

# Reflections on Community Based Coastal Resources Management (CB-CRM) in the Philippines and South-East Asia

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## Fisheries in South-East Asia

Fish is an important commodity globally. The world's fisheries produce approximately \$120 billion per year. Fishery products are also heavily traded on the international market with an estimated trade value of \$58 billion annually. Developing countries account for 50 per cent of the total volume of this traded fish, but only a third in terms of value. Much of the fish is traded as fishmeal or fish-oil. Fishery products represent the single biggest food item from which developing countries earn their export income (FAO SOFI 2005).

The fisheries sector is also domestically very important in developing countries. Consumption levels are typically 3-4 times higher compared to developed countries, and almost 500 million people find direct and indirect employment in the sector. Yet, 95 per cent of the labour force survives on \$2 per day or less (World Bank, 2004). For some 2.6 billion people, fish provides at least 20 per cent of the per capita protein consumption (Kelleher and Weber, 2006). In comparative terms, the total value of marine and coastal ecosystems to human welfare is about double that of terrestrial ecosystems (FAO, 2001).

In South-East Asia, there are an estimated 12-20 million fishers; almost all are small scale, artisanal fishers (1 million fishers are connected to commercial fisheries). The region produces over \$11 billion in fishery products, and earns around \$7 billion from fishery exports. That contribution to the economy is higher than rice, coffee, sugar, tea, and bananas combined. (SEAFDEC 2001)

In South-East Asia, small-scale fisheries contribute to domestic food security, provide employment especially in rural areas and generate export income; roughly, 15 per cent of the people depend on fishing as a significant source of income. The average per capita food-fish supply in ASEAN countries in 1997 was estimated at 22.9 kilos, with the average contribution of fish to animal protein intake estimated at 45 per cent. More than 300 million people in the region depend significantly on fish as a source of protein (SEAFDEC 2001).

Yet, fisheries management is very weak. Resource use conflicts between small-scale fishers and commercial fleets abound. Illegal and unreported fishing is estimated to be 15 per cent of total catch volume. Indonesia, Cambodia, and Viet Nam allow foreign fleets to have access to their fishery resources. Over the past 40 years, standing fish stocks in South-East Asia have been reduced to less than a fourth of their former levels (Pauly *et al.* 2002, Pauly *et al.* 2005).

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## **Declining fisheries resources in the Philippines**

The Philippines is home to some of the most diverse and rich coastal ecosystems. Fisheries have traditionally been a major livelihood in coastal rural areas. The country now has approximately 1-2 million fishers (those who fully or partially fish for income or food), and possibly a similar number of people who directly derive livelihood and income through processing and trading (Tambuyog, personal communication). The value to the national economy typically hovers around 5 per cent of GDP (BFAR 2003).

Only decades ago, one needed merely to 'push a bucket through the water to catch enough for a meal' (quote from a fisher in Batangas province). However, since then the fishery has gradually declined into a meagre and difficult livelihood. Approximately 80 per cent of the small-scale fishers live below poverty thresholds (Green *et al.*, 2003). Yet, at the same time, fisheries also provided a 'last resort' to those who encountered difficulties in land-based livelihoods. Disappearing fish and yet more fishers: this phenomenon is known as the 'tragedy of the commons' in fisheries literature (Pauly and Chua 1988, Pauly 1990).

During the 1960s, the emphasis in development and policy interventions was on increasing catches through improved technology. This was also the time when fisheries policies were in place facilitating and accelerating the development of large-scale extractive industry (ADB 2006). The typical small-scale fisher, with a 3-6 metre boat, with or without a small outboard engine, became marginalised and faced increasing competition for smaller and smaller amounts of fish.

During the 1980s and 1990s, new ideas were developed that looked at controlling fisheries and managing the fishery resource for optimal or maximum sustainable levels. Restrictions were put in place in the form of licenses and permits. Unfortunately, much was lacking in implementation. Development efforts focused, largely, on the capacity of governments to implement their policies (ADB 2006).

## **Community Based Coastal Resource Management (CB-CRM) in the Philippines**

During this time, several universities and non-government agencies started to look at issues of access and control over fishing grounds. They highlighted the fact that encroachment of large-scale fisheries was, in effect, marginalising the small-scale sector, and that local fishing communities could very well have essential capacities and skills to manage coastal fisheries. In some pilot areas, a start was made in organising and training fisher folk for management tasks and, at the same time, advocating openness in government for devolving some of its management mandates to such communities. Community Based Coastal Resource Management (CB-CRM) was born (Christie and White 1997, White *et al.* 2005, Pomeroy 1994, van Mulekom 1999, Ferrer *et al.* 2001). In essence, this approach to fisheries development focused on localising fisheries management and giving fishers themselves a decision-making role in fisheries management. In virtually all projects, this aim was pursued through organising fishing communities, training them, assisting in ecosystem restoration, and seeking entry points into management tasks through fisher-based patrolling and monitoring (van Mulekom 1997, see Table 1). Many projects were implemented, and initial successes were frequently reported in terms of fish stocks and catch volumes increasing (Pomeroy *et al.* 1996, Alcalá 1988, White 1988, Pomeroy and Carlos 1997, White *et al.* 1994).

**Table 1: Diversity in CB-CRM projects in the Philippines based on 68 projects implemented between 1984-1994 in the Philippines (adapted from van Mulekom 1997; data source: Pomeroy and Carlos 1997).**

Sequence of strategies in CB-CRM projects				Leading institution
CO	ETSD	RES	RMP	NGO
CO	RMP	RMI	RAM	NGO
CO	ETSD/RES	RMP	RMI	NGO
CO	RMP	ETSD	RMI	NGO
RMI	CO/ETSD	RES/RMP	-	NGO
CO/ETSD	RMI	RMP	-	NGO
CO	RMI	RAM	ETSD	GOV
CO/RES	RAM	RMI	-	ACA
CO/RES/ETSD	RMI	RAM	-	ACA
CO/RES	ETSD	RAM	RMP	ACA
CO/RES/RAM	ETSD	RMP	-	GOV
RES/RAM	CO	ETSD	RMI	ACA
RES/RMP	RMI	ETSD	RAM	GOV/ACA

Legend: CO = community organising  
 RES = research  
 RMP = resource management planning  
 RMI = resource management implementation  
 RAM = resource assessment and monitoring  
 ETSD = education and training  
 NGO = non government organisation  
 GOV = government agency  
 ACA = academe/university

With significant support from a wide range of development organisations, including Oxfam GB and Oxfam Novib, the approach gained ground and wider application. Gradually, particularly during the 1990s, the concept ‘community-based’ gained ground and became an integral part of the intentions of government and international donor communities alike (PRIMEX-OAFIC 2002). With financial support from agencies like the World Bank and the Asian Development Bank, CB-CRM development became a cornerstone of official policy, and examples already provided by NGOs (often in small remote villages) provided useful learning for officials (ADB 1993, Roldan and Sievert 1993). Fisher folk themselves were mobilised, and, under the impetus of NGOs, starting forming countrywide movements. Most notable among these movements, the fisher folk association ‘Kilusang Mangingisda’ developed (with Oxfam support) into what is now a nation-wide federation of approximately 400,000 members.

All these efforts at organising, implementation, and advocacy led to an environment in which a substantial revision of national policies became politically feasible. The main fisheries laws in the Philippines, at the time, prescribed a fisheries management system that was highly centralised and based on the maximising catch-volumes. It did specify preferential access rights to small-scale fishers in waters just offshore. But all decisions regarding the allocation of fishing rights, the use of equipment and technology, the management of catch levels and ecosystem quality were all given to specific government departments. Provinces, municipalities, and fishers themselves, had no significant rights in fisheries management.

Under inspiring leadership, especially of those NGOs supported by the Oxfam’s (van Mulekom 1997), the national government revised the fisheries law. In 1996, it started to put provisions in place that specifically mandated municipal jurisdiction over municipal fishing grounds and created municipal councils in which government agencies and fisher folk representatives now discuss and agree on local fisheries management provisions (van Mulekom 1997, 1999). By changing the fisheries law in 1998, localised Fisheries and Aquatic Resource Management Councils (FARMCs) became mandatory

structures. In these councils, fisher representatives, local government officials, representatives from national line agencies (on environment and on fisheries), the private sector, and NGOs come together to discuss, review, and agree on local fisheries policies. Small and large fishers (if present) together hold, by law, at least 50 per cent of the membership of such councils. In 2003, a total of 94 per cent of all coastal municipalities and cities had an M/CFARMC, and 67 per cent of coastal villages had a BFARMC (Grutas, 2003).

With such FARMCs in place, the main proposition of CB-CRM projects, namely that fishers themselves should have active decision-making powers in fisheries management, is significantly closer to reality.

The national agency responsible for fisheries in the Philippines is the Bureau of Fisheries and Aquatic Resources (BFAR), a line agency under the Department of Agriculture (DA). BFAR has a national office and regional offices in the sixteen geographic regions of the country. BFAR was integrated into the DA as a staff bureau (an agency providing advisory services on fisheries matters) in 1986. However, the Local Government Code (Republic Act 7160, 1991) brought about devolution of authority over fisheries matters to Local Government Units (LGUs). According to the Local Government Code, the LGU has the exclusive authority to grant fishery privileges (for oyster, mussel and other aquatic beds, milkfish fry areas and the issuance of licenses for fishing vessels of 3 gross tons or less) and impose rentals, fees or charges without the permission from any national agency (Republic Act 7160, 1991). In 1998, BFAR was reconstituted as a line bureau (an agency implementing fisheries policies and projects) under the DA through the passage of the Philippine Fisheries Code of 1998 (Republic Act 8550, 1998). The Fisheries code proposed some new concepts, including the limitation of access to the fishery based on scientific decision, integrated management consistent with inter-LGU co-operation as articulated in the Local Government Code, and enhanced and institutionalised participation of the community in fisheries management through the establishment of Fisheries and Aquatic Resource Management Councils (FARMCs).

Four major laws have governed fisheries management in the Philippines from the 1930s to the present: Act 4003 (1932), PD 704 (1975), the Local Government Code (Republic Act 7160, 1991), and the Fisheries Code (Republic Act 8550, 1998). These laws show a distinct devolution of management from central government to local levels of government (DENR-BFAR-DILG, 2001). The more recent of these laws are described in some detail below.

The Local Government Code (Republic Act 7160, 1991) provides for genuine devolution of authority to local governments in fisheries management. The Code states that the municipality has the exclusive authority to grant fishery privileges and impose rentals, fees, or charges without approval or permission from any national agency. Such fishing privileges over fish corrals, oyster, mussel and other aquatic beds, milkfish fry, and fry of other species, and fishing with boats of 3 gross tons or less.

The Code also states that LGUs 'shall share with the National Government the responsibility in the management and maintenance of ecological balance within their territorial jurisdiction subject to the provisions of this code and national policies'.

The Fisheries Code (Republic Act 8550, 1998) reiterated or improved the provisions of existing fishery laws and proposed new concepts, including: (a) limitation of access using scientifically determined procedures; (b) integrated management consistent with inter-LGU cooperation as articulated in the Local Government Code; and (c) enhanced and institutionalised participation by the community through the various levels of Fisheries and Aquatic Resource Management Councils (FARMCs). The Fisheries Code clarified issues pertaining to the extent of jurisdiction of LGUs in municipal waters and the operation of commercial fishing vessels therein. A key result of the passage of the Fisheries Code was the recognition of active participation of local fisher folk and coastal communities by stating that the establishment of Municipal FARMCs (MFARMCs) is obligatory 'FARMCs shall be established in the national level and in all municipalities abutting municipal waters. The FARMCs shall be formed by fisher folk organisations/co-operatives and NGOs in the locality and be assisted by the LGUs and other government entities'.

FARMCs provide the framework for the various stakeholders within the fisheries sector in the Philippines to participate in policy formulation and the planning and implementation of fisheries programmes. FARMCs were created in 1995 through Executive Order No. 240 and amended through the Philippine Fisheries Code of 1998 (Republic Act No. 8550, 1998) and Fisheries Administrative Order No. 196 (January 2000). The law mandates the creation of the national and municipal FARMCs to institutionalise the major role of fisher folk and other resource users in the planning and formulation of sustainable development of fisheries resources. FARMCs were established to enable fisher folk to take an active role in the development, management and conservation of local fisheries resources. The council also provides a venue to raise fishery related issues, discuss problems and recommend solutions that could eventually be adapted into legislative agenda. The FARMC is a multi-sectoral body of fisher folk representatives from municipal and commercial fisheries, 'fish workers' (casual or long term employee in the fishing industry), representatives from NGOs and the private sector, representatives from the LGU (planning and development officer, chairperson of the Agriculture and Fisheries Committee of the Sangguniang Bayan (municipal legislative body) and a representative from the DA/BFAR.

At the national level, the National FARMC is an advisory body to the Department of Agriculture in the formulation of national policies for the protection, management and sustainable development of fisheries in the Philippines. Municipal/City/Integrated (for management of contiguous water bodies where more than one municipality is involved in management) FARMCs (M/C/IFARMCs) act as advisory bodies to LGUs, assisting in management of local fisheries resources. Barangay FARMCs (BFARMCs) also exist in some barangays.

Source: Stream, 2004

## Intended and unintended effects of CB-CRM

Since the enactment of the new fisheries law in the Philippines, the municipal fisheries industry has seen a halt to its decline, and in some areas, a small revival (BFAR 2003). Figure 1 below illustrates this in terms of catch volumes.

Catches went up, the encroachment of large commercial vessels close to the coast diminished, and the decrease in healthy mangrove habitats was halted. In some areas, the local small-scale fishery became so productive again that it seems clear that small fishers got more fish from the improved fisheries management. But they also encountered new and unanticipated problems.

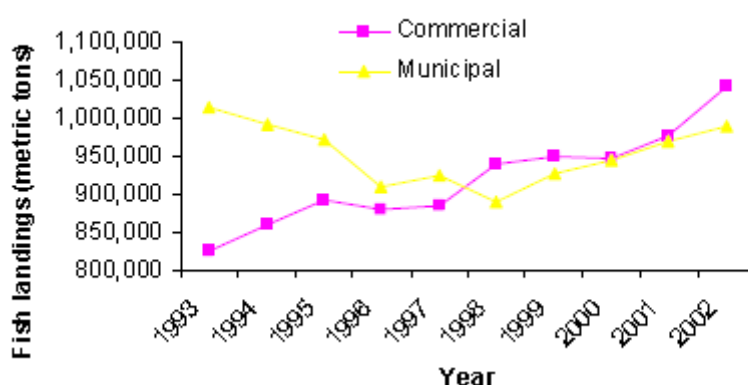


Figure 1: Fish landings from 1993 to 2002 in Philippine ports (BFAR 2003).

In one well-documented example, catches and incomes doubled within the three years after resource management implementation (Heinen and Laranjo in Ferrer and de la Cruz, 2001). But this led to pressure from neighbouring communities seeking access to the restored ecosystem. In order to prevent this situation, a project will need to become effective beyond the community of prime beneficiaries alone (Heinen 2006).

In another case, (Tambuyog, 1999, unpublished) precise estimates have been made of the extent to which CB-CRM represents an economic return for a valuable resource. In one place with 75 fishers (those who own or operate a boat), the total value of the resource amounted to 7 million PhP/year, caught at a net benefit of 50 PhP/hour (total fishing-related labour; 50PhP = \$1), of which 20 per cent was derived from catches outside the 'CB-CRM area'. Such data make very clear the extent to which a community depends on policies made around access to and control of what are, for them, such vital natural resources. Communities can also be affected by policies on fisheries that are not directly aimed at resource control. As an example from the same community: a provincial government policy dictated that selling should take place at a newly developed fish-landing site (30 km away) which was calculated as costing the community 3 per cent of their net benefits and 3-4000 hours of extra work in transport and marketing. It is an example of how seemingly quite unrelated aspects can make a difference for fishers income-earning capabilities.

In a third well-documented case study, increases in income were achieved through increased opportunities to develop non-fishery related supplemental activities rather than through extra fishing. Benefits appear to have been translated into perceived improvements in social well being in the community including a sense of control over basic resources, self-confidence, and improved access to information (van Mulekom and Tria 1999, Table 2). Also, in this particular place, sharks (sic!) became the most serious competitors for fish; they had come back to the coastal fishing grounds and were entering standing nets for easy food (personal observation).

Table 2: Some basic parameters describing effects of CB-CRM on project participants and the wider fishing community (van Mulekom and Tria 1999)

Parameter	1994 (all, average) (N=147)	1998 (participants) (N= 50)	1998 (non-participants) (N=25)
per cent fishing year-round	82	92	72
Catch/boat/trip (kg)	10.8	10-13	10-13
Total income per hh/month (fish+non-fish) (PhP)	3551	7500	5200
per cent with additional non-fishing income	43	82	40
per cent relying on remittances (income from elsewhere)	28	28	54
Opinion: fishers should lead fisheries management	74%	86%	48%
Opinion: have influence over fisheries management	69%	82%	44%
Attend meetings and trainings	65%	86%	20%
Opinion: satisfied with regular buyer of catch	65%	78%	38%
Opinion: satisfied with market arrangements	36%	50%	8%
Opinion: fisher has influence over selling price	13%	18%	4%
<b>Rating questions: measuring perceived benefits of CB-CRM (score 0-5)</b>			
Influence in fisheries management		4.1	1.9
Influence in general affairs		3.6	1.6
Satisfied with fish sanctuary		3.9	2.7
Satisfied with restriction zone (limited fishing)		3.7	2.4
Satisfied with mangrove reforestation		2.1	1.2
Perceived benefits of these 3 projects		3.4	0.8
Progress in household		1.4	0

wellbeing			
Community wellbeing		2.9	1.8
Perceived compliance with fishery rules		3.4	1.6
Improved information exchange		4.4	3.0

From some other towns reports of unsold (and thus spoilt) catch surfaced where marketing channels were not able to absorb higher catch volumes (Tambuyog, personal communication).

## Assessing the actual impact of CB-CRM

After many years and many projects, it is actually not altogether clear whether CB-CRM has helped to increase the livelihood prospects and incomes of small fisher-folk as a sector at large (Green *et al.* 2003, Formilleza and Nightingale 2003, ADB 2006). Sector-wide evaluations generally conclude that most projects appear to have been too small in size to generate sustained improvements in fisheries-related incomes. Initial gains in quality and quantity of the catch seem to have dissipated over time. As the quality of coastal ecosystems improves, and fish becomes more abundant, new fishers are attracted to the fishing grounds.

The local fishers face increasing competition, in markets, with imports from abroad (Developers Foundation 2001, SEAFish for Justice 2005). Anecdotal data (Balota and Tanyang 2003, Jacinto *et al.* 2003) suggest that costs of fishing go up while domestic market prices for catch remained stable. It is only in export-oriented fisheries that somewhat better prices and increased job opportunities are found (Kurien 2005).

Moreover, the approach is not without its governance problems. The decentralisation of fisheries management in the Philippines has led to a situation in which more than 800 autonomous entities manage the fishery, and, arguably, the majority of these are still struggling to do so effectively (PRIMEX-OAFIC 2002).

Nevertheless, Pomeroy and Ahmed (2006), in a report summarising CB-CRM experiences from various countries in South-East Asia, make the case that the success of CB-CRM should really be measured by its intended beneficiaries. Project objectives like 'more income' or 'more fish' have usually been set by those who develop a project. Yet, participatory and community-oriented approaches were developed to ensure capacity building and empowerment among the beneficiaries. CB-CRM was, in essence, about achieving a greater measure of fisher folk control over fisheries management. Using social science methodology and participatory assessment tools, these authors conclude that CB-CRM can often be considered successful even if immediate tangible objectives have not been achieved. Benefits expressed by fishers themselves often include a sense of empowerment, functioning organisations, information, and a sense of control over rules and regulations that affect their livelihood (Pomeroy and Ahmed 2006).

The approach has now started to spread all-over South-East Asia. Governments in Indonesia, Thailand, and Cambodia have started to use CB-CRM 'language' in policies and practices (ADB 2006). Only a few years ago, for example, Cambodian fisheries (inland) had a major legal overhaul that brought community ownership over fishing concessions back to the fore (Bush and Le Minh 2005). In Thailand and Indonesia, government fisheries extension services have increasingly started using fisher folk communities (often organised by NGOs) as partners in dialogue.

## Post CB-CRM: new threats, new debates

On the foundation of existing CB-CRM policies in the region, NGOs working on fisheries issues have become more active on advocacy related to trade and competition-related concerns. Prompted by the 'Doha Development Round' of the WTO, South-East Asian NGOs and Oxfam's cooperated in the

creation of a regional network to formulate an international advocacy policy towards WTO and ASEAN members (South-East Asian Fisheries Network for Justice or SEAFish for Justice).

The regional network is calling for the WTO not to liberalise fisheries trade, at least not until the small-scale sector in developing countries like the Philippines is ready for it. They are also advocating removing fisheries' subsidies in northern countries, while allowing developing countries to build up (with subsidies) the economic resilience of their own small-scale sector (SEAFish for Justice 2005).

The call to regulate fisheries subsidies in the WTO has also been made by organisations like WWF (Schorr 2004) and UNEP, albeit with less emphasis on the position of the small-scale sector vis-à-vis international trade. The WTO currently has draft agreements in place to limit subsidies in the 'north' while providing space for subsidies in the 'south'. Paragraphs in submissions to the WTO from six countries (Pakistan, India, Brazil, Argentina, Philippines, Indonesia; see <http://www.trade-environment.org/page/theme/tewto/para28.htm>) refer directly to the position of small and artisanal fishers in 'southern' economies. Unfortunately, the second SEAFish call to keep certain trade barriers (on fish imports into the 'south') in place looks so far less successful.

Equally worrying is the increasing motivation among governments in the south to develop valuable (in cash earnings) export-oriented (foreign exchange generating) industries in coastal areas. Economic activities with the highest potential to generate foreign exchange incomes (aquaculture, tourism) come with serious threats to the sustained health of coastal ecosystems. In particular, the threat to fisheries resources coming from large-scale aquaculture developments has increased (van Mulekom *et al.* 2006). Over the past decades, aquaculture development in South-East Asia has expanded by an average of 9 per cent per year, and millions of hectares of healthy coastal habitats are, again, under threat of conversion into large and unsustainable monoculture ponds. Comparing actual gains with associated costs, this industry is possibly costing the region billions of dollars more than it delivers.

And so, millions and millions of small-scale fisher folk continue to fight for their livelihoods. While they have gained influence over fisheries management, and still fight the 'tragedy of the commons', small-scale fisher folk are now also increasingly drawn into the battle over the market place and economic liberalisation.

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