment? Who has caused the damage? The answers heard in meeting rooms and hallways hide the truth: the modern industrial development style, invented in the countries of the North and extended to the South, has polluted our planet and led to weather changes, the hole in the ozone layer, exhaustion of natural resources, impoverishment of millions of people and a political and social situation marked by wars between different countries and abhorrent social and economic inequalities.

Therefore, responsibility for paying the environmental debt should be shared and be proportional for those who pollute more than others, in order to seek solutions that are more harmonious for peoples as well as for their relation to their environment, from a perspective of long-term sustainability. This is difficult in practice, due to the high cost involved and resistance to the changes that must take place in current production and consumption patterns. Responsibility for these changes should also be shared by the governments and civil society of the less developed countries. A tremendous contradiction has been revealed in the preparatory meetings for the Earth Summit, as this UN conference has come to be called. Humanity is fully aware of the risky situation which threatens to collapse its environment, yet it is prevented from moving radically to solve the problem because of a lack of decision on the part of the industrialized countries unwilling to pay the bill for the damage they caused.

Fishermen live from the resources of the sea and different bodies of water. Coastal and marine areas are known to be vitally important, both economically and ecologically, for a large part of the population of the planet. These areas are subject to overexploitation and competition, due to short-term demands, especially from the rich regions, such as Europe, Japan and the United States, who normally do not produce enough fishery products and are willing to pay high prices in Third World countries to obtain them.

The oceans and continental waters are being polluted from land-based sources

This article, by Héctor Luis Morales, Associate Member, ICSF, appeared in *SAMUDRA Report* Nos. 5 & 6, June 1992

such as urban, chemical, agricultural, pesticide and mining effluents, seriously endangering the survival of human beings and the species of those waters, and mainly their diversity. Certain ecosystems are in danger of being destroyed, which would mean the disappearance of species whose nutritional value and potential for medicine and industry are still unknown. Weather changes brought on by the emission of gases like methane, carbon dioxide or chlorofluorocarbons (CFCs) can raise the level of the sea and provoke enormous catastrophes by flooding and the destruction of aquacultural areas, plankton and marine productivity.

These facts are known and have been sufficiently pronounced by scientists, ecological associations and international agencies that deal with these issues. What we want to show in this article is the role that fishermen and their organizations have played in defending the environment and their rights as professionals, by making their concerns known to governments, and opening up roads to request respect for their concerns and satisfaction for their demands.

During the meetings of the preparatory committee of the conference, ICSF presented different viewpoints that were accepted and incorporated in draft documents, eventually becoming a proposal that summarized these demands and that, if adopted, will serve as a platform for the struggles of national and regional organizations.

The proposed Plan of Action, called Agenda 21, contains a special chapter on the protection of the oceans and types of seas, including closed and semi-closed seas, coastal areas, and the protection and rational use and development of their living resources. Points C and D of that chapter present a series of statements that

provide a basis for what ICSF has called the Charter of the Basic Rights of the Artisanal Fishermen and Fishworkers of the World:

- The state of the marine environment is generally recognized, especially with reference to the handling of living resources through uncontrolled fishing, overcapitalization, oversized fleets, the use of insufficiently selective fishing methods; and also the use of the sea as a dumping ground for all kinds of land-based urban, industrial, agricultural and mining pollution.
- It is imperative that States commit themselves to conserve and use living resources in a sustainable manner, in order to meet the nutritional needs of human beings, maintain and restore populations of species, promote the creation and use of selective fishing methods, conserve endangered species and habitats, and promote scientific research on these resources.
- States should also take into account, in their production and managerial systems, the traditional knowledge and interests of local communities, small-scale fishermen and autochthonous populations. They should also develop the potential of living marine resources by preparing inventories for their conservation and sustainable use.

Special emphasis is placed on having coastal States support the sustainability of small-scale artisanal fishing. To do so, they should:

- integrate the development of small-scale artisanal fishing into planning for marine and coastal areas, taking into account the interests of fishermen, workers in small-scale processing operations, women, local communities and indigenous populations, by encouraging representation of these groups, where possible, even ensuring that in negotiations and the implementation

of international agreements, the interests of local communities and indigenous populations are taken into account, especially their right to subsistence;

- recognize the rights of those involved in small-scale fishing, and the special situation of indigenous populations and local communities, including their rights to use and protect their habitat on a sustainable basis; and
- establish systems to acquire and record traditional knowledge about living resources and the marine environment, and promote the incorporation of that knowledge into management systems.

With regard to aquaculture, it is recommended that the possibilities offered by marine and coastal areas under national jurisdiction be analyzed; that adequate safeguards be applied in order to introduce new species, and that educational, financial and technical co-operation be developed to increase this activity together with small-scale fishing.

A special recommendation is made about the need to recognize and protect marine ecosystems with high levels of biodiversity and productivity, especially coral reefs, estuaries, temperate and tropical wetlands, including mangroves, oyster and algae beds and other areas of reproduction and growth. A request is made to establish limits and define protected areas.

The Charter summarizes the proposals of Agenda 21 in an easily understood fashion. Our hope is that they gradually become the ideas that inspire the struggles of organizations to recover their dignity and achieve the recognition that is due to fishworkers for their contribution to the survival of families and the environment in which we live. 3

Also online at:

<http://www.icsf.net/SU/Sam/EN/5-6/art01.pdf>

States should also take into account, in their production and managerial systems, the traditional knowledge and interests of local communities, small-scale fishermen and autochthonous populations.

The view from the other side

Antonio Carlos Diegues

As examples from Brazil show, environmental impact assessments often ignore the views of artisanal fishing communities

In Brazil, the Amazonian region represents the last frontier for coastal and inland fisheries. Fish represents the most important source of protein and income for the riverine population in the region. Brazil has the highest per capita fish consumption, equivalent to the consumption in Japan.

Traditional fishermen, however, are today confronted with problems created by the construction of large dams, water pollution by the mercury used in gold mining, the invasion of lakes and rivers by commercial or industrial fishing boats from urban fishing harbours, limits to access to resources through the establishment of large farms along biologically rich lakes and lagoons and, finally, by the establishment of national parks in those very areas in which they used to live.

All these factors are creating serious conflicts among local fishermen, big landowners, commercial/industrial fishing units and State agencies responsible for dam construction and environmental protection.

Since the 1960s, the entire coastal region of Brazil has been suffering from an intensive and destructive occupation of its ecosystems, particularly the estuaries, lagoons, coral reefs and mangroves, where most of the artisanal fishermen live and work.

This rapid occupation of the coastline became more intensive during the 'Brazilian Economic Miracle', during the military regime of the 1970s, when industrialization and urbanization along the coast became

the most important socioeconomic process. Industrial pollution, particularly the dumping of sugar cane waste from alcohol production, was responsible for the biological impoverishment of estuaries and coastal lagoons.

During this period, artisanal fisheries were responsible for more than half of the fish caught, but the so-called 'modernization of fisheries', based on industrial fishing and promoted by the Food and Agriculture Organisation of the United Nations (FAO), largely disregarded the essential contribution of artisanal fisheries for food production and employment in coastal villages and towns. Many social conflicts occurred between artisanal and industrial fisheries, as large shrimp fishing destroyed the nets of small-scale fishermen.

As a result, fish resources were largely depleted by profit-eager industrial fishing companies. The marginalization of small-scale fishermen became more serious when many beaches came to be privatized for the exclusive use of tourist cottages and condominiums.

In the 1980s, to manage the use of the coastal area, the federal government started a Coastal Management Programme, institutionalized in 1988 through a law. From the start, however, the whole exercise became extremely bureaucratized, as coastal management was restricted to creating different maps on the land's potentials and constraints, based on sophisticated remote sensing and geographic information system (GIS) techniques.

This article, by Antonio Carlos Diegues, Scientific Director of NUPAUB: Research Centre for Wetlands Conservation, University of São Paulo, Brazil and a Member of ICSF, appeared in *SAMUDRA Report* No. 16, November 1996

Wasted years

Consulting firms, interested only in selling emerging technologies of remote sensing techniques, were the bases for the initial exercises. Over a dozen years were spent in producing overlays and maps of different coastal States, but until now, not a single coastal management plan has been actually implemented.

As a result, ecologically and socially, the situation in the coastal ecosystems became critical. A new development is taking place in the northeastern State of Ceará, known for its beautiful beaches, growing tourism and lobster fishing (by both artisanal and industrial fishermen). An innovative and grass-roots experiment in coastal management has been undertaken by local associations of fishermen, assisted by a small non-governmental organization (NGO) and a local university.

Instead of wasting too much time in searching for information and maps, they have established a Coastal Forum (*Forum do Litoral*) in which negotiations occur among different groups on the use of coastal land and marine resources.

The Forum's activities lie in two areas. The first is a critical evaluation of a large government project called Prodetur, financed by the World Bank. The government's preliminary project proposal does not take into consideration the importance of the coastal fishing communities or the impact on these human cultures of the extensive tourist development projects along the coast.

If these local communities are not ready for an increase in tourism-related activities, the whole traditional production system based on small-scale fisheries, agriculture and handicraft will be severely damaged. Some communities are organizing their own co-operatives to provide tourism services, while controlling the sale of their beach property to tourists. Through negotiations

with the government and the World Bank, local associations are preparing themselves for the impact of the expansion of tourism. They thus hope to take advantage of the eventual benefits, and restrict the negative impacts.

The second activity of the Forum comprises negotiations on managing the very lucrative lobster fishery, which employs around 12,000 fishermen in Ceará State. Fishermen are worried about the rapid decline of the lobster catch in the last few years.

After long negotiations between local fishermen's organizations, NGOs, universities, the fishing industry and IBAMA—the Federal Environmental Agency—plan for the management of lobster fishery was established in 1995. The plan put severe restrictions on the fishing of lobster juveniles by artisanal and industrial fishermen and a complete ban on diving for lobster. The artisanal fishermen's associations bought a boat to be used for the enforcement of fishing regulations.

Good results

This grass-roots coastal management scheme, based on extensive negotiations with all users, is producing positive results, in contrast to the government's coastal management plan, which is based on long years of producing maps and ineffective top-down approaches.

Also revealing is the impact on small-scale fishing communities of a large irrigation scheme on the floodplain of the São Francisco River, in Marituba, a '*varzea*' (a floodplain near the mouth of the river), in the coastal plain of Alagoas-Sergipe, in the northeast of Brazil. It covers about 200 sq km of marshes, resulting from periodic flooding of the river.

The swamp is crossed by the Barreiras Channel (about 20 km long) that connects the São Francisco River to Marituba River

and Lago do Peixe. This natural channel plays an important role, as many species of fish migrate through it to reach the lakes inside the marsh. The most important lake is Lago dos Peixes, known for its abundant fish resources. The area is mainly marshy and contains several species of palm trees used by the local population for building thatched roof houses, for making traditional medicines and producing food. The Varzea da Marituba also contains important habitats for several species of fish, birds and small wild animals.

In the floodplain are two villages—Marituba de Cima and Marituba do Peixe—containing around 270 hamlets and 1,200 inhabitants who live mainly on small-scale fishing or agriculture, and handicraft. Fish and other products are sold in the nearby city of Penedo. The territory of the villages is now surrounded by sugar cane plantations belonging to a nearby distillery.

Fieldwork undertaken by the Federal University of Alagoas has discovered that over 48 different species (including *surubim*, *piau*, *cara* and several species of shrimp) have been identified, and consumed and sold by the fishermen. The local fishermen have extensive and precise knowledge of the different habitats of the floodplain. Over 40 different habitats are known by the *varzeiros* (inhabitants of the *varzea*) and these are exploited for fishing, depending on the season and fish-eating habits. About 18 different fishing and fish management techniques are used by local fishermen, including a period of rest, when no fishing is carried out in the lakes, and the use of 'brush parks'—bundles of branches placed on the bottom of the lagoon to attract fish, similar to the West African *akaja*.

Two decades ago, the floodplain and their inhabitants started to undergo important changes. The first great set of impacts occurred in the 1960s, when important changes took place in the hydrological regime of the floodplain due to the

construction of two large hydroelectric dams (Paulo Afonso and Sobradinho), hundreds of km upriver. The dams have regulated the flow of the river, and now fewer fish enter the *varzeas* than during the previous flooding period.

The second set of changes has been caused by the expansion of sugar cane plantations during the 1970s, as part of the government programme for the production of alcohol to be used as automobile fuel. A local sugar cane distillery bought up almost all the available land, and the sugar plantation now surrounds the lakes in the *varzea*. Intensive use of fertilizers and herbicides has a negative impact on the fish stocks.

The last remaining areas of forest were cut for expanding sugar cane plantations. As a result, many important habitats of game birds were lost, depriving peasants and fishermen of important sources of protein. Also, many fruit and palm trees, from which fibre was extracted for handicraft, have been lost. It is now difficult to find a tree suitable for making the traditional fishing canoe.

New transformation

The third and most important threat to the *varzea* is from CODEVASF, a government agricultural development agency which plans to transform the entire *varzea* into irrigated rice fields. This State company has already converted several larger swamps of the São Francisco River into rice-growing projects. In the already established projects, there has been a complete transformation of the swamps and the entire hydrological regime has changed.

In the project called Betume (involving 10,000 ha), CODEVASF has blocked the waterways to the lagoons and stopped fish migration. As a result, fish stocks diminished and local fishermen have found their livelihoods affected. Apart from these serious environmental impacts, local populations have also suffered from the conversion of wetlands.

Having lost their land, they have been forced to live on the outskirts of the project area. They were temporarily employed in the construction of the irrigated fields, but seldom received a plot in the project area. Rice plots with irrigation infrastructure were given to the better-off farmers, who were usually outsiders.

In 1985, CODEVASF decided to start a new project in the Marituba swamp that would lead to a complete transformation of the last existing *varzea* of São Francisco River, with the disruption of the fisheries and the hydrological regime. The peasants/fishermen would be resettled elsewhere.

The environmental impact assessment (EIA), funded by CODEVASF, argues that yields from irrigated rice plots would be higher than from the traditional planting methods of the villagers. Also, the scheme would create a large number of jobs. The EIA claims that there are no endangered species in the area and that the income people would get from irrigated rice planting will be higher than from fishing and handicraft. Overall, claims the EIA, the project has a positive regional impact.

In 1988, the University of São Paulo, in co-operation with the Federal University of Alagoas, started a participatory and interdisciplinary research project involving ecologists, biologists, anthropologists, historians and agronomists, and based on the ethnoscientific approach.

The project has shown that the conservation of this last remaining floodplain and its value for the livelihoods of the inhabitants were higher than the benefits that might be generated by the transformation of the floodplain. It became also clear that the State company only considered as 'productive jobs' those generated by the irrigated rice projects and not the jobs already existing through traditional activities. The *varzeiros* would lose their sources of income and

would not receive plots in the modern rice project. These were given to farmers outside the area, as had already occurred in the other irrigated schemes of the company. Very often, the choice of farmers for the project is made on a political basis, with preference given to those nominated by local or regional politicians. Another conclusion of the research is that the whole hydrological system of the *varzea* would be damaged, and traditional fishing would disappear, along with important endangered species.

As result of the research, at the public hearing to evaluate the EIA for the project, in February 1991 in the State capital of Maceio, an alliance of environmental NGOs, scientists and Marituba residents was set up. During the public hearing itself, the *varzeiros* made clear their disapproval of the project, but the political forces in support of the project were very strong. Thus the EIA was not rejected by the State authorities. However, new complementary studies were requested.

From that experience, it was clear that the criteria for costs and benefits were different for the different social groups involved. Since non-governmental funds and research expertise were made available, the point of view of the villagers, supported by ethnoscientific knowledge, was made clear at the public hearing. EIAs, funded by those who are responsible for the project, are usually biased against the interests of the local populations whose livelihoods will be affected. Local populations and their organizations should receive specific public funds to implement their own EIAs.

Protected areas

The establishment of protected areas in coastal regions affects small-scale fishing communities. Brazil has around four per cent of its territory within different types of protected areas, mainly national parks, ecological stations and national forests.

The project has shown that the conservation of this last remaining floodplain and its value for the livelihood of the inhabitants were higher than the benefits that might be generated by the transformation of the floodplain.

• These correspond to around 380,000 sq
 • km, an area larger than many European
 • countries.

• Most of the environmentally protected
 • areas are located in Amazonia, covering
 • around 13 per cent of the total Amazonian
 • region. In addition, there are some protected
 • marine and coastal areas along the coast
 • of the Atlantic and Amazonian forests,
 • covering adjacent coastal area ecosystems
 • such as mangroves, estuaries and coral
 • reefs, used by artisanal fishermen.

• According to the Brazilian legislation on
 • protected areas, which follows the model
 • of the Yellowstone National Park in the
 • United States, people living inside have to be
 • resettled elsewhere. This imported model has
 • had a catastrophic impact on the livelihoods
 • of thousands of small-scale fishermen and
 • other small producers who have lived in the
 • area for many generations and who, due
 • to their mode of production, were able to
 • protect the forests and adjacent seas.

• These traditional communities, often living
 • in isolated areas, depend almost exclusively
 • on the use of natural resources. They have
 • a complex relationship with the natural
 • environment, which is not just of an
 • economic nature.

• Values, traditions and cultural perceptions
 • built over centuries, play an essential role
 • in defining their relationship with the
 • environment and natural resources. These
 • traditional peoples have a deep knowledge
 • of the environment where they live and of
 • the natural resources, and have developed,
 • in coastal areas, knowledge-intensive
 • management schemes.

• Very often, when the government
 • establishes a protected area, not only are
 • the interests of local populations ignored,
 • but the traditional territory of the people
 • is also taken away, to be transformed into
 • protected areas.

In coastal areas, where the pressure on ecosystems by land developers and speculators is high, leading also to the expropriation of the beaches of fishermen, the establishment of protected areas may actually hinder this process and, in the beginning, may benefit traditional fishermen. However, the park administration soon starts prohibiting most of the traditional activities of the inhabitants. Their situation then becomes unbearable, ultimately leading the communities to abandon the land of their ancestors.

Social revolt

The establishment of strict environmental protection units in large coastal areas have led local communities to a situation of social revolt, as the conditions for their subsistence are abruptly suppressed. As a consequence, the dwellers consider the newly established areas as nobody's land, and start to overuse natural resources and to fish illegally, practices that they had refrained from earlier.

In addition, when these traditional communities move outside the park area, other users, such as tourists, poachers, mining and sawmill operators, may act more freely, leading to the degradation of the coastal area. Some conservationists may argue that, without uninhabited protected areas, biodiversity may disappear. However, in tropical countries, it is becoming clear that biodiversity is also protected—and even enhanced—by traditional practices.

It is becoming increasingly clear that this imported national park model, bereft of traditional dwellers, is becoming a failure, and is not achieving an adequate level of conservation. A new model of conservation has to be devised and implemented, making the traditional knowledge and management schemes of local communities the cornerstone of an effective conservation that also benefits traditional people.

In this sense, a new model of protected areas may lead not only to effective conservation but to an amelioration of the living standard of thousands of small-scale fishermen and producers. A new form of management, negotiated with the local dwellers, inside and outside the protected area, could be the basis of actions to protect simultaneously the ecosystems and the diversity of cultures of coastal dwellers in tropical countries. In the last few years, however, local fishermen in Brazil are getting organized with the assistance of the Catholic Church (Pastoral of Fishermen) and the recently established MONAPE–National Movement of Fishermen.

In the beginning, local fishing communities started closing the entrance of the most important lakes to the commercial/industrial fishing boats. These actions led to violent conflicts. They attracted the attention of socio-environmental organizations, which then started fisheries management schemes involving all the actors, particularly local fishing communities (as in Lago Grande de Monte Alegre in the middle Amazon).

The basic idea was to create areas where access to resources is restricted to local fishermen, while retaining other areas for commercial/industrial fisheries. In these restricted areas, local fishermen agreed to regulate their fishing activities so as to achieve a socially and ecologically optimal sustainable yield, applying the same principles that orient the extractive rubber tapping industry.

Ecological station

One example of these efforts is the establishment of the Mamiraua Ecological Station in a wetland area covering one million hectares along the Japura and Solimoes River, where 4,500 people live by fishing and harvesting forest products. According to existing legislation, all the 50 small communities should be resettled outside this protected area. However, with

the assistance of local organizations and NGOs, including the World Wide Fund for Nature, a conservation project was established in co-operation with the fishing communities. The communities themselves organized management institutions that regulate fishing, particularly during the dry season when several lakes are formed.

The management plan delineates six different types of lakes, some of them being considered as exclusive conservation areas, some left for subsistence fishing and others reserved for commercial fishing, also for upcountry commercial boats, provided that rules (particularly those banning the use of some predatory nets) are respected.

Overall, however, it is clear that not only ill-devised development projects but also ill-conceived protected areas may lead to the degradation of ecosystems and their natural resources, as well as to the increasing impoverishment of local populations who should actually be benefiting from these activities. It is also clear that local populations, particularly the traditional dwellers, should be involved, from the outset, in the planning of these projects, including the establishment of protected areas. This might appear contradictory, as national parks are supposed to protect biodiversity. In many cases, however, coastal protected areas, based on the imported model of the Yellowstone National Park, may lead to opposite results. These efforts lack the people's support, particularly of those directly affected by the resettlement measures or by the prohibition of traditional activities.

From these examples, it appears that protected areas should be established only after an EIA is made, taking as a priority the interests, knowledge and traditional management schemes of local dwellers. In any model, these should be actively incorporated in the management plans. The State should give the material and technical means to local communities to undertake

A new model of conservation has to be devised and implemented, making the traditional knowledge and management schemes of local communities the cornerstone of an effective conservation that also benefits traditional people.

The future reserved?

Leith Duncan

The experience of New Zealand seems to suggest marine reserves as a proactive solution to the crisis in the world's oceans

Marine reserves are probably the most proactive means of countering the present crisis in the world's oceans. In that part of the globe where the hemisphere is centred on New Zealand, 90 per cent is ocean and the marine ecosystems there are isolated from humans. They should, therefore, be less affected by exploitation and pollution than those of most other countries. New Zealand should thus be the ideal test case for marine reserves.

Under New Zealand's Marine Reserves Act, such reserves are set aside primarily for scientific purposes. The need for increased scientific understanding is very clear, as threats to the ocean from both natural and human sources are blatantly obvious.

As the worst El Niño since 1983 reverses the normal climatic patterns in the South Pacific, dramatic die-offs of marine mammals, penguin, fish and seabird kills, toxic algal blooms and red tides are hitting New Zealand waters with unexpected severity. Such impacts threaten fisheries, economics and equanimity. They demonstrate just how little of the complex dynamics of marine ecosystems and their living species is known.

In the sub-Antarctic Auckland Islands, more than 1300 pups of the endangered Hooker's sea lions have died for reasons scientists have as yet been unable to determine. With a population of under 15,000, Hookers are the rarest and most isolated of sea lions in the world. Campaigning in recent years by conservationists, concerned that the

numbers of adults drowning in the nets of the squid fishery could lead to extinction, led to the Ministry of Fisheries setting a quota on the number that could be killed before the fishery was closed. This quota, like a stock assessment, is an estimate of the sustainable mortality derived from the biological parameters, and the numbers killed on vessels, that the Ministry of Fisheries observers extrapolated over the whole fleet. Last year, the figure was more than 100 females, already much greater than the agreed quota before intensive lobbying led to the Minister closing the fishery. Yet, even before this year's fishing season had begun properly, it was estimated that more than this number of breeding adults had already died at sea from this mysterious illness. The consequences of further human impact could be serious.

On the mainland, following numerous complaints of human acute respiratory irritation, there have been official warnings to keep people off two popular beaches. In another outbreak in Wellington, a university marine scientist found that all marine life in the harbour had been killed and that the city could only wait for a change of weather to disperse the toxin involved.

Around the coast, there have been numerous closures of beaches, marine farms or specified lengths of coastline for shellfish harvesting as a result of monitoring toxic blooms. In the north, there have even been dramatic red tides off local beaches. This is the first time since the unprecedented crisis in 1992-93 that there have been reports of such widespread and intensive impacts. If

This article, by Leith Duncan, an environmental fisheries consultant based in New Zealand, appeared in *SAMUDRA Report* No. 20, May 1998

nothing else, it raises questions about how much we know about the dynamics of the marine ecosystems.

Unusual events

Although so many unusual events have occurred this summer, the fact that they have occurred in many different bodies of water separated by features such as the Southern Convergence means that the search for causal factors must be sought in features that encompass the wider area.

Generally, threats from pollution and overexploitation of the world's oceans are increasing. If these major impacts can be removed from specific special and representative ecosystems, allowing them to regenerate to their previous, natural state, and providing them as control groups, it could lead to better knowledge.

Such areas of marine reserve are a small but vital contribution to the protection of the seas. Marine ecosystems are complex and diverse and, with the difficulties of monitoring within a fluid medium, we know comparatively less about them than about terrestrial systems. Scientists typically use control groups in order to remove the effects of as many variables as possible, and marine reserves are seen as appropriate for this purpose.

By preventing the removal of fish, seaweeds, shellfish and other living organisms, it is believed they may revert to a more natural state and, therefore, allow for both better understanding and the regeneration of fish populations. Marine reserves are of value not only for scientists but have social values and benefits for education, recreation, management baselines, conservation and as a source of pleasure for nature enthusiasts. Indeed, in those reserves established long ago, the spectacular volume and diversity of fish that so excited the early European explorers to New Zealand can again be seen, while newer destinations are showing

signs of reverting to this state. With 'spillover' and increased larval export from expanding species populations, practical benefits also flow beyond the designated areas to the environment and those who depend on it. Many species and the products of spawning do not recognize gazetted boundaries but rather, as the pots of lobster fishermen surrounding some reserves testify, become distributed widely and contribute economically to these and other stakeholders.

There are now 14 such reserves sprinkled around New Zealand: Cape Rodney-Okakari Point (the Leigh Marine Reserve and the first established), the Kermadec Islands (the largest marine reserve in the world), Poor Knight Islands, Whanganui A Hei, Tuhua (Mayor Island), Kapiti Island, Long Island, Kokomahua, Tunga Island, Piopiotahi (Milfurd Sound), Te Awaatu Channel (The Gut)-these latter two are both in Fiord land, following application made by the Federation of Commercial Fishermen-Westhaven (Te Tai Tapu) and, more recently, Pollen Island and Long Bay, established under the Marine Reserves Act. In addition, but under different legislation, there are two marine parks, Tawharanui and Mimiwhatangata, and the Sugar Loaf Islands Marine Protected Area. Applicants have included university marine scientists, Maori groups, community groups, the Federation of Commercial Fishermen, the Department of Conservation, and conservation groups.

These are generally no-take areas for scientific purposes under the Marine Reserves Act, but their establishment was often motivated by a desire to conserve representative areas of the sea, its habitats and species—places where people can visit and see fish and marine life as they used to be. Overseas, it is recognized that “New Zealand’s marine reserves provide an international model for the protection of critical marine reserves around the globe,”

as Groundswell reported in a newsletter on marine reserves.

In reality, as yet, only a tiny four per cent of the territorial sea (out to 12 nautical miles) is protected and, without the Kermadec Reserve, there would be less than one per cent in marine reserves. The immediate target is an area of 10 per cent. On land, the need for conservation is well recognized, and almost a third of New Zealand is protected in national parks and reserves. Even this does not seem to be enough to preserve the uniqueness of New Zealand's landscape. Marine ecosystems are even more complex and so the issue is more urgent.

New Zealanders like to fish and gather food from the sea both commercially and privately, so virtually the entire coastline is, or has, until very recently, been exploited, and so setting up reserves is controversial. Yet divers have testified to the sometimes spectacular recovery of marine life within the reserves. Some, like Leigh just north of Auckland, have become major attractions, where people can see dramatic schools of fish by just paddling into the water.

Such benefits are becoming widely recognized and scientific research has endorsed them by showing an unexpectedly large increase in fish—there are now 20 times more rock lobster, and 12 times more snapper in the reserves than outside. If marine reserves can contribute positively toward regenerating local areas, then, in order to be effective nationally, a network of biogeographically and ecologically representative reserves is required. This should include all types, from those on exposed, hard coasts to the soft estuarine mudflats, mangroves and wetlands.

In the Hauraki Gulf, just outside Auckland and adjacent to the region of greatest population in New Zealand, efforts are under way, in terms of both theory and

implementation, to define a network. Scientists have used both physical and biological criteria to define principles, so that selected areas would include both representative and unique marine ecology. To explain the principles, Professor Bill Ballantine, a marine scientist and leading proponent, uses the analogy of a trawl net. Just as the meshes are largest at the mouth and reduce in size at the cod end, where the quantity of fish will be the densest, marine reserves offshore need to be greater but further apart and, inshore, where habitats and species are both denser and more diverse, the reserves should reduce to smaller size but increase in number.

More significantly, for specific stakeholders, Ballantine has shown that if one area has a higher priority for one group, then, provided a neighbouring area also meeting the principles is available, it will serve the purposes of a network just as well.

In the Hauraki Gulf, there are now around eight marine reserves or special ecological areas gazetted, with a further eight in a fairly advanced stage of the application process. As yet, in only two widely separated pairs are the reserves close enough for natural biological linkages to occur obviously. Nevertheless, it would need only another eight reserves before the anticipated synergistic interactions between them could reasonably be expected to provide an effective network.

Deepwater resources

Not all ecological or biogeographical types, however, are represented, particularly in offshore areas. Despite knowledge of New Zealand's deepwater fishery resources, efforts to set aside examples of the habitats and ecology that support them have yet to advance beyond the planning stage.

In Australia, however, scientists, and others working on orange roughy, through their research, management and conservation

Marine ecosystems are complex and diverse and, with the difficulties of monitoring within a fluid medium, we know comparatively less about them than about terrestrial systems.

organizations, have ensured that at least a few of the known deep-water sea mounts and their diverse benthic (bottom-dwelling) communities remain unfished in an interim reserve.

While conservationists see reserves as a proactive means of countering the present crisis in the global fisheries, the issue is more controversial for other stakeholders. The sub-Antarctic, where pleas have been made for a 100-km exclusion zone around the Auckland Islands to protect the foraging grounds of the endangered Hooker's sea lions, is one example.


Species ignored in one culture may be highly prized in another and thus offer lucrative markets. In the past, New Zealanders had no commercial interest in squid, but that is by no means the case now as industry has expanded to meet those demands or even create others. Despite management efforts, some stocks are reducing and effort is shifting to other species. As the companies fishing on the apparently dwindling stocks of orange roughy are increasingly marketing the once-despised oreo dories, so many of the same companies working the deep-water squid fishery are askance at any suggestion of exclusion from the now lucrative squid fishery. Even the offshore areas seem to be fully exploited.

In most coastal waters, not only is it more necessary to set aside marine reserves but it is also more difficult without encroaching on jobs and livelihoods. The fishing industry has supported marine reserves in theory, and even applied successfully for a couple, but, in practice, it has opposed most applications. Nevertheless, through consultation and negotiation, there is hope that sufficient reserves will be designated and that fishermen who will be hardest hit in the short run will be the recipients of the greater benefits from more prolific stocks in the longer term.

As the older reserves regenerate closer to

their unexploited state and as the newer reserves begin the process of forming a network, our understanding of their species, dynamics and inter-relationships increases in detail. We begin to accumulate the knowledge and skills necessary to counter the many and diverse threats to the ocean.

Complex fisheries

Whether the same reasoning and processes that auger well for New Zealand can be applied to the even more biologically and socially complex fisheries in the tropical developing world is an issue for investigation by those who use them or know them best. As just a tentative suggestion, perhaps communities could set aside spawning and nursery areas as a tithe—certainly an immediate sacrifice, but one offering potential benefit in the longer term over a much wider area. 

Also online at:



<http://www.icsf.net/SU/Sam/EN/20/art04.pdf>

Jammed in Jambudwip

Sebastian Mathew

The traditional stake-net fishers of the ecologically sensitive Jambudwip island in West Bengal, India, face a likely ban of their seasonal fisheries

In the South 24-Parganas District of the State of West Bengal in India is the 20-sq km island of Jambudwip. Located about 10 km offshore in the southwest corner of the Sundarbans at the mouth of river Hooghly in the Bay of Bengal, the island can be reached in 45 minutes from the Frasersgunj fishing harbour by *bhut bhuti*, a small powered country craft.

Jambudwip has been used as a site for fisheries camps at least since 1955, according to Bikash Raychoudhury's *Moon and Net* (published by the Anthropological Survey of India in 1980). *Behundi jal* or stake-net fishery is a traditional activity in different parts of the Sundarbans delta, on both the Indian and Bangladesh sides.

The largest stake-net fishing operation in the Sundarbans is based in Jambudwip. It is the *Jalia Kaibartha* community from the Chittagong hills that mainly practises *behundi jal* fishery in the marine waters of the Sundarbans. After India attained independence in 1947, the members of this highly enterprising fishing community settled down in places like Kakdwip, Namkhana, Sagar and Pathar Pratima in West Bengal, and Champaran in Bihar.

However, this traditional source of livelihood and sustenance is now under serious threat. The Central Empowered Committee (CEC) has said that the seasonal "occupation" of the Jambudwip island by fishermen, and the fish-drying activity was a non-forest activity that cannot be permitted under the Forest (Conservation) Act, 1980, without prior approval of

the central government. (The CEC was constituted by the Supreme Court of India by a Notification on 20 June 2002 to provide relief against any action taken by the Central/State Governments or any other authority regarding, *inter alia*, deforestation and encroachments, and the implementation of legal instruments for forest conservation.) It has directed the West Bengal government to remove all traces of encroachment on Jambudwip island by 31 March 2003.

While the Fisheries Department of West Bengal, under Minister Kiranmoy Nanda, strongly defends the fishermen's claim to the seasonal use of the island, the Forest Department is bitterly opposed. The fishermen are now living in the shadow of uncertainty. Will their two-generations old fishery be treated as an activity eligible for regularization or will they be summarily evicted?

It was on 29 May 1943 that, under a Notification of the Government of West Bengal, Jambudwip became reserved forest as part of the protected forests in the Namkhana Division. As a result, no activity was allowed on the island, except those permitted by the Forest Department. From at least 1968 onwards, fishermen have been issued permits to use the island to collect firewood and to launch boats into the main creek.

Since 1989, Jambudwip has been part of the buffer zone of the Sundarbans Biosphere Reserve, where ecologically sound practices, including fisheries, are permitted (unlike the

This article, by Sebastian Mathew, Programme Adviser of ICSE, appeared in *SAMUDRA Report* No. 34, March 2003

core area of a biosphere reserve, which is securely protected for conserving biological diversity). Jambudwip is, however, located outside the Sundarbans Tiger Reserve.

Mangroves destroyed

The CEC visited Jambudwip on 3 December 2002, in response to an application from the Executive Director, Wildlife Protection Society of India, seeking suitable relief against alleged encroachment and destruction of mangroves by fishermen.

The CEC's report of 24 December 2002 directed the West Bengal government to remove all traces of encroachment on Jambudwip by 31 March 2003. However, the CEC observed that the proposal for fish drying on the island could still be considered, but only after obtaining clearance from the Ministry of Home Affairs and the Ministry of External Affairs for the fishermen involved, since some Bangladeshis were alleged to be involved illegally in the island's fisheries.

The CEC denouncement followed a series of events consequent to the Supreme Court order of 12 December 1996 on the issue of forest encroachment. Further to its Order of 23 November 2001 restraining the Central Government from regularizing all encroachments, the Ministry of Environment and Forests (MoEF) wrote to all States and Union Territories on 3 May 2002 to regularize only eligible encroachments before 1980 and to evict all other encroachments by 30 September 2002. The Forest Department, soon after receiving this letter from the MoEF, ordered the Jambudwip fishermen not to use the island and to remove their fishing implements from their makeshift sheds.

Subsequently, the Department set fire to the sheds and fishing implements in July-August 2002. The torching of bamboo-and-reed sheds and fishing implements is particularly intriguing since there was

a Ministerial meeting held between the Fisheries and the Forest Departments on 9 August 2002. At this meeting, a decision was made, as reported in the press, to regularize the seasonal use of a demarcated area of Jambudwip for fish drying by fishermen holding identity cards issued by the Fisheries Department.

A subsequent letter, dated 30 October 2002, from the MoEF even made provision for setting up district-level committees or commissions to settle disputed claims of eligible encroachments. But no such initiative was taken in the case of Jambudwip. The letter also revealed a softening of the MoEF's position; the earlier rigid stand on "summary eviction" by 30 September gave way to "showing progress on the eviction of ineligible encroachments".

Entry blocked

The West Bengal forest authorities, however, hardened their stand on Jambudwip. They erected concrete pillars at the mouth of the creek—the lifeblood of the fishermen and their fisheries—allegedly to block the entry of fishing vessels into the creek. On 12 November 2002, for the first time in the history of Jambudwip, ten fishermen drowned at sea during a cyclone, as they were unable to seek shelter in the creek.

Soon after the drowning incident, the National Fishworkers' Forum (NFF), India, launched an agitation on 18 November 2002 against preventing seasonal fisheries camps and blocking entry of fishing vessels into the creek in Jambudwip. Subsequently, the Principal Secretary of Fisheries, West Bengal, informed the CEC that the West Bengal State Government had decided to permit fishing activity in Jambudwip, on the ground that it has been continuing for almost 50 years.

The fishermen resumed fishing but they were still prevented from landing their catch in Jambudwip. On 25 November

2002, after removing a few of the concrete pillars erected by the West Bengal Forest Department, the fishermen entered the creek and sat in their fishing vessels in peaceful protest against being denied access to the island.

On 26 November 2002, the Chief Secretary of West Bengal wrote to the CEC requesting it to agree to the State Government proposal to allow the fishermen to resume fish-drying activities up to February 2003 as an interim measure and to await a formal proposal on the issue from the State Government. The letter also contained viable proposals for long-term solutions to the vexing issue, such as allowing the seasonal fishery in a fenced area along the seaboard of Jambudwip, with full protection to mangroves beyond the fenced area.

Although it indirectly makes provisions for resuming fish-drying activities for the 2002-03 season, the report of the CEC hangs like a Damocles sword on the future of the Jambudwip fishery. As we go to press, there is still uncertainty if the fishermen could resume their fishery from the year 2003-04. About 3,000 fishworkers live on the island during the season, staying in makeshift sheds of bamboo and reed, repairing fishing nets, sorting, drying and storing fish, while about 3,500 fishermen engage in *bebundi jal* fishing in the adjacent sea. What makes *bebundi jal* fisheries possible is the unique delta ecosystem and the community's in-depth understanding of the inter-relationships between the lunar cycle, oceanic currents and the migratory behaviour of fish, in conjunction with the dynamics of the bottom topography of the sea, including the pattern of sedimentation and soil quality. The fishery is marked by simultaneous capture, transport and processing activities, with different sets of people involved round-the-clock as one unit under one *bahardar*, or fleet operator.

In actual practice, it is like setting up two camps: one on land and the other at sea,

since the fishermen who fish do not return to the island until the end of the season, unless there is a cyclone or some accident. The fishing ground is connected to the fish-drying yards by fish transport vessels that operate daily, sometimes twice a day.

The island—especially the creek during high tide—is not only useful for unloading fish and loading victuals for the fishermen staying on the fishing ground, it is also beneficial as a refuge from cyclones. Drinking water and firewood are also available on the island. Easy access to sufficient quantities of firewood was a long-term requirement not only for cooking, but, more importantly, for boiling hemp fishing nets in natural dyes to make them invisible to fish in the thick mud of *kbari*. These days though, firewood is used only for cooking since everyone has switched to nylon nets, which do not require any dyeing.

In the *bebundi jal* fishery, a series of bagnets are fixed in the black, sticky mud in the seabed undulations called *kbari* at a distance of about 25 nautical miles from Jambudwip. The *kbari* has a combination of disintegrated mangrove wood and mud, and is an important source of food for bottom-feeder fish. Aggregation of benthic fish attracts other fish that predate on them. Both prey and predator fish become quarry to the fishermen.

Bagnet design

Each fishing unit has about 20 bagnets. The bagnet has an average length of 75 ft and has a 60-ft mouth. Ropes, corresponding to the water column depth, bind the wings of the bagnet on either side of its mouth to metal stakes driven into the mud. The knots are ingeniously tied so that the mouth of the net always faces the water current, in both high and low tide.

The net is designed in such a manner that a strong current would take it to the bottom of the channel, while a weaker current

A subsequent letter, dated 30 October 2002, from the MoEF even made provision for setting up district-level committees or commissions to settle disputed claims of eligible encroachments. But no such initiative was taken in the case of Jambudwip.

would keep it at the midwater level. In the absence of a current, the net would float on the surface. Two hardy bamboo poles are tied vertically to the mouth of the net, 20 ft apart, to keep it open. The nets are fixed at depths of 12 to 15 fathoms. The high opening of the bagnet, in synchrony with the currents, allows both demersal and midwater species to be caught.

In each of the *kbari*, five nets are fixed in a row, as a cluster. Often, different *kbari* are chosen to deploy the nets. Unlike the trawl net, which furrows the seabed, the stationary bagnets do not cause any damage to the seabed. The fish are emptied every six hours, at the time of the equilibrium between the high and low tides, when there are no currents, and when the mouth of the net floats on the surface of the sea. Fish are emptied from the cod-end of the net; *doa*, the Bengali word for emptying the cod end, can be translated as “milking” the net. Each unit catches about 400 tonnes of fish in a single season. Two-thirds of the catch comprise species like Bombay duck, ribbonfish, anchovies, silver belly and wolf herring, which are dried for human consumption and poultry feed. The remainder one-third comprises high-value species like shrimp, jewfish, catfish, Indian salmon, eels, and rays, which are sold fresh. It is estimated that each unit catches fish worth Rs4 mn (approx. US\$80,000) in a good season. Putting all the units together, Jambudwip produces about 16,000 tonnes of fish worth Rs168 mn (approx. US\$3.4mn) in a five-month long fishing season.

According to Dr L K Banerjee, Retired Joint Director, Botanical Survey of India, who has worked on the mangroves of Sundarbans for the past 30 years, Jambudwip has successive stages of vegetation, comprising mainly *Avicennia* species of mangroves, and species of grass like *Porteraesia coarctata* and *Phoenix paludosa*. The species diversity on the island is not that significant. However, the satellite imageries of Jambudwip for the period 1981 to 2001 from the National

Remote Sensing Agency (NRSA), furnished to the CEC by the Forest Department as “irrefutable proof” of mangrove destruction, show dense mangrove vegetation coverage, except in areas that are allegedly cleared by the fishermen. Moreover, since higher-resolution satellite images clearly showing deforestation to the detail that the NRSA images are claiming to portray have been produced in India only from 1998, the authenticity of the images as irrefutable proof for the period prior to 1998 needs to be independently verified scientifically.

Even if there is felling of mangroves on the Jambudwip island for firewood by the fishworkers, it is not an impossible situation to salvage since the *Avicennia* species of mangroves found on the island can be successfully regenerated. There are several examples from India as well as other parts of the world of such regeneration. Moreover, the fishworkers are ready to move from firewood to liquefied petroleum gas for cooking purposes.

There are about 10,000 people dependent on the stake-net fishery today, as against a couple of hundreds 35 years ago. Instead of extinguishing the fishery, what is required is to recognize its salient aspects, and mitigate negative impacts through better coastal area management, treating the island and the fishing ground within one framework. The Fisheries and Forest Departments have to develop mechanisms to collaborate with the fishermen to achieve this goal.

“I gave commands; Then all smiles stopped together”, the poet Robert Browning made the Count say in *My Last Duchess*. In the case of Jambudwip, it is high time to retract the command and bring back the smiles to the faces of the fishermen of the island. ❧

Also online at:

<http://www.icsf.net/SU/Sam/EN/34/art10.pdf>

Parking in the right place

SAMUDRA Report Comment

An ecosystem-based approach to fisheries management should regard fishers as part of the ecosystem, and not as outsiders

The Vth World Parks Congress, held at Durban, South Africa from 8 to 17 September 2003, has called upon the international community to establish by 2012 “a global system of effectively managed, representative networks of marine and coastal protected areas” that includes within its scope the world’s oceans and seas beyond national jurisdiction as well.

An important objective of the Congress’ recommendations is to integrate marine protected areas (MPAs) with other ocean, coastal and land-governance policies to achieve sustainable fisheries, biodiversity conservation, species protection and integrated watershed, coastal, ocean, high-seas and polar management.

The Congress has proposed an increase in the marine and coastal area under MPAs, and further expects 20 to 30 per cent of each marine coastal habitat to be under “strictly protected reserves” to safeguard diverse marine habitats and ecosystem structures, biodiversity conservation, species protection and recovery of endangered species. It also highlights the importance of implementing an ecosystem-based approach to sustainable fisheries management and marine biodiversity conservation.

The Congress calls upon the world community to engage stakeholders, including local and traditional communities, in the design, planning and management, and sharing of benefits, of MPAs. It also recommends sustainable socioeconomic returns to local and traditional communities

and industry, subject to the precautionary approach, which places the burden of proof for the marine environment not being harmed on those who commercially benefit from MPA resources.

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

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· 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 for sustaining fisheries and livelihoods.
· While setting priorities under an ambitious
· list of actions proposed by the World Parks
· Congress, national governments should
· attach the greatest priority to areas of
· immediate concern to coastal artisanal and
· small-scale fishing communities. 3

Also online at:



<http://www.icsf.net/SU/Sam/EN/36/edit.pdf>

Deal with hunger and poverty first

SAMUDRA Report Comment

Prefabricated models of MPAs, which do not take into account local histories and knowledge systems, should be avoided

The discussions and decisions on Agenda Item 18.2 on marine and coastal biological diversity at the recently concluded Seventh Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP7) are highly relevant to the over 200 million artisanal and small-scale fishworkers, most of whom are from the developing world.

Coastal and indigenous fishing communities undoubtedly have a long-term stake in the protection and sustainable use of biodiversity, given their reliance on coastal and marine biodiversity for livelihoods and income. It should not, therefore, come as any surprise that several decades before issues of conservation and sustainability of coastal and marine resources became part of the international agenda, fishworkers in many countries of the developing world were drawing attention to, among other things, the negative impacts of pollution, uncontrolled expansion of industrial fisheries and aquaculture, and technologies such as bottom trawling for shrimp, both on coastal biodiversity and on their livelihoods.

Against this backdrop, the commitment by governments to promote the implementation of the objectives of the CBD, and significantly reduce the current rate of loss of marine and coastal biological diversity by 2012 can only be welcomed.

Equally to be welcomed is the stress on participation of indigenous and local

communities, on protecting the preferential access of artisanal and small-scale fishworkers to traditional fishing grounds and resources, and on ensuring that the programme of work directly contributes to poverty alleviation.

For artisanal and small-scale fishworkers, this could well mean opportunities to address issues relevant to both their livelihoods and biodiversity protection. More concretely, it could mean an opportunity to draw attention to, and regulate, the pollution of inshore waters caused by effluents and tailings from industries, mining activities and fishmeal plants. It could mean the opportunity to strictly regulate bottom trawling, particularly in tropical, multispecies fisheries. It could mean opportunities to regulate the destruction and pollution caused by industrial forms of aquaculture. It could also mean that the initiatives taken by fishworkers to regulate and manage their resources are accorded due legal, institutional, financial and other forms of recognition.

All this will, however, remain in the realms of wishful thinking if governments do not put in place an enabling legal framework that recognizes, protects and strengthens the rights of coastal fishing communities to access and use biodiversity in a responsible manner, to pursue sustainable livelihoods and to participate in decision-making and resource management processes at all levels.

This editorial comment appeared in *SAMUDRA Report* No. 37, March 2004

: The very real danger of imposing
: prefabricated models of marine protected
: areas, which do not take into account local
: histories and knowledge systems, needs to
: be avoided at all costs. There is enough
: available experience to indicate that
: non-participatory conservation initiatives,
: which do not draw on, and recognize, local
: knowledge and management initiatives, are
: counterproductive not only in terms of
: protection of biodiversity, but also from
: the point of view of avoiding further
: exacerbation of poverty in communities
: well known for their economic and
: social vulnerability. As celebrated Canadian
: geneticist and environmentalist David
: Suzuki stressed in his keynote presentation
: to COP7, “If we don’t deal with hunger and
: poverty, we can forget the environment;
: people have other priorities”. 3

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Also online at:



<http://www.icsf.net/SU/Sam/EN/37/edit.pdf>

Recognize rights

Joint NGO Statement

The following statement was issued at the recent meeting of the Conference of the Parties to the Convention on Biological Diversity

We welcome and support the attention being given by the Seventh meeting of the Conference of Parties to the Convention on Biological Diversity towards development of the elaborated programme of work on marine and coastal biological diversity.

Over 200 million people worldwide are estimated to depend on inland and marine fisheries and fish farming for a livelihood. Most of them are in the artisanal and small-scale sector in the tropical multi-species fisheries of the developing world. While the artisanal and small-scale sector contributes significantly to the economy and to food security, there is enough evidence to indicate that a high proportion, especially in developing countries, continue to be among the poorest and most vulnerable sections of society.

Coastal and indigenous fishing communities have a long-term stake in the conservation and protection of biodiversity, given their reliance on coastal and marine biodiversity for livelihoods and income. Generations of close interaction with the coastal ecosystem have led to well-developed traditional ecological knowledge systems (TEKS). This knowledge is manifested in numerous ways, as in the diversity, selectivity and ecological sophistication of the craft and gear used, in the intimate knowledge of weather and climate-related factors, and in the varied ways in which coastal resources are used for medicinal and other purposes. Such TEKS have contributed to sustain both the livelihoods of these communities and the integrity of the ecosystems.

Today, however, coastal and marine biodiversity, including mangrove forests, are under serious threat from various sources, important among which are the uncontrolled expansion of industrial fisheries and the use of non-selective and destructive fishing gear and practices such as bottom trawling, push-nets, dynamiting and cyanide poisoning, particularly in tropical multi-species fisheries. Unregulated forms of industrial aquaculture and pollution from land and sea-based sources also exacerbate this threat.

For coastal fishing communities, the implications of these developments are severe. As “beacons of the sea”, they have, in recent decades, been consistently drawing attention to such negative developments and, in many cases, have taken up resource management initiatives to nurture and rejuvenate their ecosystems.

Coastal fishing communities can be powerful allies in the efforts to conserve, restore and protect coastal and marine biodiversity. Critical to this involvement, however, is the need to recognize, protect and strengthen their rights to access and use biodiversity in a responsible manner, to pursue sustainable livelihoods, and to participate in decision-making and resource management processes at all levels.

Biological diversity

Recognition of these rights would provide an enabling framework for coastal fishing communities to fulfil their responsibilities towards biodiversity conservation and its sustainable use, and would contribute to

This statement, made at the COP7, 9-20 February 2004, Kuala Lumpur, Malaysia, on Agenda Item 18.2: Thematic Programme of Work: marine and coastal biodiversity, appeared in *SAMUDRA Report* No. 37, March 2004

the overall objectives of the CBD, namely, the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising from the utilization of genetic resources.

Moreover, protecting and supporting sustainable livelihoods in the artisanal and small-scale fisheries sector—a sector known for its high levels of vulnerability and poverty—would also help achieve international commitments on poverty alleviation outlined in the Millennium Development Goals. It is well accepted that eradication of poverty is an indispensable prerequisite for sustainable development.

In view of the above, we urge the Parties, other governments and relevant organizations to pay special attention to the following aspects while developing the elaborated programme of work on marine and coastal biological diversity:

(1) Recognize the preferential access rights of coastal fishing communities

The preferential rights of coastal fishing communities to responsibly and sustainably use and access coastal and marine resources, should be recognized by putting in place systems that promote legal security of tenure. This would also be in keeping with Article 6.18 of the FAO Code of Conduct for Responsible Fisheries that encourages States to “...appropriately protect the rights of fishers and fishworkers, particularly those engaged in subsistence, small-scale and artisanal fisheries, to a secure and just livelihood, as well as preferential access, where appropriate, to traditional fishing grounds and resources in the waters under their national jurisdiction.”

(2) Recognize the use of sustainable traditional fishing gear and practices

Traditionally, coastal fishing communities have used a range of selective fishing gear and practices to target fisheries resources,

including highly migratory fish stocks. The use of such gear and practices has been consistent with the principles of sustainable use of biodiversity. The rights of artisanal and small-scale fishworkers to pursue their livelihoods using such forms of selective gear, under effective management systems, including in all categories of protected areas, should be recognized, as a means of attaining the objectives of the Convention. This would be consistent with Article 10 (c) of the Convention that highlights the need to “protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.”

Further, positive incentives should be provided to promote the use of selective gear and practices, as through social labelling and ecolabelling. Alternative livelihood opportunities, including community-based tourism, should be promoted with a view to phasing out destructive fishing practices and gear.

(3) Prioritize the livelihood interests of natural-resources-dependent communities

The importance of stakeholder participation is well recognized in the Convention and in its programmes of work. It is, however, imperative to recognize and prioritize, in all management initiatives and decision-making processes, including in the establishment and management of protected areas, and within the framework of sustainable resource use, the interests and participation of traditional and local communities who depend on the natural resource base for a livelihood.

(4) Recognize and support community-based management initiatives and their diversity

Coastal fishing communities in several parts of the world have traditionally been regulating use of coastal and marine

resources. In more recent years, in view of the degradation of coastal and marine ecosystems, coastal communities have taken up diverse initiatives, such as setting up zones of strict protection, for managing coastal and marine resources, through the establishment of community conserved areas. The plurality within traditional and other community-based management initiatives must be documented and accorded legal, institutional, financial and other forms of recognition.

We draw attention to the fact that the work on marine and coastal protected areas is considered as an integral part of the Convention's work on protected areas, and urge Parties to incorporate Programme Element 2 of the Programme of Work on Protected Areas on governance, participation, equity and benefit sharing into programme element 3 under the programme of work on marine and coastal biological diversity.

The integration of the above aspects into the Decisions and programme of work on marine and coastal biological diversity would be effective in meeting both the objectives of the Convention and the livelihood interests of coastal fishing communities. It would ensure that coastal and indigenous fishing communities become powerful allies in conserving, restoring and protecting coastal and marine biodiversity.

Signatories

- World Forum of Fisher Peoples (WFFP)
- National Fishworkers' Forum (NFF), India
- Tambuyog Development Centre, Philippines
- JALA, Advocacy Network for North Sumatra Fisherfolk, Indonesia
- Penang Inshore Fishermen Welfare Association (PIFWA), Malaysia

- Masifundise Development Organization, South Africa
- CeDePesca, Argentina
- Yadfon Association, Thailand
- Sustainable Development Foundation, Thailand
- Southern Fisherfolk Federation, Thailand
- Instituto Terramar, Brazil
- National Fisheries Solidarity (NAFSO), Sri Lanka
- Bigkis Lakas Pilipinas, Philippines
- Asian Social Institute (ASI), Philippines
- Fisheries Action Coalition Team (FACT), Cambodia
- JARING PELA, Indonesia
- CNPS, Senegal
- International Collective in Support of Fishworkers (ICSF)
- Kalpavriksh, India
- Forest Peoples Programme, United Kingdom
- AWARD, India

Also online at:



<http://www.icsf.net/SU/Sam/EN/37/art08.pdf>

Filleting Nemo

Bob McDonald

For many indigenous communities, national and marine parks can be significant threats to their hunting and fishing rights

With the rapid loss of wild landscapes in the 19th century, Western nations created 'national parks' to preserve 'wild' landscapes and, in the 20th century, to protect examples of habitat and the species they contain—before they were lost entirely. Early marine parks were established for much the same reason.

In Africa, Asia and central America, national parks were later designed to attract Western tourism revenue and aid. In some instances, they displaced local communities, and traditional owners became 'poachers'. For many indigenous communities, national parks and, indeed, marine parks, can be significant threats to their hunting and fishing rights.

In Australia, threats by the Queensland State Government to drill for oil on the Great Barrier Reef in the 1980s saw the federal government, in response to a public outcry, establish one of the world's largest marine parks, jointly managed with the State government.

Marine reserves were established in Victoria around the same time, though a lack of initial consultation with local communities led to considerable opposition. However, they were eventually established, and included most recreational and commercial fisheries. These first marine reserves also protected public (crown) land well above the high-tide mark.

The Great Barrier Reef Marine Park originally included a series of very small

no-take zones for scientific purposes but otherwise accommodated and protected a large commercial and recreational fishery. Though designed to protect the marine environment, the park housed within, and adjacent to it, a number of tourist development projects that destroyed mangroves and small sections of reef—despite some major conservation campaigns.

Other marine parks based on the 'fisheries inclusive' model were established, like the Solitary Islands marine park on the north coast of New South Wales (NSW) by NSW Fisheries.

Here a co-operative approach with all stakeholders in deciding no-take zones worked well, with additional protection of estuaries some distance inland, while allowing for fishing near small coastal towns.

No-take zones were established through agreement with specific objectives such as the protection of shoreline corals and grey nurse shark. The fishing industry and community guarded 'their' marine park, and local businesses sponsored the management, providing a management vehicle.

Sadly, this marine reserve too was later compromised, with the National Parks Department taking management from the Fisheries Department and adopting a less co-operative and more aggressive approach to management. A large sewerage ocean outfall was also established within the boundaries of the reserve.

This article, by Bob McDonald, an Australia-based naturalist who works with the commercial fishing industry on habitat protection, management and restoration, appeared in *SAMUDRA Report* No. 38, July 2004

Principal threat

By the late 1990s, many marine scientists and various government bodies in many countries had established in the public's mind, fishing as a principal threat to fisheries and the marine environment. As fishing rights were privatized and commodified under individual tradeable/transferable quotas (ITQs) and 'days at sea' catch management regimes, fish species in each country were presented by scientists as threatened by commercial fishing.

This increasing emphasis on 'overfishing' shifted the marine conservation debate away from the protection of the marine environment against pollution and the impact of mining and logging.

In early 2000, the Victorian State government proposed a series of marine parks to 'protect' five per cent of the State's coasts. The proposal was met with Statewide protests. The government negotiated the location of no-take zones under the threat of a potential massive electoral backlash from the unlikely coalition of recreational and commercial fishing communities. They had worked 'outside' the initially soft State bodies and then 'dragged' them along.

The original marine reserves were re-legislated. The new marine parks now allow exploration by seismic testing and drilling, while removing protection for mangroves and salt-marsh on adjacent public land in the original reserves.

These Victorian marine parks did not come about as a result of community campaigns but were imposed. Their value for 'restocking fisheries' became part of the 'spin' used to campaign for them by government. Their boundaries, especially of no-take zones, were chosen by selecting places with the highest recorded catches, and assuming a link with biodiversity. These criteria initially saw the targeting of the limited 'lee shores',

amplifying the social and economic impact of the no-take zones—and the opposition to them.

Through the late 1990s, representative bodies, legislated for both commercial and recreational fishing industries, had been replaced by government-appointed bodies. These now included competing interests, with representation from processors, importers and other sectors squeezing out the voices of commercial fishfolk. Even the 'women in industry' body included women from the world of science, wives of managers and so on—hardly fishfolk—thus effectively muffling the voices of women from the traditional owner-operator fleets.

Oil exploration

The Commonwealth established in the late 1990s the National Oceans Office, which established marine parks that allowed oil/gas exploration while banning fishing in distant-water Antarctic territories, targeting the control of international Patagonian toothfish fisheries. In early 2000, it proposed a series of large marine parks approved by State and federal 'appointed industry bodies' for southeastern Australia. These marine parks allow oil and gas exploration, including seismic testing, with the inclusion of select commercial fisheries, limited by method and not scale—again creating de facto fisheries management decisions.

The management of the Great Barrier Reef Marine Park too has changed. Select marine scientists seemed to lead the campaign in 2003, with government blessing, to establish no-take zones covering nearly a third of the Great Barrier Reef. The tourism industry, especially the dive industry, was identified as the principal beneficiary. For tour boat and marina operators, implementation of legislation to regulate the containment and discharge of sewerage from boats and ports was further delayed—a far more critical problem than the heavily regulated commercial fisheries.

This increasing emphasis on 'overfishing' shifted the marine conservation debate away from the protection of the marine environment against pollution and the impact of mining and logging.

The Queensland government had run an effective campaign targeting recreational fishing too, educating recreational fishermen to 'blame themselves' for catching too many fish in the past, and building on the recent introduction of strict bag limits for select recreational species. The recreational fishing lobby was given some recreational fishing-only areas and were effectively silenced.

The creation of recreational fishing zones had also been effectively used by the NSW government to greatly reduce commercial fishing in estuaries and estuarine lakes in the south. This again re-established the notion that it is fishing alone that principally determines the abundance of fish. The economic justification was simplistic. Fish landed by recreational fishfolk were seen as more valuable to the economy than the same fish caught by commercial fishing—though, in this case, the highest value commercial fishery, sea mullet, is not fished recreationally.

This approach was, in turn, followed by ongoing restrictions on the recreational catch, with limits or bans on the landing of an increasing variety of fish species. Each Australian State is moving towards fully regulating recreational fishing and using it as its principal source of finance for fisheries management. In NSW, recreational licence fees were used for the commercial industry buyout, as they were in Victoria. Victoria also implemented additional recreational fishing areas, closing a series of coastal lakes suddenly and passing retrospective legislation to stop a single fisherman challenging this decision in court.

The marine park around Ashmore Reef off northwestern Australia was proclaimed without any research or consultation. It was simply assumed that if Indonesian fishermen were allowed to continue to fish there, they would 'threaten' turtles and

dugong, and so a marine park no-take zone was necessary. Poorly marked, it is a 'trap' for Indonesian fishermen. They are prohibited from using navigational aids or motors by the Australian Fisheries Management Authority's literal interpretation of the 'traditional fishing rights' to be maintained as the territory got transferred from Indonesian control. Many fishermen are in Australian jails—around 200 Indonesian fishermen at any one time.

To be sure, marine parks can be useful tools for the management of ecotourism and the marine environment. But, to be effective, they must always be created with local community support. The co-operation of the adjacent local communities is essential to their management, and small-boat commercial fisheries play a key role in enforcement and cost-effective environmental monitoring.

Marine parks without community support or small-boat commercial fisheries are extremely expensive to 'enforce'. It is very important that the aim of any proposed marine park is widely discussed and clearly presented, and that local communities are genuinely engaged. Marine parks are 'forever', so plenty of time must be taken to establish them. People play an essential role in these parks and the 'hard-hearted puritan' approach of the urban West—total protection for all species and the exclusion of humans—is impractical, unachievable, and economically, ecologically and socially unsustainable.

Wide variety

If habitat protection is to be used for fisheries management, then it must reflect the actual needs of a wide variety of marine species. This will likely lead to management of widely dispersed shared habitats like coral reefs, mangroves, salt-marsh and coastal wetlands and the stream and river systems that feed them.

Some of these areas will have to be cleared and drained in the future for agriculture, industry, coastal development and water diversion associated with population growth. These types of habitat and the quality and strength of stream flow must be recognized as important to fish production. Stream flow could also be re-established in areas where fish production is required.

Commercial fisheries, small or large, are an industry and, as such, their management needs an economic, rather than a conservation, framework. The fish production and tourism of a given marine environment generate significant income. This income gives an economic value to all the various components of that marine environment—from the mangroves to corals and the quality and quantity of fresh water flowing to the coast. Inclusive marine parks can provide both a focus for management and a ‘boundary’ to calculate the economic/financial value of a wide variety of habitat types.

Those who catch fish species that rely directly on these coastal habitats and indirectly (like tuna that feed on the bait fish they produce) benefit most from investing in the management, maintenance and restoration of essential habitats. Such investment in management of coastal habitat feeding into coastal marine environments, funded in part by those who fish in them (or eat the fish) and utilize them for tourism, will enhance their value to all.


Many nations will find themselves at management crossroads in the near future as the demand for, and value of, fish from their waters, and their value as exports, increase. They will have to choose between adapting essentially traditional and regionally evolved fisheries, and catch-management regimes with the internationalization of fishing rights. The latter will likely see the gradual loss of fishing rights from territorial

waters under expensive catch management regimes. Local employment may well be limited to deckhands for foreign-owned corporate fleets.

Similarly, poorly planned marine parks may damage the local traditional economy by depriving people of existing rights to harvest the marine environment. Governments interested in export income from foreign tourists who come to watch fish, not eat them, may favour and ‘overprotect’ marine ecosystems that can easily sustain coastal fisheries and vibrant ecotourism.

Rather than just “finding Nemo” (the title of a Disney animated film that subtly ‘humanizes’ fish), fisheries and marine park managements must always be clear of the need to also “fillet Nemo” to maintain good health, economic independence and the marine environment.

People play an essential role in these parks and the ‘hard-hearted puritan’ approach of the urban West—total protection for all species and the exclusion of humans—is impractical, unachievable, and economically, ecologically and socially unsustainable.

Also online at: 

<http://www.icsf.net/SU/Sam/EN/38/art01.pdf>

The power of co-management

SAMUDRA Report Comment

Co-management in fisheries should not imply pushing all costs on to local communities

Co-management, intended as a collaborative and participatory arrangement between governments and resource users to share the responsibility for resource management, is increasingly being put forward as a framework for the management of fisheries resources, partly also due to the perceived failure, or inability, of centralized fisheries-management regimes.

Co-management arrangements may be more effective in a context where property rights are well defined. As pointed out by Svein Jentoft, co-management arrangements in situations where community property rights are established and recognized, are likely to be more effective, as they enable communities to control access, to sanction, and to exclude others. However, the co-management framework also has relevance in fisheries where property rights are not defined, undoubtedly a more common situation in fisheries across the world where governance structures are still poor. The advantage of co-management is that it enables governments and fishery gear groups to adopt and develop meaningful fisheries-management measures that can minimize costs and that can also expect realization of management goals in a reasonable time frame. At least, it is one way to develop appropriate fisheries-management measures that can engender ownership among all user groups, even in the absence of property rights.

To the extent that co-management recognizes the significance of the participation of

resource users at all stages of resource management, it is important. However, experience from various parts of the world indicates that often the government commitment to participation of actual users remains on paper. The article from South Africa (see page 37), for example, points out that all too often, brief consultation takes the place of genuine local involvement in decisionmaking in the co-management of resources, in this case in the management of marine protected areas (MPAs).

Co-management of fisheries resources needs to ensure genuine involvement of gear groups, and consultation with their representatives. Particularly where traditional institutions for management and conflict-resolution exist, it would be essential to recognize them and ensure their integration within co-management arrangements.

Co-management efforts will also need to recognize the fact of large power differentials between various stakeholders in the co-management process, and, in the interests of equity, will need to take steps to prioritize the concerns and participation of those lower down in the power hierarchy—small-scale fishing communities, and, particularly, the women in these communities. Conversely, it would be imperative to work towards developing the capacity of communities to engage with co-management.

Co-management should not mean pushing all costs on to local communities, as is

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happening in certain situations. Some costs, such as, for example, the costs of effective enforcement and keeping in check encroachments by the industrial/large-scale/mechanized fleet, should be borne by the State. The need is not for 'less' State, but for a more effective, accountable and responsive State.

And finally, in the context of so many donor-supported co-management projects working in specific locations with communities, there is a risk of a fragmented approach to resource management. It makes little sense if communities and local governments were to manage adjacent areas, while rampant fishing by the large-scale/industrial/mechanized fleet continues unchecked just outside the managed areas. Co-management arrangements must be developed at the larger level, taking into account the natural management unit, with both small-scale and large-scale fisheries being viewed through the same lens, as it were. 3

Co-management efforts will also need to recognize the fact of large power differentials between various stakeholders...

Also online at:



<http://www.icsf.net/SU/Sam/EN/42/edit.pdf>

Dreams vs painful realities

Regina Célia Di Ciommo

There are contradictions aplenty on both land and sea in the Corumbau Marine Extractive Reserve in Brazil

This article describes some of the social and environmental aspects of the Ponta do Corumbau Marine Extractive Reserve, located on Costa do Descobrimento, 800 km south of Salvador, the capital city of the State of Bahia, Brazil. The region is home to part of what remains of the Mata Atlântica, areas of mangroves and coral reefs, recognized in 1999 as a World Historical Site by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Marine extractive reserves are a form of marine protected areas with defined user rights that are contracted out to the communities of resource users who live in the surrounding area. They are an adaptation of the *reservas extractivistas* or RESEX, a novel and unique partnership in natural resource extraction and conservation that Brazil has been experimenting with since 1989.

On the one hand, the move reflects growing official recognition in Brazil of the role of traditional resource users and their management systems in environmental conservation. On the other, it is the product of the struggles of the rubber tapper unions, under the leadership of Chico Mendez. It is thanks to these struggles that legislation was passed in 1989, allowing for the establishment of extractive reserves. Extractive reserves comprise a collaborative management regime where government works in partnership with local communities for the sustainable use of resources.

Originally, RESEX focused on protecting terrestrial and other inland ecological

systems and populations, but now they can cover land, sea or both. The original decree that created RESEX states that “extractive reserves are territorial spaces designated for the self-sustaining use and conservation of renewable natural resources by extractive populations”.

In the case of the marine extractive reserves, a marine area is assigned for the exclusive use of a number of people (small-scale fishermen, traditional communities, etc.) who live around it.

Although it is a partnership between the people and the government, the initiative has to come from the local population, and the participation of the people is a must. Communities that live adjacent to RESEX, and the organizations that represent them (associations, co-operatives, syndicates, unions, etc.) may apply for the rights to extract resources from the RESEX.

A central plank in all RESEX is the development of a utilization plan (*plano de utilização*) that determines who can use the resources in question and how. In essence, this is a social contract, binding the resource users to a mutually agreed set of operating rules. Such rules could govern measures such as minimum catch size, technology used, or restricted access to important breeding grounds.

Public forum

Decisions over what the rules should be are defined by the resource users themselves at a public forum where they have the right to vote on decisions made. It is essential that resource users participate at this stage since

This article, by Regina Célia Di Ciommo, of the Human Ecology and Ethnoecology Laboratory at the Federal University of San Carlos, Brazil, and translated by Brian O’Riordan, appeared in *SAMUDRA Report* No. 42, November 2005

the adherence to rules depends, to a large degree, on their widespread understanding and prior approval. The utilization plan, along with the process leading to its creation, is also important for resolving (or at least revealing) conflicts amongst resource users as well as conflicts between resource users and the larger community.

A further essential element is the concession contract that legalizes the user rights of the communities. This agreement is prepared by IBAMA, the Brazilian Institute for the Environment, and signed by both parties. Individual resource users are then issued with Authorization of Use certificates. These entitle them to open-ended user rights, which, in practice, extend for 10-20 years, but may be extended for as long as the RESEX fulfills its purpose.

According to Antonio Carlos Diegues of the University of São Paulo, the framework of restricted access to, and economic use of, the coastal sea space of the RESEX offers Brazil a way to begin controlling the highly destructive and unmanaged development of its extensive coastal zone (harbouring a wide range of habitats of high conservation value, not only coral reefs), while, at the same time, reinforcing the resource-use rights and territorial claims of local communities to the micro-environments of small-scale fishing.

Such controls are clearly needed in the southern coastal zones of Bahia State, which have been subject to significant environmental and social changes in the last 10 years. Intense industrial fishing was initiated to exploit the local marine stocks, with no respect for biological processes or biodiversity. Tourism development has given rise to demands that have led to a disordered occupation of the land, while the urban infrastructure has been unable to keep pace with the increase in domestic effluents and litter, affecting the mangrove forests and the margins of the rivers.

As this article shows, there are many problems that need to be addressed if RESEX are to function effectively. One such issue, highlighted by the work of Alpina Begossi, is that, although a great variety of extractive reserves now exist in Brazil, few can be said to be the result of a legitimate process of local organization in the face of the threat of depletion of their resources.

This is not the case with the Ponta do Corumbau Marine Extractive Reserve (Corumbau RESEX). In 1998, a group of artisanal fishermen from nine communities in the municipalities of Prado and Porto Seguro came together to create a conservation unit that would protect the region from the unsustainable prawn trawling being carried out by the industrial fishing fleet.

Sustainable exploitation

The Corumbau RESEX was then established in September 2000, thanks to the initiatives of artisanal fishermen from nine different communities, with its use conceded to the traditional extractive populations, in accordance with the National System of Conservation Units. According its founding decree, the Corumbau RESEX “aims at ensuring the sustainable exploitation and the conservation of renewable natural resources, traditionally used by the local extractive population”.

The extractive population of the RESEX comprises 484 registered members, traditional users of the resources resident in nine communities: Curuípe, Caraíva, Aldeia Indígena Pataxó de Barra Velha, Corumbau, Veleiro, Barra do Cahy, Imbassuaba, Cumuruxatiba and Japara. When the families of these fishermen are included, the RESEX resources will directly benefit some 1,750 people.

The Corumbau RESEX includes part sea, and part land, with areas of foreshore, dunes and mangroves. The marine part of

Marine extractive reserves are a form of marine protected areas with defined user rights that are contracted out to the communities of resource users who live in the surrounding area.

the Corumbau RESEX covers 90,000 ha, with its landside boundary demarcated by the high-water level. The land areas, where the extractive communities live, make up the ‘surrounding area’ or ‘buffer zone’.

The property-rights and user-rights regimes that govern conservation, ownership and resource extraction differ in the two areas, giving rise to contradictions in the conservation and resource extraction policy objectives of the RESEX, and complicating life and livelihoods in the communities.

In the publicly owned marine area, only the extractive communities have resource-extraction rights. However, the land area is under private ownership, and the extractive communities have no resource-extraction rights there. Furthermore, there are no guarantees or conditions provided for the permanent settlement of the extractive populations in the surrounding land area, a key condition for establishing economic activities and for providing sociocultural stability in communities.

This contradiction between the land and sea components of the Corumbau RESEX, arising from the way that the property- and use-rights regimes have been set up, is the root cause of many of the social conflicts, and represents a major problem for the effective functioning of the RESEX. Alpina Begossi’s work in the Amazon concluded that extractive reserves do offer significant potential for political organization, and improving environmental and social resilience, compared to other conservation approaches. Such a satisfactory level of institutional development has still to be attained in Corumbau.

One major stumbling block for achieving satisfactory levels of institutional development is that the ‘surrounding areas’ where the communities live are isolated. Roads are unpaved, the bridges precarious and there is no regular transport by boat.

There is no electricity supply in the villages, with the exception of Cumuruxatiba and some hotels that possess generators. This is a constraint for fish storage, and increases the dependence on intermediaries to market products. These factors also work against the active participation of the local extractive population in the establishment and development of a utilization plan and their participation in the wider management decision-making processes of the RESEX.

A further stumbling block, and source of social conflicts, is the presence of more powerful economic interests such as hotels and tourism businesses. These interests are fueling a growing speculation in real estate. RESEX community residents are being forced to sell their houses at very low prices and move far away where there is no infrastructure or government assistance of any kind.

Also, due to the increasing privatization of access to, and use of, the coastal strip, access to the sea is becoming more difficult for the communities. This is leading to a gradual cultural erosion and the complete exclusion of the fishermen from areas near the seashore.

Private interests

The variety of private economic interests also makes it difficult for the local population to support conservation policies and participative processes that are capable of offering alternative solutions to the conflicts existing in local society. Tourism is expanding in the Corumbau RESEX. Visitors are attracted by the tranquility, freedom and the beauty of the countryside, particularly in the littoral zones, and by the hospitality of its people.

However, the capacity of the villages to support tourist activity is quite limited. This is mainly due to a lack of basic infrastructure, such as energy, piped water, the treatment and disposal of solid and liquid waste, and health and education facilities.

The National System of Conservation Units assures the participation of the local populations through co-management, where power is decentralized, in ways appropriate to the daily reality of the local context. The RESEX utilization plan was drawn up and approved in 2002, and should lead on to the management plan.

Meanwhile, the fishermen do not appear to be familiar with the objectives of the planning exercise. Recent research shows that just 14 per cent of the residents of Cumuruxatiba, 25 per cent of Corumbau and 45 per cent of Caraíva knew about the utilization plan in force and the rules that regulate the reserve.

The factors indicated as obstacles to the participative process were the large distances between the venues of meetings, the incompatibility of the timing of meetings with daily routine activities (principally for the women), and the shortage of information about the process of foundation and administration. A Participatory Appraisal from a Gender Perspective (PAGP) exercise was carried out with the aim of promoting the active participation of the various interest groups of the RESEX communities, especially women, in the management of the area, faced as they are with changes imposed by tourism. The PAGP techniques and tools used were those recommended by IUCN–The World Conservation Union. In order to provide an analysis with a gender perspective, information gathering and data presentation were disaggregated by gender. This enabled an examination of the needs and demands of men and women separately.

Through a systematic process, PAGP helps to identify particular problems and their origins, where knowledge is built up with the participation and collaboration of the people affected. Rather than observing the group as a homogenous unit, PAGP

recognizes that women and men have different needs, perceptions and realities in accordance with their age and sex.

Equity goals

Through the use of appropriate tools, it seeks to expose the power relations in the community. It is designed to assist the introduction of the changes necessary in the delivery of policies that seek to achieve equity. The aim of PAGP is to promote collective responsibility, environmental justice and quality of life for the populations involved, so as to decrease impoverishment and consequent social exclusion.

It has been demonstrated that the introduction of the variable ‘gender’ adds another dimension to the analysis of natural environments, given that there are unequal power relations between men and women in many societies, power relations that are subject to change. Within the gender dimension, there can be complementarity and space for negotiation. The possibility for negotiation has important implications for planning and management, since it puts the planners and the communities at a level where it is possible to promote greater equity in the distribution of the benefits, and user and management rights.

The PAGP carried out in the Corumbau RESEX had aimed to understand the obstacles to the participation of the traditional population in the management plan, as well as to obtain information on the local infrastructure available to the residents and visitors. It aimed at providing information to improve the participative process, which would safeguard the success of environmental policies in the face of the reality of the expansion of tourism in the region, with economic and cultural consequences for its inhabitants.

The application of PAGP achieved its objective of identifying the needs, expectations, wants and problems of the

The variety of private economic interests also makes it difficult for the local population to support conservation policies and participative processes that are capable of offering alternative solutions to the conflicts existing in local society.

communities visited. The main needs are related to access to electricity, quality education and better health conditions.

Beyond that, the wants most highlighted were roads and bridges and piped potable water. While, on the one hand, electricity is a dream for both male and female residents, on the other, there are those living by hotels and tourist resorts who prefer to preserve the bucolic and rustic aspects that attract tourists, leading to profitable business during the seasons. Thus, the lack of surfacing on the sand roads of Caraíva, for example, makes daily life very difficult for the women, but is seen by others as giving a picturesque air to the place.

The onus of maintaining this rusticity falls, in the end, on the local population, particularly on the women who, in their day-to-day lives throughout the whole year, have to cope with extremely tiresome conditions. Roads are also the subject of debates and conflicts, both among the population and between conservation bodies, who see in them the threat of mass tourism and a consequent loss of cultural and environmental character, which represents a great contradiction for the administration of the Conservation Unit.

The possibility of seeing the community uniting around its objectives, and fighting for the collective welfare, is an important 'dream' for the women, even transcending their individual objectives.

It is hoped that participative management can result in measures favouring political strengthening and income generation, preserving local knowledge and the permanence of the native population in the area. The preparation of a socio-environmental participatory appraisal can contribute to the involvement of the population in public policies for improved living conditions, the systematic inspection of tourism enterprises that affect the life

of the communities, and the sharing of benefits with the residents.

Another benefit to be sought is environmental education aimed at tourists and the community, based on information and output of the appraisal carried out. If the objective were sustainable tourism, then the communities should benefit with improved basic infrastructure in the villages.

Reconciling such a diversified and contradictory set of interests is a challenge that will have to be faced by those in charge of the development and implementation of the new management plan.

Rules needed

Most importantly, in order to guarantee sustainability, rules must be set not only to control tourism activities and the distribution of its benefits, but also to restrict the way economic interests are causing real-estate speculation in the area. At the same time, the regular participation of the population in the RESEX administration must be assured, while maintaining gender equity. This could help empower the community through participatory management, raise the quality of life of the residents and ensure their contribution to the conservation of ecosystem biodiversity. 3

Also online at:



<http://www.icsf.net/SU/Sam/EN/42/art04.pdf>

Making local communities visible

Carolyn Petersen, Naseegh Jaffer and Jackie Sunde

As examples from South Africa show, there are issues surrounding MPAs and the livelihoods of coastal communities within them

Marine protected areas (MPAs) or marine parks are increasingly being used as a way of protecting coastal and marine resources, based on scientific principles of safeguarding the ecological resource, in the context of widespread marine resource depletion. As such, they are a potentially positive intervention, as they seek to achieve the conservation of coastal resources as a whole for current and future generations of people. Claims are made about the benefits of MPAs for the environment and for local people, including that they can provide an increase in stocks in less restricted fishing areas adjacent to the protected areas, as well as indirect benefits through tourism. However, such benefits only occur if MPAs are properly managed—yet figures from the World Wide Fund for Nature—or, as it is known in North America, the World Wildlife Fund (WWF)—estimate that 80 per cent of MPAs worldwide are protected in name only and are not being managed actively or effectively.

In some cases, protected areas in general (including land-based ones) have failed to sustain the wildlife populations they were designed to protect, while, at the same time, having a negative impact on the food security and livelihoods of local people. They have, in practice, been associated with forced displacement and loss of access to natural resources of those living in and around them, with inadequate or no compensation.

Numerous studies have found that it is often the poorest households that are most dependent on natural resources. Protected areas have, therefore, often led to further impoverishment of those living in poverty. This inattention paid to the livelihoods and socioeconomic situation of local communities reflects a general trend in environmental conservation, despite a growing consensus that poverty and weak governance are two of the most significant underlying threats to conservation.

This article examines the issues around MPAs and livelihoods of coastal communities within them, with reference to examples in South Africa. Findings were drawn from across the three coastal provinces of the Western Cape, Eastern Cape and KwaZulu-Natal, using a range of key informants and available literature.

International and national guidelines for the setting up and management of MPAs include a strong emphasis on stakeholder involvement. However, in practice, provisions are weak, and local coastal communities are often effectively invisible in the MPA process, despite having traditionally fished in the protected areas for centuries or more, and despite the fact that many rely on fishing for their livelihoods and food security.

In the context of concerns over equity in marine resource allocation, the increased regulation of fishing that accompanies

This article, by Carolyn Petersen, Naseegh Jaffer and Jackie Sunde, Masifundise Development Trust, Cape Town, South Africa, which forms part of a longer paper presented at the first International Marine Protected Area Conference (IMPAC1), held in Australia in October 2005, appeared in *SAMUDRA Report* No. 42, November 2005

the creation of marine parks often disproportionately affects under-resourced local fishing communities, compared with other stakeholders.

Local communities

Furthermore, in South Africa, little effort has been made to find out the impact of MPAs on local communities. The lack of data on the impact on livelihoods is problematic, considering the obvious connection between the socioeconomic characteristics and attitudes of local communities, and the type of management and enforcement of marine resources required within protected areas.

Those living adjacent to MPAs in South Africa have been adversely affected in many cases by a rollover of spatial patterns resulting from land dispossession and the setting up of protected areas during the apartheid era. Local communities' access to coastal resources has been affected by removals as part of apartheid and colonial spatial legislation, and, more recently, by the growth of the tourism industry and the real-estate/property boom. In many cases, MPAs have retained some protected area boundaries set up during apartheid, reinforcing discriminatory land ownership and access. Although this may be for sound environmental reasons, it has led to resentment in local communities, especially where there has been limited participation in decisionmaking.

Current management of MPAs, in general, is inadequate, both internationally and nationally. A joint WWF-Marine and Coastal Management (MCM) report found that only seven out of 19 MPAs in South Africa had formal management agreements in 2003—those without formal agreements appear to be faring worse. Many MPA authorities lack the capacity for effective enforcement; management funding for MPAs has not been a government priority; and budgets have been cut. In many cases, staff capacity is insufficient for effective

management. Performance and monitoring requirements in the national legislation are also weak. Furthermore, existing management agreements between national parks/MPA authorities and MCM are predominantly concerned with enforcement against illegal fishing, not other aspects of management. Nevertheless, illegal fishing or poaching was stated to be a problem in all the MPAs investigated, in many cases jeopardizing the state of the resources. This included small-scale to large-scale poaching.

The evidence points to the fact that genuine increased community involvement has a beneficial effect on conservation aims in MPAs, with increased community buy-in and respect for regulations. National and international legislation now requires the consultation or public participation of stakeholders in the setting up and management of MPAs.

However, the mechanisms by which participation is to be carried out are not specified, and, therefore, real involvement has been limited, especially where the MPAs continue protection of an area that was set up when local participation was not required. This has caused conflict or protest action in many MPAs.

Recent MPAs

For some MPAs declared more recently, such as the Table Mountain National Park (TMNP), the level of consultation has been higher. The TMNP has sought to impinge as little as possible on major fishing areas for permit holders, albeit imperfectly for small-scale fishers. In several other MPAs, multi-use zoning—which allows fishing in certain areas—has not been embraced, and buy-in to this principle from MCM has been inadequate.

Although the current discourse emphasizing involvement of local communities in the management of protected areas does bring benefits to those communities, in many cases, the limits placed on the level at which

participation takes place means that it is unlikely to adequately compensate them for their exclusion from access to the natural resources in those protected areas. This includes the vast majority of government livelihoods and poverty alleviation initiatives, which lack sustainability.

In most cases, only brief consultation of specific stakeholders has been implemented, rather than genuine local involvement in decisionmaking, with the result that such consultation can be used to legitimate top-down decisionmaking. This extends to what is termed ‘co-management’ of natural resources in South Africa—this has generally meant very little involvement in decisionmaking regarding resource utilization. For example, in Dwesa-Cwebe MPA, where local people are supposedly co-managing marine resources, no fishing at all is permitted. Furthermore, where fishing is allowed in the protected areas, in most cases, the subsistence level and low-value resource use allowed by marine park authorities do not satisfy basic needs or livelihood requirements, including rent, school fees and basic services, where available. Even subsistence fishers operate in a monetized economy, and, therefore, if insufficient alternative livelihood opportunities are available, illegal fishing is likely to occur when subsistence fishing does not cover basic needs.

In practice, public participation can be fraught with problems, and requires a genuine, long-term commitment on the part of the relevant authorities. Capacity constraints and communication gaps have meant that communication among government departments and agencies, and between government and communities, has generally been inadequate, leading to the conflation of issues of land, marine resource and general service provision by communities, and a resulting lack of co-operation with government.

Access denied

In the context of a denial of access, people in local traditional fishing communities still have a very strong social and cultural connection with the sea and with fishing.

Changes that have been enforced relatively recently, and visibly extended within the last decade of democracy, have brought to the fore a fundamental clash of cultures—between predominantly ‘traditional’, communal ways of managing and harvesting natural resources, and ‘modern’ (industrial), individual, private property-based quotas. MPAs are one manifestation of the enforcement of the State as the effective owner of all natural resources, an idea that many people in local coastal communities would contest.

Furthermore, fishermen feel that their indigenous knowledge and traditional methods, including rotation of areas and resources, are not being recognized by scientific measures or government regulations.

Recreational fishers and industrial companies, with their better resources and greater political influence, can much better lobby government on access and policies than small-scale fishers and poverty-stricken communities, leading to greater resentment among the communities in the MPAs researched. Government authorities are reluctant to jeopardize access for recreational fishers since they are a major source of revenue in the form of tourism in MPAs. Furthermore, recreational fishers have escaped regulation and enforcement to a large extent in the past.

Levels of poverty in coastal areas in South Africa are significant in most areas where MPAs are situated—with the highest average levels in the Eastern Cape province (48 per cent), followed by KwaZulu-Natal (26) and the Western Cape (12), representing the

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percentage of people whose household expenditure was R800 (approx. US\$119) or less per month. The Wild Coast in the Eastern Cape has one of the highest levels of poverty in the country—between 60 per cent and 80 per cent.

However, such figures hide huge disparities between rich and poor—in most provinces, inequality is increasing, particularly in the Western Cape, where many people in coastal areas are unable to enjoy the benefits of the burgeoning, but highly capital-intensive, tourism industry. In towns surrounding the West Coast National Park, over 40 per cent of people were recorded as having no income, according to the 2001 census. The Eastern Cape province, where five MPAs are situated, has suffered particularly from racially defined apartheid spatial policies, although other provinces have also been considerably affected. Severe lack of investment in certain areas, combined with restrictions on movement and land ownership elsewhere, meant that specific areas such as the Wild Coast became overcrowded and were systematically denied access to resources and services, resulting in high levels of poverty and reliance on marine resources. Therefore, the pressures of high population and poverty, as well as poor land and coastal management outside the reserves, are detrimental to the state of the natural resources, and has direct impacts on MPAs.

Without improved management of restricted areas, policy developments in South Africa are likely to further endanger the livelihoods of fishers living adjacent to marine parks, since the department responsible for fisheries has expressed its intention to substantially increase the no-take zones within marine park areas from 1 per cent to 20 per cent of protected areas.

The emphasis on environmental concerns in MPA management hides a predominance of considerations of growth and profit at

the macroeconomic level (including foreign currency revenue for the State), over the socioeconomic concerns of livelihoods and poverty alleviation for local people.

Legitimacy issue

MPAs cannot be considered in isolation from the areas and communities surrounding them—the marginalization of local communities puts the legitimacy of MPAs at stake, and has serious consequences both for the management of protected areas and for the ecological resource itself due to increased incidences of poaching. Issues around management of MPAs, in general, exacerbate this problem. While MPAs have an important contribution to make, their strategy alone is unlikely to provide the solution to all management and resource-access problems MPAs are only one of a range of suitable management tools.

We, therefore, propose a more equitable sharing of the costs and benefits for stakeholders involved in MPAs, so that local communities and the socioeconomic impacts of MPAs are made visible, and local people are genuinely involved in management decisionmaking. If managed effectively to include local communities in genuine partnership with managing authorities—and if alternative livelihood opportunities are provided—MPAs could address both socioeconomic and environmental conservation concerns. 3

Also online at:



<http://www.icsf.net/SU/Sam/EN/42/art07.pdf>

An uncommon tragedy

SAMUDRA Report Comment

Coastal fishing communities can be powerful allies in conserving, restoring and protecting coastal and marine biodiversity

Recent reports about suicides by fishermen in Kendrapara, Orissa, India, can only be described as shocking, particularly as there have rarely, if ever, been reports of fishermen committing suicide. Notably, these suicides have taken place in a State considered one of the poorest in India, with about 47 per cent of the population estimated to be below the poverty line.

Investigations have indicated that the suicides were linked to the restrictions on fishing activity and subsequent declines in income following the declaration of the Gahirmatha (Marine) Wildlife Sanctuary in 1997, to protect the olive ridley sea turtle in its nesting and breeding habitat (see page 46). Declining incomes from fishing in a context of high indebtedness, lack of social security nets, and few alternative livelihood options have proved to be a shock fishermen have found difficult to bear. Many fishermen are reported to have migrated out of Kendrapara District, some are burdened with extreme mental distress, while, over the past four years, at least seven fishermen have taken the extreme step of the final exit.

That this should have happened is unacceptable, even more so as various measures suggested over the past few years, if implemented, would perhaps have made it possible to improve turtle conservation, while enabling the continuation of sustainable fishing operations and livelihoods based on them. Several of these suggestions have emanated from organizations like the

Orissa Traditional Fish Workers Union (OTFWU).

It is important that the message from this tragedy does not go unheard. Traditional fishworkers must be made equal and effective partners in identifying socially just conservation and management measures, and specific steps to cushion the socioeconomic impacts of conservation should be implemented. For example, where research conclusively establishes that certain types of fishing gear, whether traditional or trawl, have detrimental impacts, regulation on their use should be accompanied by adequate financial assistance for shifting to other permissible gear. Training and other financial assistance for alternative livelihood programmes for fishworkers displaced from the fishery as a result of conservation measures should also be considered.

The importance of comprehensive socioeconomic data on communities living adjacent to turtle conservation areas, to gauge the potential impact of conservation programmes on them, cannot be overemphasized. There needs to be a specific focus on the issue of indebtedness, especially in view of the rising costs of inputs, such as fuel. High rates of indebtedness have also been a major factor in the suicides of an estimated over 10,000 farmers in India in the past few years.

The approach to conservation adopted in Orissa is by no means an isolated example. Fishing communities living adjacent to marine protected areas (MPAs) in several

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: countries in Asia and Africa have similar
 : experiences to recount, and their concerns
 : must be addressed, as articulated in the
 : Joint NGO Statement on Protected Areas
 : presented to the 8th meeting of the
 : Conference of the Parties (COP8) to the
 : Convention on Biological Diversity (CBD)
 : in Curitiba, Brazil on 23 March 2006 (see
 : page 43).

: Coastal fishing communities can be
 : powerful allies in the efforts to conserve,
 : restore and protect coastal and marine
 : biodiversity. And needless to say, coastal
 : fishing communities dependent on the
 : resource base for their livelihoods, can
 : also be the prime beneficiaries of well-
 : designed conservation and management
 : programmes. To ensure that happens,
 : is the challenge ahead. It is completely
 : unacceptable and totally unnecessary that
 : the cost of conservation should be paid in
 : human lives.

3

Also online at:



<http://www.icsf.net/SU/Sam/EN/43/edit.pdf>

Only four years left to 2010!

Joint NGO Statement

A joint NGO statement at the recent Convention on Biological Diversity meet called for the involvement of indigenous/local communities

As Parties to the CBD, you did yourselves proud by framing a historic Programme of Work on Protected Areas. Civil society across the world saw this as a potentially powerful tool to meet the global goals of halting biodiversity loss on land by 2010, and at sea by 2012.

We acknowledge the progress made in implementing the Programme of Work. Several countries, NGOs and indigenous/local community organizations have achieved considerable success on many fronts. We also acknowledge the work done by the Expert Group on Protected Areas, just before COP8, to design a more specific Evaluation Matrix.

However, we are concerned that, in general, progress with implementation of this Programme of Work appears to be painfully slow. Our concern is both on substantive and procedural matters.

On substance, we flag the following key issues:

1. The world's biodiversity continues to face threats from unsustainable land- and water-use activities, including inside many protected areas. In particular, we are alarmed at the continuing spread of commercial plantations and monocultures, unregulated commercial fisheries, extractive industries, illegal and unsustainable logging and related trade, uncontrolled tourism, and, in general the still-unsustainable patterns of 'development' and consumption. There is little sign of governments moving towards meeting the target laid out in Activity 1.5.5 of the Programme of Work.
2. In particular, we would highlight the need for urgent action to safeguard relatively large intact forests from illegal and unsustainable logging and extractive industry, and deep-sea biodiversity from the impacts of high-seas bottom-trawling and industrial fishing. A representative network of protected areas of such ecosystems is urgently needed.
3. Very few countries appear to be moving towards the larger landscape and seascape level planning that is required under Activity 1.2.2, as protected area management remains an isolated, usually very weak, part of the overall decision-making apparatus of government.
4. Issues of governance, equity, and participation, as laid out in Activities 2.1.2, 2.2.1, 2.2.2, and 2.2.3, remain weakly developed in most countries. The paradigm shift that the Programme of Work represented, in terms of democratizing protected area design and management, is yet to find a place in the relevant legislation of most countries. On the contrary, in many countries, indigenous peoples and local communities continue to face dispossession by protected areas. Local people still pay heavy costs, while the tourism industry and global society receives substantial benefits. This trend is exacerbated by the

This Joint NGO Statement on Protected Areas was presented to the 8th meeting of the Conference of the Parties (COP8) to the Convention on Biological Diversity (CBD) in Curitiba, Brazil on 23 March 2006. It appeared in *SAMUDRA Report* No. 43, March 2006

widespread privatization of protected areas over which indigenous and local communities have customary or traditional rights.

5. In particular, very few countries have moved to recognize indigenous and community conserved areas, though the Programme of Work explicitly requires this.

Equally of concern are problems of process. In particular, we flag the following:

1. Most countries do not seem to have thought it important enough to report back on their national-level progress, with only 15 having responded to the Secretariat's questionnaire and 50 having provided some information in their National Reports. We note that the lack of financial and other implementation support from donor countries is also a factor in this.
2. The failure to provide funding to hold the second meeting of the Ad Hoc Working Group on PAs (AHWGPA), scheduled for late 2005, is indicative of the lack of interest shown in this Programme of Work.
3. In general, funding commitments remain woefully inadequate.

Given the above concerns, we urge parties to the CBD to commit to:

- rescheduling, well within 2006, the aborted 2nd meeting of the Ad Hoc Working Group on PAs; and making Element 2 a major focus at this meeting;
- adopting an Evaluation Matrix that requires very specific reporting on progress of implementation, including in it the question of how protected areas are meeting the socioeconomic and equity needs of indigenous peoples and local communities (also in line with the Elaborated Programme

of Work On Marine and Coastal Biological Diversity, under Decision VII/5 (COP7, Kuala Lumpur, 2004), that stresses that this Programme of Work aims to make a direct contribution to poverty alleviation, in accordance with the Millennium Development Goals);

- preparing, through participatory processes that fully and meaningfully involve indigenous/local communities and NGOs, their national reports on progress of implementation of the PA PoW, especially with regard to the 2006 activity targets; and sending these reports to the Secretariat before the 2nd meeting of the AHWGPA;
- finishing full, transparent and participatory reviews on key measures needed to comply with the Programme of Work, and initiating substantive actions on each of these measures; and
- exchanging key lessons from successes and failures in achieving the various targets of the PA PoW, bilaterally and through the CBD mechanisms.

The donor community too needs to realize that a renewed focus on protected areas, using the paradigm of the CBD PA PoW, would help address not only conservation but also livelihood, poverty, and sustainability issues. The PA PoW needs political commitment, skills and capacity, but it also needs funds, which are currently sorely lacking.

In turn, we in civil society commit to taking the actions we can, to help implement the Programme of Work.

We thank you for your attention.

[Delivered by Ashish Kothari, Kalpavriksh, on behalf of the undersigned, alphabetically listed, NGOs, and several other NGOs, gathered at COP8]

- Association of Private Nature Reserves of Minas Gerais, Brazil
- CARE International
- Equitable Tourism Options (EQUATIONS), India
- Fauna and Flora International
- International Collective in Support of Fishworkers (ICSF)
- Global Forest Coalition
- Global Justice Ecology Project, USA
- Greenpeace International
- International Institute of Environment and Development
- Kalpavriksh, India
- Pastoralist Integrated Support Programme, Kenya
- Royal Society for the Protection of Birds, United Kingdom
- Social Equity in Environmental Decisions, United Kingdom
- The Nature Conservancy
- Wildlife Conservation Society
- WWF

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Also online at:



<http://www.icsf.net/SU/Sam/EN/43/art06.pdf>

Life studies

Sarada Lahangir

A seasonal fishing ban meant to conserve turtles in Orissa, India, has fatally affected fishing communities

On 27 September 1997, the Gahirmatha Marine Wildlife Sanctuary was set up in the Indian State of Orissa to protect the olive ridley species of sea turtles in their nesting and breeding habitat, under Section 26 A of the Indian Wild Life Protection Act (WLPA), 1972. The sanctuary of 1,440 sq km is the world's largest nesting site of the endangered olive ridley turtles. It is demarcated into a core area of 725.5 sq km and a buffer zone of 709.5 sq km.

The Indian Coast Guard was appointed Wildlife Warden of the Gahirmatha sanctuary in 1998, with the power to stop and seize fishing vessels, especially trawlers, and to hand them over to the Forestry Department for further action. (The WLPA is implemented by the Ministry of Environment and Forests, at the national level, and by the State Forestry Departments, at the State level.) All forms of fishing are prohibited in the core area—10 km from the high-tide line—of the Gahirmatha marine sanctuary throughout the year. However, innocent passage through the core area is permitted for fishing vessels with no mechanical means of propulsion. Non-trawl forms of fishing, both mechanized and non-mechanized, are permitted in the buffer area—10 km to 20 km from the high-tide line. Trawlers that are permitted to fish beyond 20 km, however, are required to use turtle excluder devices (TEDs).

For the coastal communities of Orissa, which is amongst the poorest States of

India, the fishing prohibitions and the olive ridley issue have turned into a bone of contention because the turtles' breeding habitats in the river mouths also happen to be the richest fishing grounds of the State. The marine turtle congregations occur in the peak fishing season. Interactions between such congregations and bottom-trawl and gillnet fishing have been reported from 1974. This is perhaps the most striking example of such interactions in the world, involving the protection, almost every year, of an estimated 150,000 adult olive ridley population and their breeding and nesting grounds, on the one hand, and the livelihood interests of about 50,000 fishermen and fishworkers entirely dependent on coastal fisheries, on the other.

Fishing is considered to be the greatest threat facing the olive ridleys in Orissa. The main cause of turtle death is believed to be drowning in bottom trawls and entanglement in certain types of gillnets, which account for about 90 per cent of mortality during the December-February fishing months.

For the first two to three years after the declaration of the sanctuary in 1997, enforcement of the fishing ban was not very strict. As a result, according to forest officials, the mortality of the turtles increased. According to the Wildlife Society of Orissa and Operation Kachhapa (Operation Turtle), during the last 13 years, more than 129,000 turtles have been found dead along the Orissa coast in the Bay of Bengal. With the sandy beaches turning

This report, by Sarada Lahangir, correspondent, ANI, Bhubaneswar, Orissa, India, appeared in *SAMUDRA Report* No. 43, March 2006

into turtle graveyards, pressure soon began to mount from environmentalists and conservationists from around the world. As a result, the Coast Guard and the Forest Department intensified patrolling, and began strictly enforcing the conservation law.

Traumatic effect

The net effect, however, has been traumatic for Orissa’s traditional fishing community, which has to battle poverty and starvation induced by the fishing ban.

According to Narayan Haldar, the president of the Orissa Traditional Fish Workers’ Union (OTFWU), the fishing ban has already broken the backs of the fishing community, especially in the coastal areas of Kendrapara District, where suicide deaths have been reported (see case studies below).

According to Haldar, the fishermen have raised their voices in different ways. On 21 November 2005, around 2,000 fishermen demonstrated in Bhubaneswar, demanding that the sanctuary’s seaward boundary should be redrawn up to 10 km from the high-tide line, from the existing 20 km. Similarly, the boundary of the core area of the sanctuary should be reduced to 5 km, from the existing 10 km, and innocent passage through the sanctuary should be allowed for all their fishing units. The government should provide them larger boats and engines so they could go offshore for fishing. A 30 per cent loan and a 70 per cent subsidy should be provided to purchase fishing equipment, they demanded.

In January 2006, about 3,000 fishermen blockaded a road in Kendrapara District to protest the ban. Forest Department officials had seized three gillnetters and a trawler, and arrested nine fishermen on charges of illegally fishing in the prohibited area. The irate fishermen blocked the main road at Jamboo village for three hours, demanding the release of the arrested fishermen.

The fishermen alleged that the Forest Department officials were preventing them from fishing even beyond the 10-km distance. “They arrested the fishermen illegally when they were fishing outside the prohibited area,” Tushar Kanta Sardar, secretary of the Kendrapara District Fishermen’s Association, said.

The fishermen of the area say they use small motorized boats, and pay their nets manually, and do not hurt turtles. The large trawlers kill turtles, they allege. Turtle conservationists, however, have a different view. They say that traditional fishing with 10-14-hp motorized boats also causes turtle mortality.

According to Mangraj Panda of OTFWU, since the fishing ban limits all options for a decent living, the fishermen should be provided an alternative source of income. The union had filed a petition with the Central Empowered Committee (CEC) constituted by the Supreme Court of India. After a visit to Orissa between 10 and 14 February 2004, the CEC directed the State government to demarcate the prohibited zone where fishing is banned.

The 2004 CEC report recommended that innocent passage through the core area of the sanctuary should be allowed only for “traditional fishermen” on local non-mechanized fishing vessels. There should be a committee at the grassroots level, constituted by the fishermen’s unions, turtle conservationists, the Forest Department, the Fisheries Department and local representatives. Wildlife protection should be done with the involvement of the community of the area, the CEC proposed.

Unfortunately, nothing has been done yet. The Forest Department has neither demarcated the sea zone nor formed any grass-roots committee. As a result, the resentment and misery among the local people have increased, said Narendra

...innocent passage through the core area of the sanctuary should be allowed only for “traditional fishermen” on local non-mechanized fishing vessels.

Behera, the president of the Mahakalpada *zilla parishad* (village council).

While local fishermen complain, the Forest Department has different views. “The fishermen are trying to make a plea in the name of demarcation. Till date, all those arrested, have been arrested within the 9-10 km sea zone, which is the prohibited area. Of course, the CEC has directed for the demarcation, but it is not an easy task. It requires millions of rupees, which the government has not yet been able to allocate,” said A. K. Jena, District Forest Officer (DFO), Rajnagar.

No proposal

He added that there was no proposal from the Fisheries Department for innocent passage. Nor has the fishermen’s community given any memorandum to anybody regarding such passage. He also said that the Forest Department does not even know how many boats have been issued licences. There seems to be a major communication gap or lack of co-ordination between the Fisheries Department and the Forest Department. The fishing ban has a great impact on the fish markets also. According to data from the Fisheries Department, there has been a decline in fish production in Kendrapara District during the last few years.

Greenpeace, the international environmental group, launched *Sugaytri*, a boat specially equipped to undertake exhaustive patrolling to protect the sea turtle. The first event to mark the launch of the campaign was the laying of buoys outside the periphery of the Gahirmatha sanctuary to demarcate the non-fishing zone. Greenpeace also solicited the support of the State Forest Department for the demarcation of the remaining boundaries of Gahirmatha and eventually, the no-fishing zones of other breeding sites, said Sanjeev Gopal, Ocean Campaigner, Greenpeace India.

The CEC is clear in its directives of the need to strike a balance between the

rights of traditional fishworkers and the responsibility to protect olive ridleys. The demarcation of the marine protected area in Orissa was the first step in implementing the directives, says Gopal.

Now the immediate intervention that should be made is to give passage to traditional fishermen to venture into their fishing grounds. There should be proper demarcation in the sea, and the fishermen should be covered under special welfare schemes. They should be provided with alternative sources of income, through vocational training, says Ashish Senapati, the project director of Project Swarajya, an NGO in Kendrapara District.

The fishermen in the Mahakalpada area are mostly post-Partition immigrants and a large number are Bengali refugees from the then East Pakistan (now Bangladesh), who settled on land provided by the government. Most—80 per cent—of the coastal villagers are Bengali-speaking people who eke out a living by fishing. Being immigrants, they are a political minority, and their voices remain unheard. They are just used as a vote bank, says Rajesh Behera, a freelance journalist.

In last two years, the coastal villages of Kharnasi and Ramnagar have seen at least seven persons committing suicide and seven more reporting severe mental distress, unable to feed their families and repay bank loans after they lost their traditional means of livelihood due to the fishing ban.

Official ignorance

Both Jyotiprakash Das, the District Collector of Kendrapara, and Suresh Mohanty, the Chief Wildlife Warden, claimed to be unaware of the deaths in the fishing community, reportedly induced by the poverty that resulted from the fishing ban. But they did not hesitate to accept the fact that the livelihoods of the fishermen have definitely been affected by the ban and that they are yet to provide a single alternative source of livelihood for

them. “Definitely, the turtle conservation and fishing ban has had a great impact on the fishermen. From time to time, we visit the places that have reported the deaths, but officially, I can’t say that the deaths are due only to the fishing ban. A proper investigation is needed,” said B.C. Hembrum, a Fisheries Department official at Kujang.

It is high time that the whole international community, the government machinery, turtle conservationists, environmentalists and NGOs start thinking of the interests of the fishermen and their families and communities, and link these with the protection of the olive ridley turtles.

CASE STUDY 1: Gauranga Saha

Gauranga Saha of Kharnasi village died on 14 March 2004 at the age of 50, leaving behind his 44-year old wife, Arati, and five children—two sons and three daughters, one of whom, the second, Tulasi, 20, got married last year. The eldest son, Deepak, is 24 years, and the youngest, Debabrata, 15, studies in the ninth class. The other two daughters are Nilima, 22, and Bulu, 18.

Saha committed suicide by consuming poison, confirmed his widow. She said that after the fishing ban, he was increasingly worried about the family’s source of livelihood. The family owned four boats, outfitted in 1997 with 10-14-hp motors. A boat costs around Rs250,000 (US\$5,666) and typically, six persons work on each boat.

Saha was the *sarpanch* (village council leader) of Kharnasi during the last term. He had borrowed Rs150,000 (US\$3,399) from the fish merchants, Nari Tarai and Bapina Saha of Paradeep, to repair his nets and gear. In 2001, the Forest Department seized two of Saha’s boats. Another boat had already been destroyed in the 1999 supercyclone. In 2002, Saha’s second daughter got married, so he had to borrow Rs2,500 (US\$56) from

the fish merchant for the dowry. Thus Saha’s loan burden multiplied as time went by—moneylenders in the coastal villages of Orissa double their interest rates for every three months of default.

According to Arati, since 2001 the family had virtually lost their source of livelihood. Though they had one boat left, the fishing ban prevented Saha from going fishing. Since then, he was a very depressed man. He constantly worried about how they would marry off their two daughters. The elder son had already dropped out of school to help his father. But as they could not venture into the sea to fish, he too sits idle. “Just two days before his death, he bought me a cotton saree, as I was managing with just two sarees. He assured me that everything would be fine. He also, at the same time, said he regretted not being able to do a lot of things for the family. Destiny did not seem to support us...Who knew those would be his last words?” Arati sobbed.

Saha ended his life by consuming poison when the entire family was asleep. When they did not find him on the bed in the morning, they searched all around and finally found his body in an isolated room, which had been lying unused for a long time.

The family plans to hand over their only boat to Bapina, the fish merchant, to repay a debt of Rs70,000 (US\$1,577). Their current financial condition is miserable. Deepak, the elder son, is unemployed and idles out the fishing ban period; he can get work on other boats as a deckhand for only two months, earning Rs500 (US\$11) per month. Arati sells puffed rice, for which she earns Rs2 (US\$0.05) a day. Her daughters roll *beedis* (cigarillos). “For 1,000 *beedis*, we make Rs30 (US\$0.7). To bind 1,000 *beedis*, we take two days, so per day, we get only Rs15 (US\$0.35). And in a month, we get work for only 12 to 14 days,” Nilima said. That means that, on average, both sisters

It is high time that the whole international community, the government machinery, turtle conservationists, environmentalists and NGOs start thinking of the interests of the fishermen and their families and communities, and link these with the protection of the olive ridley turtles.

earn about Rs225 (US\$5) per month. Add to this their mother's income of about Rs90 (US\$2), and their total monthly income comes to about Rs315 (US\$7), or yearly, Rs4,780 (US\$108).

CASE STUDY 2: Bidyadhar Ram

Bidyadhar Ram, 35, of Kharnasi village committed suicide by hanging himself one night in an abandoned thatched building near his house in December 2005. His widow, Sikha, is 32 years old. "For the last few years, he was depressed and frustrated," she said. "One day two months ago, in December 2005, he came and told me that he could no longer maintain us because he had a loan burden of Rs10,000 (US\$225), accumulated over time from borrowings from the trawler owners of Paradeep.

Ram did not have any boat of his own; he worked on trawlers as a helper, earning Rs100 (US\$2.25) daily. I decided to go to my parent's home for some time, thinking that I would return with my children when the fishing starts. The day after reaching my parent's house with my children, I was informed that Ram had committed suicide by hanging himself. If I could have smelled his intention, I would never have left him," Sikha lamented. Sikha said that though they were not financially very sound, they managed a hand-to-mouth existence. Their problems started over the last five years. When the fishing ban got longer, Ram could not earn anything, and so he started borrowing money from the trawler owner whom he used to work for earlier.

Asked whether they had had a fight before she left for her parent's house, Sikha said: "It soon came about that we couldn't provide a square meal for our children. That irritated me and frustrated him. So we had arguments and fights sometimes, like any family in a similar situation, I guess. My husband was rendered helpless. He tried to

go outside and get work as a wage labourer but in this area, no work was available."

Sikha now stays in a one-roomed thatched house with her three children and old mother-in-law. The eldest daughter, Mausumi, is 14 years old. The two sons, Bitu, 10, and Bibekananda, 7, are with her mother. The family does not own any land. They built their thatched house on government land. Their only source of income is the daughter, Mousimi, who now works as a maidservant in a nearby village. "I have to walk at least 2 km to reach that village. They pay me Rs2 (US\$0.05) daily," Mousimi said. Both the sons have been withdrawn from their schools and will be sent to the town to work as child labour, according to their mother.

CASE STUDY 3: Sukumar Sarkar

Sukumar Sarkar, 54, of Pitapata village committed suicide by consuming pesticide in March 2004. He had three children—daughters, Sabita, 23, and Binita, 21, and a son, Bhabani, 20. His daughters had been married off before his death. His widow, Golapi, left the village with her son last year.

Though we could not contact them, we could gather information of the family from the president of the *panchayat* (village council), Narayan Haldar, and the villagers. According to them, Sarkar owned two gillnet boats, fitted with 10-15-hp motors. In 2002, the Forest Department seized both the boats. Though Sarkar managed to work on other boats for some time, after the fishing ban, all fishermen, including the trawler owners, were in financial difficulty. Sarkar managed to marry off his daughters by borrowing some money. Meanwhile, he fell ill and could not go out in search of work. The fish merchants from whom he had borrowed money would frequently badger the family for repayment, so one day, Sarkar's son, Bhabani, migrated elsewhere and his widow Golapi went to stay with her daughter-in-law.

CASE STUDY 4: Rashyamaya Mandal

50-year old Rashyamaya Mandal of Ram Nagar village committed suicide on 10 April 2002. Mandal had six children—three daughters and three sons. The eldest daughter, Sabitri, is 26 years old; the other children are: Ganesh, 24; Laxmi, 22; Bijili, 21; Sanjay, 15; and Pintu, 14.

According to Mandal's widow, Kalidasi, they had one motorized 20-ft gillnet boat, which they had already lost to the 1999 supercyclone. Besides, they had one country boat and two acres of land, on which they sometimes grew paddy. "We were living hand-to-mouth because we had a large family, with six children. My elder son abandoned his studies to go fishing with his father. When the ban was imposed, our economic condition got worse. Meanwhile, the marriage of our elder daughter, Sabitri, was finalized. My husband took a loan from the bank for her marriage. To repay the loan, we mortgaged our two acres of land to Ranjit Mandal of Ramnagar and Mahant Babu of Kharnasi village. During the fishing ban, we faced lots of problems in meeting our daily needs. My husband's frustration from the financial crunch cost him his mental balance. He began to behave abnormally and went out for days together. My children had to search for him and bring him back home. One day, all of us went to attend a social function and when we returned home late in the evening, he was no more. He had committed suicide by hanging himself," Kalidasi burst out in tears.

After Mandal's death, the family had to sell their country boat for Rs2,500 (US\$56), though its market value is almost Rs7,000 (US\$158). Their land was confiscated by Ranjit Mandal and Mahant Babu, as they could not repay their debt. Now they have neither land nor a source of livelihood. The elder boy, Ganesh, is now the sole earning member of the family. Ganesh used to work as a casual labourer for Rs50 (US\$1)

per day. But since there are no jobs easily available in the village, he has to go far off in search of work, and gets to work for only 10 to 12 days in a month during the seven-month fishing ban period. Occasionally, he finds work on a trawler when the fishing ban has been lifted. His monthly income is about Rs600 (US\$14). His mother sells dried cowdung cakes, but makes very little income from her work. The total monthly income of the family is Rs720 (US\$16). The six members of the family have to survive on that amount.

CASE STUDY 5: Sripad Jagdar

48-year-old Sripad Jagdar of Ramnagar village died in November 2004, leaving behind four children: Ranjan, 24, Ranjit, 23, Sapan, 16 and Sanjay, 12. His wife, Srimati, said that Jagdar had one motorized 10-hp gillnet boat, which is still with the Forest Department. Though they did not have any land of their own, Sripad could earn enough for his family, hiring other boats for fishing. Before the ban was imposed, he was earning up to Rs4000 (US\$90) per month. After the ban, gradually the family income shrunk and soon became insufficient for a decent living. Meanwhile, Sripad contracted a tumour in his abdomen, and doctors referred him to the city hospital.

"At first, we somehow managed to collect Rs15,000 (US\$338) by borrowing and got his operation done in a hospital in the capital. When he fell ill again, the doctor diagnosed it as a stone in his kidney, and advised us to take him to Hyderabad for treatment, but we could not since we were left without even a single *paisa*," Srimati said. As a result, he remained at home and ultimately died for want of proper treatment.

"If fishing had not been banned, and our fishing activities had continued as earlier, we would not have lost our father. You are directly or indirectly forcing people to die. It's happened to us," laments Jagdar's eldest son, Ranjan. All the three brothers

now collect shrimp fry from the river, each earning about Rs7-10 (US\$0.22) per day. They have no cultivable land, and only a mud house to live in, and their mother does not even get a widow's pension from the government.

CASE STUDY 6: Jagdish Das

Jagdish Das, 55, committed suicide by consuming poison in September 2003. His wife, Kalpana, said that after the fishing ban, both his 14-hp motorized boats got destroyed. Das has seven children: four sons and three daughters. The earnings from his two boats were not sufficient for the large family. Besides, all the children were studying, and there were loans to be repaid.


Being very introvert by nature, Das never discussed his financial condition with anyone, not even with his wife. The couple had great hopes for their two sons who were doing undergraduate studies. Both hoped to get good jobs once they graduated. Meanwhile, Das developed a physical ailment, but the family had no money to take him to the hospital. Kalpana then decided to sell their only house to treat her husband. Though she broached the subject with him, he never responded. Two days later, he committed suicide.

Now the Das' do not have a source of income. Though the two sons gained some sort of employment in a private school, they have not started getting salaries. Das' sons were very reluctant to give an interview. They wished to regard the whole thing as a family affair.

CASE STUDY 7: Birat Haldar

Birat Haldar of Kharnasi died in January 2003 after consuming poison. He leaves behind his wife Deepali, and two sons. They now survive by working on trawlers and collecting shrimp fry from the creeks. Though we could not meet them, the villagers of Kharnasi confirmed Haldar's death and his family's plight.

CASE STUDY 8: Jodan Biswas

Jodan Biswas, 46, of Ram Nagar, committed suicide by consuming poison. He leaves behind a son. The small family had been earning a living from fishing. Biswas had one boat, which has since been taken over by the fish merchant, to whom he owes Rs40,000 (US\$903), which he had borrowed for the treatment of his wife's tuberculosis, which she never survived. His wife's death and the financial crisis following the fishing ban forced Biswas to commit suicide. His only son has since left the village. 

Also online at:



<http://www.icsf.net/SU/Sam/EN/43/art11.pdf>

An integrated approach

Alain Le Sann

The French experience shows that if fishermen are convinced of the potential benefits of MPAs, they will take an active part in their implementation

On 31 March 2007, the Collectif Pêche et Développement, a French non-governmental organization (NGO) working on issues related to fishers and fisheries, held a workshop in Brest, France, on marine protected areas (MPAs) from the fishermen's perspective. The location was symbolic as the new agency in charge of managing MPAs countrywide will be based in Brest. The workshop was primarily aimed to highlight the importance of the Iroise Marine Park (*Parc naturel d'Iroise*), in which fishermen are significant stakeholders. Participants were invited to analyze the linkages between fishermen and MPAs, and to outline how these could become management tools for fisheries. They drew from two overseas case studies—Banc of Arguin National Park in Mauritania (PNBA), and another in Portugal—and two in France (Iroise Marine Park in Brittany, and Cantonnement du Cap Roux in the Mediterranean).

The debate on MPAs has gathered momentum globally since the World Summit for Sustainable Development in Johannesburg in 2002. With the spread of MPAs, the tenets of fisheries management are undergoing great changes, and the need for the ecosystem approach to conserve biodiversity assumes new importance. It is necessary to examine how MPAs relate to ongoing fishing activities, and how they could serve fisheries-management objectives. Some environmental NGOs view them as a panacea. Greenpeace, for instance, is campaigning for a Global System of Marine and Coastal Protected Area

Networks, where fishing would be banned, and that could cover up to 40 per cent of the world's oceans, while claiming that it is all meant to preserve aquatic resources and thus the interests of artisanal fishermen.

In France, during the campaign for the recent Presidential elections, the coalition of environmental NGOs reaffirmed the objective of turning 40 per cent of the French exclusive economic zone (EEZ) into no-fishing marine reserves. French fishermen have long been familiar with *cantonnements* (marine areas where certain fishing operations are banned), but with this 40 per cent target for strictly restricted zones, it is clear that the focus is essentially on conserving biodiversity as such, and not on the sustainable use of fishery resources. The challenge for fishermen now is to show that they are capable of carrying on with their activities while fully respecting the ecosystem on which they depend.

Case studies

From the Mauritanian and Portuguese case studies presented at the Brest workshop, it appears that conflicts may arise between the fishermen and the marine reserve managers. The PNBA case was presented by Yan Giron, a young fisheries scientist. Established in 1976, the PNBA is one of the oldest and largest MPAs in the world. It is inhabited by a population of Imragen, an ethnic group with strong cultural traditions, whose livelihoods depend on fishing and pastoralism. Their peculiar method of catching mullets with the help of dolphins is well known.

This article, by Alain Le Sann of the Collectif Pêche et Développement, France, appeared in *SAMUDRA Report* No. 47, July 2007

The primary objective of those who established the PNBA was to protect its rich bird populations. The vast tidal mudflats are a unique resting and feeding place for many migratory species of birds. Later, foreign observers realized how plentiful fish resources were in the same area, which fishermen had been exploiting for a long time. In the 1990s, some danger signals began to appear, with the guitarfish stocks, for example, dwindling to near extinction. By the end of the decade, several measures were initiated to protect the park from outside operators coming in with industrial boats or motorized canoes, and also to regulate the fishing effort of the Imragen dwellers. A limit of 100 was placed on the number of traditional sailing craft, and, in 2004, a ban was imposed on shark fishing.

Control measures apply essentially to fishermen living outside the park, and they resent the situation, as the proscribed area extends to as much as a third of the entire Mauritanian coastline. Only subsistence fishing is officially permitted inside the park, but, given the availability of the resource and the potential for profits, commercial fishing exists. The park's promoters and fisheries-policy managers, acting in league with local leaders, had not provided for such a development. The respective roles of the various stakeholders (government representatives in charge of the park, fishermen and conservation managers) have not been properly defined. Though the PNBA is one of the best-managed MPAs in west Africa, there is room for improvement, which could lead to more equity in the sharing of advantages, better integration of conservation objectives and sustainable fishing operations.

The case study of Portugal was presented at the workshop by Marc Savary, a geographer. Portugal's first marine reserve, situated in the south of the country, near Setúbal, is the continuation of a mainland natural park, which was established to

conserve biodiversity. Close to 2,700 persons are involved in subsistence and artisanal fishing activities in the 57-sq km area. Many of them are unemployed or retired persons with meagre pensions. Due to the economic crisis in the Setúbal area, their number has increased. Some are illiterate, and their average age is 56. Illegal fishing, including by diving, is a frequent occurrence. In the course of time, with the aging of the population, such activities are bound to recede. The park's authorities have not really taken into account that social problem, nor are they addressing the issue of illegal activities by recreational fishers.

The organized small-scale fishermen are demanding that current rules and regulations be effectively implemented before any restructuring of the park is done. Considering that the management plan disregards their claims and interests, they have now withdrawn from discussions for the marine reserve. They also say that major sources of industrial pollution are still unchecked. They feel they are the only ones to suffer from the creation of the park. The conflict seems to arise from a lack of consultation between the authorities and the fishermen, and from the absence of appropriate action in the face of pressing social problems.

There are a number of small marine parks on the French part of the Mediterranean coast. In some of them, fishermen are closely associated with their management. In recent years, fishermen have, on their own initiative, established new reserved areas with help from dedicated biologists, for instance, the *cantonement* of Cap Roux on the Côte d'Azur promoted in 2004 by the local *prud'homies* (traditional fishermen's organizations) in collaboration with scientists from the University of Nice.

Preliminary observations show an improvement of the biomass inside the reserve, but it is too early to expect any

improvement outside the protected area. That may happen later, as indicated by the positive results obtained elsewhere, for instance, in Corsica. The strategy adopted by fishermen is to create a network of small reserves along the coast that would hopefully increase the recruitment in the fish population. While some scientists question the validity of such an approach to improve fish availability, local fishermen appear satisfied. They are also able to keep recreational fishers at bay, to some extent.

The most conclusive experience comes from the marine park of the Côte Bleue, near Marseille, established in 1983 and covering 10,000 ha. Fishermen have been closely associated with its management. The park includes two integral reserves (no-take areas), and 3,000 cu m of artificial reefs were put in place to provide shelter for the fish, and block access by trawlers. Fishermen are very happy with the functioning and impact of the park, and they have given the green light for its extension. Thanks to the park, they have been able to negotiate with the port authorities of Fos, a neighbouring industrial region, on ways and means to mitigate the negative impacts of maritime traffic and discards of all sorts.

The Iroise Marine Park in Brittany is of a larger scale: 300 km of coastline and 3,550 sq km of ocean space. The project started in the early 1990s in the minds of some biologists who, in 1988, had obtained, under the Man and Biosphere (MAB) Programme of the United Nations Educational, Scientific and Cultural Organization (UNESCO), funds for the creation of a biosphere reserve on the islands of Ouessant and Molène. They later asked for an extension of the buffer zone, as the area adjoins the world's busiest maritime route and, consequently, is under threat of pollution from tankers and freighters. It is of great biological significance, having the largest seaweed beds in Europe (300 known species), marine mammals (seals, dolphins) and birds. About 40,000 tonnes of algae

are extracted annually; 350 boats manned by 900 fishermen are in operation. To this, one can add 10,000 recreational craft, plus transiting French nuclear submarines. Clearly, this is a region crying out for integrated coastal management.

The *comités locaux des pêches* (fishers' organizations) were at first hesitant to engage with the park process; then they realized that the project could become a significant instrument to promote the interests of artisanal fisheries, as long as the objectives of conservation and the tenets of sustainable fishing could be pursued side by side. So they proposed to conduct, within the park, a pilot scheme on resource management and rehabilitation of depleted lobster stocks. Some fishermen remain suspicious, and a number of recreational fishers are particularly hostile to more constraints and controls. The administrative process is also bedevilled by local political feuds. Just before the recent presidential elections, some politicians pressured the government to hold on to legal sanction for the park, despite 15 years of discussion.

To clear the legal way for the project, the Natural Parks Act had to be amended, because while natural parks aim essentially at conserving nature, marine parks (which are established on State property) must cater to the twin objectives of habitat and species preservation and economic development. The Iroise Marine Park does not include integral reserves. It will have a management plan and a management committee in which fishermen will play an active role, and will make proposals to be implemented through the existing fisheries management bodies. Fisher leaders view the project as a real opportunity to promote coastal fishing by bringing in innovative initiatives, and developing collaborations with the recreational sector and environmentalists.

There is a lot at stake in this challenge. It has to be demonstrated that, in order to

The organized small-scale fishermen are demanding that current rules and regulations be effectively implemented before any restructuring of the park is done.

· protect ecosystems, one can do without
· vast integral reserves. Indeed, one can
· protect and conserve the environment
· while continuing with sustainable fishing
· operations.

· Thanks to integrated management
· measures, these two objectives may not be
· mutually opposed. The best way to invalidate
· the rationale of some environmental
· organizations for the creation of global
· marine reserves networks to cover up
· to 40 per cent of ocean space is to work
· towards the success of the Iroise Marine
· Park project.

· In conclusion, French artisanal fishermen
· seem to be adequately involved in the MPA
· processes. This is not quite the case in
· other European countries. The approach
· on the Mediterranean coast differs widely
· from that on the Atlantic coast, because of
· particular aspects in the respective historical
· backgrounds and ecosystems.

· The co-operation phase is necessarily
· lengthy. It takes a long time to agree on
· common objectives and strategies—15 years,
· in the case of the Iroise Marine Park. This
· has much to do with the complexity of the
· territory and the diversity of its activities.
· Fishermen are not the main opponents
· of marine parks. The recreational fishing
· sector is often more powerful and reluctant
· to accept MPAs.

· It is imperative to address the issues
· of nature conservation and fisheries
· management with an integrated approach.
· Establishing a reserve without applying
· simultaneously a management plan in the
· adjoining areas will produce limited results.
· Once fishermen are convinced of the
· potential benefits of the project, they will
· take an active part in the implementation
· of the conservation and management
· measures. 3

Also online at:



<http://www.icsf.net/SU/Sam/EN/47/art05.pdf>

Reserving a role for communities

SAMUDRA Report Comment

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.

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.

This editorial comment appeared in *SAMUDRA Report* No. 48, November 2007

: 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 (Workshop on “Fisheries and Marine
: Reserves in India,” held in New Delhi,
: India, 8-10 October 2007).

: 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. 3

Also online at:



<http://www.icsf.net/SU/Sam/EN/48/edit01.pdf>

Towards a new commons

Chandrika Sharma

A recent ICSF workshop drew on country case studies to provide a small-scale fishing-community perspective on marine protected areas

With the conservation of marine resources increasingly a global priority, the concept of marine protected areas (MPAs) is being widely propagated. Most MPAs are located in marine and coastal areas of high biodiversity, which has direct relevance and concern to the livelihoods, culture and survival of small-scale and traditional fishing communities. Numerous studies have examined the ecological and biological impacts of MPAs; however, few have focused on the social implications of MPAs on communities who depend on fisheries resources for a livelihood. It is to address this gap that the International Collective in Support of Fishworkers (ICSF) facilitated six studies (in Brazil, India, Mexico, South Africa, Tanzania and Thailand) to:

- provide an overview of the legal framework for, and design and implementation of, MPAs;
- document and analyze the experiences and views of local communities, particularly fishing communities, on various aspects of MPA design and implementation; and
- suggest ways in which livelihood concerns can be integrated into the MPA programme of work, identifying, in particular, how local communities, especially fishing communities, could engage as equal partners in the MPA process.

On 8 and 9 February 2008, ICSF organized a two-day workshop on “Social Dimensions of Marine Protected Areas”, with specific relation to fishing communities, to discuss the findings from the six studies undertaken.

The workshop was organized just prior to the Second meeting of the Ad Hoc Working Group on Protected Areas (WGPA2) of the Convention on Biological Diversity (CBD), in Rome, from 11 to 15 February 2008.

The study from South Africa drew on five case studies of MPAs in the country, that is, Langebaan Lagoon, Maputaland, St Lucia, Tsitsikamma, and Mkambati. The research was undertaken by Jackie Sunde of the Masifundise Development Trust, Cape Town, and Moeniba Isaac of the Programme for Land and Agrarian Studies (PLAAS), University of Western Cape.

The study found that, in general, traditional, small-scale fishing communities living in, or adjacent to, MPAs bear the costs of marine conservation while enjoying few benefits. While South Africa has committed to fulfilling international and related national obligations to ensure that local communities and indigenous people participate in the management of protected areas (PAs), and share equitably in their benefits, MPAs lag behind their terrestrial counterparts in this regard.

Fisheries legislation

The integration of MPA legislation with fisheries-management legislation in South Africa constrains interpretation of the broader social justice imperatives inherent in the CBD Programme of Work, and a biological conservation-oriented fisheries science dominates the agendas of these MPAs. Far from adopting a responsible, ‘enabling’ approach to traditional, small-scale fisheries, current management of

This report, by Chandrika Sharma, Executive Secretary, ICSF, appeared in *SAMUDRA Report* No. 49, March 2008

MPAs: Small-scale fishing-community perspectives

The workshop identified the following issues and related proposals:

Prioritizing process: Parties to the CBD have set themselves a target of bringing at least 10 per cent of the world's marine ecoregions under protection by 2012. While conservation initiatives certainly need an impetus, we need to be aware that in the quest for meeting quantitative targets, the nature and quality of community participation in governance are being compromised, curtailing the very effectiveness of this programme of work. In our experience, the process of ensuring effective and meaningful community participation in management and PA implementation is challenging, and needs, above all, time. However, it should be recognized that only genuine, participatory processes would ensure long-term and sustainable outcomes, balancing biodiversity conservation with environmental and social justice.

Human rights: Undemocratic and non-transparent processes in PA implementation, particularly top-down, target-oriented MPA implementation, supported by governments, financially powerful conservation NGOs and international financial institutions, are displacing and undermining livelihoods of fishing communities, compromising, in many instances, the human rights of these communities. This is especially the case where the focus is on no-take reserves rather than on conservation within a sustainable-use framework. If coastal and marine conservation initiatives are to be effective from a biodiversity, livelihood and poverty alleviation perspective, the starting point must be fishing and other marine resource-dependent communities and their organizations themselves.

Community conservation initiatives: In this context, we need to be aware that fishing communities across the world have been taking a variety of initiatives traditionally and, more recently, to protect and manage their resources, within a sustainable-use framework, including through establishing PAs. It is essential to adopt a dynamic and flexible approach to defining and recognizing

PAs (in keeping with decision VII/24). Community initiatives need to be seen as conservation initiatives in their own right and accorded due legal recognition and support. Recently introduced MPAs have often been imposed on these systems, undermining them as well as the social institutions that sustain them. In contrast, in countries such as in Brazil, Spain and France, community-initiated and community-driven processes that have drawn on traditional knowledge of local fishing communities, have received support from government, and are proving effective.

The following are specific proposals for WGPA2:

Participation in PA-related processes: The direct participation of fishing community representatives in all CBD workshop and meetings related to PAs should be facilitated. In order to make this participation meaningful and effective, preparatory processes prior to meetings need to be organized and supported, and translation of documents/interpretation ensured.

Governance and capacity building: To increase awareness of the provisions of the PA Programme of Work (PA PoW), and to ensure its implementation, particularly of Programme Element 2, there is need to organize specific capacity-building workshops on governance and social issues, with participation of indigenous and local fishing-community representatives, governments, and natural and social scientists, at the national and regional level. Such processes should ensure that management plans developed for MPA implementation, which at present tend to be biological in focus, have a specific socioeconomic focus.

Reporting: Reporting by governments on PA implementation should specifically include reporting progress achieved on implementing Programme Element 2 of the PA PoW (in keeping with decision VIII/24, para 4) and on meeting MDG targets. The reporting format needs to be accordingly modified to enable qualitative and meaningful reporting on these goals. National reports need to be

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prepared through a participatory process, where communities in PAs are part of the process of monitoring effectiveness of PA implementation. Civil society needs to be supported in conducting evaluation of PAs.

There is need for specific reporting on MPAs. This would also enable governments to review governance frameworks in use for management of MPAs, given that, in several countries, terrestrial frameworks and institutions are used for the management of MPAs, despite the unique nature of the coastal and marine ecosystems as well as the social institutions that relate to these resources.

Socioeconomic data: While the initiative to develop the World Database on Protected Areas is commendable, it is imperative that

gender-segregated baseline socioeconomic data is part of the reporting framework that goes to develop this database.

Toolkits: There is need to develop specific toolkits for evaluation and implementation of MPAs, suited to the specific context of fishing communities and the marine environment, and with a focus on socioeconomic components.

Social and cultural criteria: There needs to be greater focus on social and cultural aspects of PA planning and implementation, balancing the current predominant focus on biological aspects. Local, traditional and indigenous knowledge should be included in all stages of the identification, planning and implementation of conservation and management initiatives, and in monitoring and evaluating effectiveness of these initiatives.

...in several countries, terrestrial frameworks and institutions are used for the management of MPAs, despite the unique nature of the coastal and marine ecosystems as well as the social institutions that relate to these resources.

marine resources in MPAs contributes to the further exclusion of the sector, and undermines traditional livelihoods.

The Brazil study, by Antonio Carlos Diegues of NUPAUB, the University of São Paulo, focused on three marine extractive reserves: Mandira, São Paulo; Corumbau, Bahia; and Arraial do Cabo, Rio de Janeiro. The National System of Protected Areas (SNUC) legislation that came into force in 2000 included new categories of PAs, such as marine extractive reserves (MERs) and reserves for sustainable development (RSDs), established only where they are demanded by fishing communities. These categories represent a significant departure from no-take national parks, which have caused many conflicts between artisanal fishers and those governing the parks. The study suggests that while MERs create new opportunities for equitable, community-led conservation, their effective implementation faces significant challenges, such as insufficient managerial capabilities within government environmental institutions; lack of strong, well-managed fishworker and community organizations; paucity of funds; and the integration of scientific

knowledge with traditional knowledge and management practices.

For the India study, Ramya Rajagopalan, Consultant to ICSF, researched the Gulf of Mannar National Park (GOMNP) and Biosphere Reserve (GOMBR) in Tamil Nadu, and the Malvan (Marine) Wildlife Sanctuary in Maharashtra. The study found that in both cases, fishing communities feel that consultation with them has been inadequate. Significant provisions in national legislation that support the rights and occupational interests of communities are yet to be implemented. Fishing communities demand better implementation of the provisions of the Marine Fishing Regulation Acts (MFRAs) of their respective States—to control trawling, in the case of the GOM, and purse-seining, in the case of Malvan. They feel that control of such destructive fishing practices will, in itself, benefit conservation. In general, the India study indicates that while legislation, policy and practice now focus more on community participation and co-management of natural resources, much remains to be done, especially to secure full and effective participation of fishing communities, and

to improve governance, participation, equity and benefit sharing.

The Thailand study, by Ravadee Prasertcharoensuk and Duangkamol Sirisook Weston of the Sustainable Development Foundation, and Wichoksak Ronarongpairee of the Federation of Southern Fisherfolk, drew on case studies from the Had Chao Mai Marine National Park, Trang Province, Andaman coast, and the Ra Island–Prathong Island in the Prathong Sub-district, Kuraburi District, Phang Nga Province, also on the Andaman coast. The study suggests that while people's participation is a concept looked on very favourably by the government, in practice, genuine participatory approaches are still limited, and communities do not perceive benefits, particularly from the growth in tourism in PAs. There are also constraints imposed by the existing legal framework, inadequate institutional capacity, lack of co-ordination, and insufficient funding.

In Tanzania, Rosemarie Mwaipopo of the University of Dar es Salaam, and a member of the Western Indian Ocean Marine Science Association (WIOMSA), looked at social issues in the Mafia Island Marine Park (MIMP). Through an analysis of the socioeconomic and cultural contexts of the Mafia people, the study explains how people's rights regarding ownership, access and their capacity to engage in, and benefit from, the MPA become contested in circumstances where the pressure to conserve resources is also crucial. Management interventions, albeit meaningfully designed, fall short of taking on board the contexts within which people live their lives, their diverse and changing relationships with one another and with resources, how they articulate such management interventions in relation to their rights, and their roles in resource management.

The study from Mexico, though primarily a secondary study, drew on two already-published detailed case studies, and summarized the findings from four other case studies, as well as the experiences of the authors themselves. It was undertaken by Julia Fraga of the Centre for Research and Advanced Studies of the National Polytechnic Institute (CINVESTAV-IPN), Mexico, and Ana Jesus, a student who has just completed her Master's thesis on the community-based management of an MPA in a small Mexican fishing village. The study noted that despite government efforts, participatory processes are still considerably immature, and indigenous and local communities play limited roles in decisionmaking and/or policymaking. The study highlighted a case where a local group, initially motivated and willing to participate in PA management, ended up disillusioned with the shortcomings in the system. The authors also drew on cases where local resource users expressed lack of confidence in the government's management of natural resource within PAs; they viewed conservation and PAs as threats to their livelihoods, probably due to their lack of involvement in natural resource management, as well as the absence of alternative livelihood options.

The workshop also benefited greatly from the experiences of fishing communities in MPA areas in France, Indonesia and Spain, as well as the perspectives provided by the representative of the World Forum of Fisher Peoples (WFFP). Alain Le Sann of Pêche et Développement, France, described how fishermen have become ardent supporters of the Iroise Marine Park, which covers 3,500 sq km off the western tip of Brittany. They see the park as a tool to protect the marine environment, including from land-based threats, and have sought and achieved proper representation in the management process. Antonio Garcia Allut described a similar fishermen-led process

in Spain's Galicia, a region where fisheries are of great importance.

Riza Damanik of WALHI, the Indonesian Forum for the Environment, presented a recent study on five MPA experiences in Sulawesi and Komodo-NTT, namely, Wakatobi Archipelago MNP, Togian Archipelago MNP, Bunaken MNP, Komodo MNP and Taka Bonerate MNP. The WALHI study found that conservation initiatives tended to be "coercive", with little opportunity for communities to express their consent or participation. Traditional, local knowledge has rarely been taken into account. In addition, the process of setting up marine national parks tends to be followed by industrial investment activities for fisheries and/or tourism, which provide few local benefits.

The workshop presentations revealed that the most positive examples of livelihood-sensitive conservation were community-driven initiatives, as in the cases presented from France (Iroise Marine Park), Spain (Galicia) and Brazil (MERs). In these cases communities are using PAs as a tool to protect their livelihoods, as, for example, against shrimp farms, tourism, sport fishing and oil pollution. It was noted that while community-led processes require time, as community institutions need to be developed and strengthened, they are more effective in the longer term. These initiatives are creating a "new commons" where coastal communities have the responsibility for management, even though they continue to face several challenges.

On the other hand, it was clear from the case studies from India, Indonesia, Mexico, South Africa, Tanzania and Thailand, that communities do not consider themselves equal partners in the MPA process.

Community participation

While, in all cases, there have been recent efforts to enhance community

participation, in general, participation tends to be instrumental—where communities are expected to participate in implementation, and are not part of the process of designing and implementing management initiatives. The studies also document clear costs for communities—in terms of livelihood options lost, expulsion from traditional fishing grounds and living spaces, and violation of human/community rights, with few perceived real benefits. Alternative livelihood options that have been put in place are perceived to have provided limited support to affected communities, and, in several cases, as in Tanzania, South Africa and Thailand, communities do not perceive benefits from tourism initiatives associated with the PAs. There tends to be a resistance to MPAs among local communities, a mistrust of government and NGOs that lead such processes, and violations of rules and regulations, undermining the effectiveness of the MPA itself.

The workshop arrived at a set of recommendations for WGPA2 (see box on page 60). The findings of the case studies were also presented at a side event organized by ICSF during WGPA2. Summaries of the case studies are available on ICSF's website (mpa.icsf.net) and the studies are soon to be brought out as separate publications. 3

It was noted that while community-led processes require time, as community institutions need to be developed and strengthened, they are more effective in the longer term.

Also online at:

<http://www.icsf.net/SU/Sam/EN/49/art04.pdf>

Reversing from a dead end

Alain Le Sann

The Iroise Marine Park in Brittany, France, could serve as a model for fishermen who wish to move towards sustainable fisheries

On 2 October 2007, the *Journal officiel* published the decree establishing the Iroise Marine Park (*Parc naturel marin d'Iroise*), which covers an area of 3,500 sq km, at the western tip of Brittany in France. The project, which was first mooted in 1989, took more than 17 years to materialize. Surprisingly, while in Europe and elsewhere in the world, fishermen are generally cautious or outright hostile towards such initiatives, in this particular case, the professional organizations of fishermen soon showed a supportive attitude. There were intense debates within the *comités locaux*, but the leaders were able to convince the majority of fishermen that the project could have favourable impacts on the fisheries. The idea of creating a park was first promoted by a number of scientists. Way back in the 1950s, several natural sanctuaries were established on deserted islands and on the coast. Later, a biosphere reserve was created and included in Man and Biosphere (MAB) Programme of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

This remarkable environment is endowed with a rich marine and terrestrial biodiversity. One can find here major seabird reserves, as scientists focused on the conservation of seabirds in the beginning. The area also has colonies of marine mammals as well as the largest seaweed beds in Europe, which have been exploited for the past 150 years to provide ingredients for the food and chemical industries. The area offers, on a grand scale, natural sceneries (sundrenched or rain- and wind-swept, in turn)

that attract large crowds of tourists: Pointe du Raz, Cap de la Chèvre, Ile d'Ouessant, Ile de Sein... On the mainland, Douarnenez and Camaret were, until the end of the 19th century, among the main fishing harbours in the country. In those days, there were 5,000 fishermen in Douarnenez, making a living by targeting the rich sardine stocks of the bay. The Baie de Douarnenez is still an important spawning habitat for bass and bream. Camaret used to harbour the most important lobster fleet in Europe. Things have taken a downturn, and fishermen are now few in these localities.

The Iroise Sea has suffered several large-scale oil spills. In the late 1970s, a nuclear plant was to be built in Plogoff, near the Point du Raz. This led to prolonged demonstrations by local folks and anti-nuclear activists, in general. Elements of the French nuclear strategic force are based in the Rade de Brest.

Painstaking rehabilitation

There are threats of pollution from various sources: industrial activities, urban effluents, intensive agriculture... For many years now, fishermen have been painstakingly trying to rehabilitate a scallop stock in the roadstead. There are about 900 professional fishermen (including part-timers) in the Iroise Sea. Annual fish production is about 12,000 tonnes, and 40,000 tonnes of seaweeds are also extracted. There are only 350 fishing units, but 10,000 recreational boats and 26,000 sailors, who, therefore, wield significant influence in the economic sphere.

This article, by Alain Le Sann of the NGO, Pêche et Développement, Brittany, France, and a Member of ICSF, appeared in *SAMUDRA Report* No. 49, March 2008

After the creation of the natural reserves in the 1950s, the scientists who were part of SEPNB/Bretagne Vivante, an influential non-governmental organization (NGO), carried the action further. The *Parc naturel régional d'Armorique* (including the main islands of the Iroise Sea) was established in 1969. Breton scientists played an important role in defining the framework, rules and agendas of that type of institutions.

The aim was to couple protection of the environment with development of ecofriendly economic activities, and to base economic development on the wealth and quality of natural spaces. Faced with the repeated catastrophes of large-scale oil spills, politicians, fishermen and the population in general realized that the marine environment needed protection. These adverse circumstances favoured a degree of concertation, but the government was determined to retain full control of the sea, all the more so as this area includes major components of national defence. In 1989, when the government picked up from scientists the idea of creating a national marine park, many stakeholders remained cautious, in particular fishermen who feared the imposition of no-take areas.

In the early 1990s, the fisheries in Brittany were in deep crisis. In 1993 and 1994, there were violent demonstrations. In those hectic days, the fishermen viewed the park project as a credible tool for mitigating the decline of their fisheries and leading to a better future. Before participating for good in the project, they, however, put forward some conditions. In November 2000, the regional fisheries committee and the local committees affected by the project (Nord-Finistère, Audierne, Douarnenez, Le Guilvinec) declared that they were in favour of the marine park. "Since September 2000, our Regional Committee has favourably and responsibly responded to the idea of creating a marine park, which could be an important tool for shaping the development of the area. At the same time, we express a

few reservations: we are against planning beforehand, no-take zones; and we insist on proper representation of fishermen, with full respect for our right to participate in fisheries management in accordance with current legislation", they said. Fishermen are keen to participate in the "sustainable management of an exceptionally rich environment/heritage".

Fishermen realize that the coastal area is increasingly threatened by pollution from various sources, that the inshore zone is getting more and more crowded, and that their fishing enterprises are destabilized because of high competition for the resource.

Appropriate tool

"We are convinced that, in order to improve the management of our marine territory, there is need for an appropriate tool that is acceptable to all stakeholders. In our view, the proposed marine park could develop into a pilot scheme to ensure a sustainable joint management of the coastal area, taking into account the interests of all users," they say.

Fishermen have called on local council leaders to support the project. With this in mind, they became the most ardent supporters of the park. To move things forward, legislation on natural parks—which focused essentially on terrestrial areas and conservation of spaces and species—had to be amended. The Act creating marine parks as such is based on an integrated approach that cares for the twin objectives of conservation and sustainable development of human activities. This new legal framework guarantees that power remains in the hands of local actors (elected leaders, professional organizations and associations). While financing the structure, the State will, however, have a minority representation within the management committee.


Through their involvement in the process, fishermen were able to shape the project and turn it into a potentially effective

instrument for maintaining and even developing ecofriendly fisheries. The park will also facilitate co-operation with other stakeholders and a better control, at source, of the various types of pollution that threaten the quality of inshore waters. By fighting to retain their place and rights within the park, the fishermen, though few in number, were able to assert themselves as major actors in the management of the coastal area. This may explain, in part, the aggressiveness and resistance of recreational fishers, who fear the introduction of more constraining rules. These users were adamantly opposed to the project, and were able to influence a number of mayors who wavered in their attitude to the project.

Finally, after many mishaps, thanks to the political will at the top level, and the determination of the fishermen and other activists, the Iroise Marine Park came into being. Even before its official establishment, in order to demonstrate the interest and objectives of the new management tool, the fishermen asked for the implementation of the following four projects: (1) A study of the impact of seaweed extraction was conducted. (2) On one island, support was given to an abalone diving project, to prove that rehabilitation of insular activities is also a priority. (3) A rehabilitation project was undertaken on the fishery for lobster, a resource that used to be in abundance in the area. (4) An action plan is being implemented, in concert with farmers, to reduce the occurrence of green seaweed bloom.

These project agendas will form the outline for the future master plan for the marine park and its specific targets. There is need to control certain practices, and to limit conflicts between types of boats/fishing techniques (*métiers*). These ideas are not new, but the park can provide financing and offer a forum for consultation and scientific advice. It is also possible to envisage a label for products originating in the park.

Fishing is only one of the many and varied activities included in the integrated management plan for the park. From an economic point of view, it is well behind tourism and recreational boating, for instance. But it is the first sector to suffer the impacts of land-based pollution (from agriculture, industry, tourism, urban development), and the one particularly sensitive to the quality of the marine ecosystem. In the past, lobster and sardine stocks supported brisk economic activities in Iroise, but have now dwindled due to overexploitation. Within the park's framework, fishermen are determined to rehabilitate these resources and to be at the heart of the conservation and rehabilitation process of the inshore ecosystem. In the beginning, the park was the brainchild of a few scientists and political leaders. The fishermen have now converted it into a new tool for moving towards sustainable fisheries. Without their assent, the project could not have been carried forward; with their participation, the integrated management approach attains its full meaning.

“The professional organizations of fishermen and seaweed gatherers (*goémoniers*) were instrumental in getting the project out of a dead end, supporting it against all odds in critical situations”, Van Tilbeurgh Véronique writes in *La mer d'Iroise, négociations sur le principe de protection*. They are the most vocal in asking for a mitigation of the negative impacts of certain land-based and coastal activities. In so doing, they put forward the notion of *pays maritime*, where terrestrial operators have to discipline themselves to preserve the marine environment. The Iroise Marine Park may serve as a model for other initiatives of the same type. 

Also online at:

<http://www.icsf.net/SU/Sam/EN/49/art08.pdf>

Reserved Parking
Marine Reserves and Small-scale Fishing Communities:
A collection of articles from *SAMUDRA Report*

SAMUDRA Dossier

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Reserved Parking

Marine Reserves and Small-scale Fishing Communities: A collection of articles from *SAMUDRA Report*

As the earth's resources continue to face increasing pressure from a variety of human and natural causes, protection of the environment and biodiversity is a matter of contemporary concern. The conservation of coastal and marine resources, in particular, has become a priority for countries around the world. In this context, marine protected areas (MPAs) are being widely promoted as one of the most effective tools for the conservation of coastal and marine resources.

Most MPAs are located in coastal areas of great biodiversity, and hence their development has direct impacts on the lives and livelihoods of coastal communities, especially small-scale and traditional fishing communities. Typically, they are the ones who have to bear the costs of conservation practices—lost livelihood options, expulsion from traditional fishing grounds and living spaces, and violation of human/community rights, to name a few.

The articles in this dossier, drawn chronologically from the pages of *SAMUDRA Report*, the triannual publication of ICSF, draw attention to these issues. They show that conservation and livelihoods are closely intertwined, and that top-down, non-participatory models of conservation can be counter-productive. Despite being poor and powerless, fishing and coastal communities can be powerful allies in conservation efforts, given their longstanding dependence on natural resources and their traditional ecological knowledge systems. As the examples in this dossier reveal, it is possible for fishing communities to protect and conserve the environment, while continuing with sustainable fishing operations. Clearly, only an integrated approach to fisheries management and conservation will prove successful.

This dossier will be useful for policymakers, social scientists, non-governmental organizations and others interested in fisheries, conservation, communities and livelihoods.



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

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