

STREAM



Support to Regional Aquatic Resources Management

STREAM Journal

Learning and communicating about the livelihoods of fishers and farmers

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Note

In some way, each of the articles in this number of the *SJ* is about groups. In Indonesia, seaweed farmers have come together in a group to work toward changes in people's attitudes and practices, and a private company shows how valuable it is to become involved in a community. In Vietnam, a Self-Help Group (SHG) formed after learning from STREAM Better-Practice Guidelines. Members of the group also demonstrated resilience to their vulnerabilities from a storm and determination to succeed despite community pressure.

From India, we read about how the nature of conflict changed as the result of redrawing political boundaries, and how SHGs may help in resolving inter- and intra-group issues. From an experience in Pakistan, we learn about a community that has not formed itself into these sorts of groups, and yet have benefited from the interest and involvement of a prosperous businessman. As part of a national policy development process, women in the Pakistani community remind us that their livelihoods constraints are not only about fish, but also concern education, health and money.

In the Philippines, efforts are being made to engage communities in all levels of decision-making and action about the coastal resources on which they depend for their livelihoods. This involves organizations, alliances and partnerships that "bring out the best" in each stakeholder. And finally, from work across Africa and Asia, new Guidelines on information sharing in co-management addresses the relationships among stakeholders, their information needs and the communication channels that exist among them.

Happy reading!

Graham Haylor, STREAM Director
William Savage, *STREAM Journal* Editor

Seaweed Culture and Farmer Incomes in Bekasi, Indonesia

A Mauksit L Maala and Aniza Suspita

Livelihoods and Problems of Sembilangan Villagers

Sembilangan Village is situated in the northern part of Bekasi District, not far from Jakarta. The villagers earn a living from the sea or through brackish-water pond culture, especially the raising of milkfish. In the early 1990s, village pond owners enjoyed the golden age of tiger prawn culture, with harvest levels of two tons per hectare using traditional methods. However, in following years, prawn culture went downhill and farmers suffered failure after failure, up to the present time. The main reason for these failures is the location of this village, which is bordered by rivers that are polluted by industrial waste and sometimes by discharges from an electricity plant. Water quality is poor, and the black silt smells of ammonia and stings the nostrils. These conditions are not suitable for tiger prawn culture. The ponds owners were quite aware of environmental issues and had preserved or in some cases even planted mangrove trees all around their ponds.

Incomes from the ponds were not predictable. With poor water quality and limited capital, sometimes they never even fed the milkfish they stocked in the ponds. Only a few growers still tried feeding the fish with pellets on a daily basis. Many of them had to borrow from middlemen (*tengkulak*) and other money-lenders, using the ponds themselves as collateral. At harvest all their profit went to repay the loan capital and they were still left saddled with interest repayments. Sometimes it would take years to repay in full and regain the title deeds to their ponds. But more often in the end they would lose ownership of their ponds through inability to repay in full. This situation continued for years until eventually one of the pond owners met the seaweed culture company.

Introducing Seaweed Culture

The company introduced the pond owners to a new way of working, where seaweed culture was combined with prawn and milkfish culture in the same pond. With simple technology which they could readily understand, the pond owners were attracted to this form of aquaculture. However, at the beginning, not all succeeded in line with their hopes and expectations. The company invested money to seed the ponds with seaweed of *Gracilaria* sp. once the ponds had been surveyed for suitability.



Farmers work together to get the seed of *Gracilaria* sp.

Out of around 20 hectares which were sown, only ten hectares produced seaweed with good growth rates. Apart from a number of technical problems with the ponds, the main factor was the human element.

Changing Attitudes for Better Livelihoods

Some pond owners were not sufficiently motivated to do things which they should have done, such as water exchange with each rise and fall of the tide. It was hard to supervise their work, because as owners they felt that they could do whatever they wanted with their own ponds. For example, there was a case where the milkfish were harvested by draining the water without telling the company field staff, and the seaweed was left to dry and die in the sun for two days. With such ingrained attitudes, based on long experience of working without any rules or guidelines, to change the way of thinking and attitudes toward their work was not easy and did

not happen overnight. Such changes needed time and required much patience and consistent effort from the company.

The company tried to understand the characteristics of the people, and gradually become part of the community, by living on-site and mixing with them. With this approach, interaction and communication with the villagers became more intensive, and the pond owners began to understand how to organize their work with better planning and to follow guidelines. Tirelessly, the field staff used every meeting as an opportunity to generate enthusiasm for culturing seaweed and to give technical advice and assistance.

A Seaweed Farmer Group

Initially the company regularly visited and engaged in dialogue with the pond owners, through a person-to-person approach. As the number of growers gradually increased, all parties agreed that the formation of a group was needed to facilitate communication and spread information to all growers. This group was established with a proper structure, which included a Head, a Secretary, a Treasurer, and a number of section heads. The group's establishment made it easier for the company to give advice and assistance on technical matters and basic management practices such as record-keeping in the form of a journal, basic accountancy and bookkeeping, business planning, budgeting and people management.



*Seaweed farmers group
(Mr Mauksit standing third from right)*

The group is now starting to take the initiative to provide assistance and advice to pond owners. The frequency of meetings between group leaders and members is increasing. The group has begun to handle the supply of various basics such as fertilizer, technical advice and financial matters. In addition, the group is handling seeding through to drying and packing, and offering opportunities for unemployed youths and women in the sorting process. The company has also started delegating quality control to the group.

And the Significant Changes Are ...

The coming of seaweed has started to change the face of Sembilangan Village. Now the pond owners receive a regular additional income every two months from the sale of the dried seaweed harvest, in addition to income from milkfish culture which benefits from increased productivity due to the seaweed culture. Even better, now the pond owners can once again have prawn harvests. Proof of success came in 2004 with the KBTT "Work Together" group winning first prize in the seaweed category of the national aquaculture competition held by the Marine and Fisheries Department.

Without strong motivation to progress and learn it is difficult to raise economic livelihoods to a higher level. However, without intensive and long-term on-site advice and assistance, backed by moral support, guidance, management training and in-kind or cash inputs from the aquaculture company, a group will not be able to make progress. With support from the government in the form of infrastructure and facilities, the outcome will be improved, and can be further improved through revolving loans made directly to cultivators.

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Significant Change for a Self-Help Group

Nguyen Song Ha

Learning from a Better-Practice Guidelines

In June 2005, after a Better-Practice Guidelines (BPG) Workshop in Hanoi, Vietnam, discussions were held between STREAM Vietnam and Yen Mo District Youth Union (DYU) of Ninh Binh Province. Reading through the BPG on Self-Help Groups (developed by STREAM with DFID¹ support), the DYU leaders, Mr Vu Van Cung (First Secretary) and Mr Nguyen Van Viet (Second Secretary), were extremely happy. They selected Mr Minh, a radical young farmer of Trinh Nu village, as the contact person to set up the first Aquaculturist Self-Help Group (ASHG) in the district, and probably the first of its kind in the province.

The first ASHG in Ninh Binh, initially with six members, was not supported from the beginning. Last year, the commune authority did not allow individual farmers to transform crop land to fish ponds. Minh and his group members were patient. They understood the reversion of unproductive land to aquaculture farms has been adopted by the central government. In fact, they had acquired some fishing skills from childhood, but the production continuously decreased until recently. They expected that the commune officers would change the policy, and finally, their proposals were accepted.

Vulnerability from a Storm

The strong typhoon Damrey swept through the region in August 2005, inundating lots of aquaculture farms with brackish water. Villagers' paddy fields and ponds were threatened when the slim dyke was eroded intensively with river water. Minh reinforced the pond dyke, set up protecting nets and spread a thick layer of water hyacinth over the water surface. His own technique worked well: no fish escaped from his pond while almost every pond around his was broken.



Diu digging his pond in the rice field

Unluckily during the storm, Diu, another member, lost all the fish he had stocked in the rice field for two years, because of the weak defense against strong waves from the river close to his field. Many of these fish were big and could be sold at a good price. Although he was rather sad, confidence brought him hope. Technical information from STREAM Vietnam showed him how to properly improve his rice field for fish culture. He is now working hard on his own to renovate the field pond.

Enlarging and Expanding Self-Help Groups

Minh encouraged his neighbour, Pham The Tong, to join the group. Tong is an assertive 'better-off' farmer. Visiting some group members' ponds, he was impressed and asked Minh for

¹ Department for International Development of the United Kingdom

technical information. The 3,600 sq m paddy field was then deepened for fish culture and he started stocking from October 2005.



Tong's newly renovated ponds

Minh is a member of the Agricultural Cooperative of his village. On 19 December 2005, he represented ten neighboring households at a cooperative congress with more than two hundred participants. He persuaded the Cooperative Management Board to take action in organizing village farmers into Self-Help Groups. He explained to them the benefits of such groups, and suggested that agriculture land be demarcated for the specific purposes of group activities.

Disappointment, Discrimination and Determination

So far, more than twenty households have followed what Minh and his fellow group members have been doing. It is a complete change compared to two years ago, when Minh was rejected by some of his family members when he asked to borrow a few million dong (US\$ 100 is equivalent to approximately 1.6 million dong) to begin fish culture. His father-in-law even warned him of a “tragic failure” if he did not stop with that “foolish idea”. A brother promised to lend him ten million dong, but then changed his mind and always went out whenever Minh came to his house, simply because he was afraid Minh would not be able to reimburse him. Minh was really disappointed but was still determined to continue.

In September 2005, Minh set up a temporary cottage near his ponds so that care and protection were more convenient. Villagers told him not to do that, as the place of his cottage is often haunted with ghosts that may stunt his family’s health and prosperity. But Minh told them that he has never had an intention to do bad things, so his good will would be supported by the souls of his ancestors.

Now neighbors and relatives have turned from discrimination to admiration of Minh. Two more households (of Mr Nguyen Xuan Khang and Mr Le Viet Nam) requested Minh for membership in the Trinh Nu group. Instead of the sadness he used to experience two years back, today he confides that in the next two years, “achievements must come”. A smile of pride brightens his face. He has reason to be happy, because on 23 December 2005, the district government and youth union offered him an award for being a prominent young farmer, recognizing his excellent efforts.



Minh and food made with fish from his pond

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Conflict over Fishing in Jharkhand

Ashish Kumar

Reservoirs, Government Departments and Fishers

Jharkhand, the newly formed 28th state of India, is bestowed with many reservoirs, which comprise around 92,000 ha of water area. These reservoirs have been constructed for various purposes like irrigation, hydro-electricity and drinking water. Accordingly their ownership belongs to different departments of the government such as Irrigation, Minor Irrigation, Drinking Water and Sanitation, and Electricity. In these huge water bodies, fisheries activities were in operation about a decade ago when there was a separate wing for Reservoir Fisheries in the Department of Fisheries (DoF), which used to stock the reservoirs with advanced fingerlings and regulate fishing by fixing the nets and the royalties for fish.

The fishers belonged to Bihar, which is now a different state. Most of them were from northern Bihar and were so skilled that they undertook fishing operations in other states like Rajasthan, Uttar Pradesh and Madhya Pradesh, and still do today. They used to carry their nets and boats on trucks and then send the catch to the Varanasi wholesale market for dried fish. But after 1995 the activities of the Reservoir Fisheries wing of DoF stopped, along with stocking in the reservoirs. Fishing became free for all and local people took charge of affairs and started charging the fishers coming from northern Bihar huge sums of money for the fish harvested.

Gear, Decline and Conflict

The fishers were mostly using monofilament nylon nets, which proved dangerous as they fished out fingerlings and resulted in a decline in future stock. Thus lack of stocking, fishing during the breeding season, no regulation of mesh size, and entry of wild fish like Tilapia proved fatal for the reservoirs. The catch dropped from 100 to 5 kg/ha. The DoF could not control the over-fishing and also did not stock the reservoirs with proper-sized fingerlings of major carps.



Getalsud Reservoir, Ranchi District, Jharkhand

With the stock decline, the livelihoods of local people became more difficult. They had become fishers by working with the northern Bihar fishers. In the meantime, in 2001, Jharkhand became a separate state carved out of Bihar. This generated a strong

feeling of ownership of the natural resources among local fishing communities and the fishers from Bihar were not allowed to continue fishing in the reservoirs. This conflict resulted in uprooting the Biharis from the reservoirs of Jharkhand. Although it affected the quantity of catch, since the locals were neither well equipped nor as skilled, they still did not allow fishers from outside Jharkhand to engage in fishing.

Stocking, Social Affairs, Settling and Strong Men

At the same time, reservoirs in the new state received attention from the DoF authorities. Since 2003, regular stocking of advanced fingerlings has been conducted in selected reservoirs covering 20,000 ha. Fishing is still a social affair, so no one owns the reservoirs; they are free for all. Again in many reservoirs, local people are demanding their share of fish from the fishers and stopping them from fishing, thus again giving rise to conflict of another nature, where the fishers and the people are both local.

Some of the government parent departments are settling the reservoirs through open auction while many are still unconcerned about these affairs. The fishers – who are perceived to be poor and socially backward – hesitate to disobey the local strong men. When they come to DoF about lack of any regulation, the authorities find it difficult to address their problems. In many cases sufficient fish are there in the reservoirs or dams but no one can harvest them. A proper post-stocking policy is needed about who will regulate fishing and share distribution among the fishers, parent department and displaced persons, as these people have a strong claim since their land was submerged when the reservoir was constructed.



Bucha Opa Reservoir, Ranchi District, Jharkhand

Self-Help Groups and a Federation

From 2006, in addition to providing houses to them, the DoF has started organizing the fishers into Self-Help Groups (SHGs). Some financial help is being given as subsidies for purchasing crafts and gear. It is possible that these SHGs can think of negotiating with the locals and succeed in fishing in the reservoirs which they think should only belong to them as fishing is their traditional profession.

Another welcome development which recently took place in Jharkhand is the arrival of the National Fishermen Cooperative Federation Ltd (FISHCOPFED). The Federation intends to take leases of some large water bodies like Bundu Bara Bandh and Hazaribagh Jheel and organize fishers in cooperatives to undertake aquaculture in a modern way. They have already conducted a 15-day training program in Ranchi with 72 fishermen from Bokaro, Bundu, Getalsud, Hatia and Hazaribagh. As FISHCOPFED is a national-level body run under the Government of India to assist Fishermen Cooperative Societies all over the country, it may organize such fishers who are facing conflict in their own villages.

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Two Worlds Across a Highway

William Savage

Our cars turned off the national highway to the north toward what appeared to be a part of Lake Keenjhar near Thatta town in Sindh Province, about 85 km east of Karachi, Pakistan. We bumped over the dirt and rock track until we came to a stop in front of the only concrete building in a settlement of grass huts. We were shown into the meeting venue and sat down, with mostly elderly women then invited to join us, and soon surrounded by men and boys of all ages. Other younger women and girls stood behind. Our host, Mr Adam Gandro, a fishing community leader from the area, facilitated a session in which various of the older women in front of us began speaking of the problems they faced, as individuals and as residents of Chilya Village.

Mr Adam had been an active participant in our previous two days' stakeholder consultation meeting in Karachi, the first of two sessions in Sindh Province, with the other scheduled for the next day near Thatta town. We had come a day early to discuss with local colleagues the arrangements being made for the consultation and took the opportunity to meet with a group of women in Chilya. We were almost halfway through a series of provincial stakeholder consultations across the four provinces of Pakistan, and had not yet had many inputs from women. The purpose of the consultations was to seek stakeholder affirmation of the draft "National Policy Framework and Strategy for Fisheries and Aquaculture Development in Pakistan", following earlier community consultations – including with many of the same people in Chilya – and inputs from other stakeholders.



Back in the Chilya meeting, Mr Junaid Wattoo, my STREAM Pakistan colleague responsible for taking the consultation groups through the sections of the draft national policy, tried to ask questions of the women in a structured manner, and had limited success. With each query, the women continued calling out their issues. It seemed that there were no longer any fish in the lake, that they had no or little access to what was there, and even when they were caught, they were so few and small as to be worthless. Because of decreased catches from the lake, villagers had no alternatives but to resort to stone crushing which earned

marginal incomes for their families. Most of their comments had little to do with fish or the lake itself, but concerned schools, medical clinics, disease and money.

As we left the meeting venue, we were taken closer to the water's edge by one of the women who had spoken most. She wanted to show us the conditions in which she and her family lived, in a temporary grass shelter in which one of her woman relatives was sick with hepatitis. The ruins of her previous hut lay nearby where it had been destroyed by a storm.

We left Chilya and drove back to the highway, then down it a short piece and turned to the south, again traveling over a dirt and rock track, with – as was pointed out by my colleagues – a branch of the River Indus visible in the distance. We pulled up to a single concrete-block building, walked up to it, and saw just below that point an oasis of fish ponds constructed on the edge of a tank, with several other bodies of water located just over several bunds. This was the fish farm of a well-respected, influential businessman from Karachi, Mr Muhammad Alam, and his son, Nadeem. Mr Alam had also been an active participant in our earlier consultation in Karachi and had invited us to visit his farm while we were in the Chilya area, in particular because harvesting would be taking place. We saw water being pumped out of one large tank into a canal, as four

workers were netting it. Another worker showed us a large common carp of about 4 kg that had been caught.

The contrast between these two neighboring places could not have been more clear, nor more stark. I was immediately compelled to ask myself, not how these vast differences could exist, since reasons are well known why businessmen and villagers have such different experiences of life and their livelihoods. Rather the question which came to my mind was: What can possibly be done to close the gap between these two worlds



across a highway, a few kilometers or less away from each other?

In our Karachi consultations, Mr Alam had spoken passionately and forcefully to the group about the imperative to finally make policies and implement activities that would benefit poor people who fish. He himself has contributed personally to Chilya Village in several ways. He has paid license fees of Rs 1,000 for individuals to enable them to fish for one year and he employs men from the village on his fish farm. Over twenty years back, the Chilya government hatchery was unable to obtain broodstock to start its operations. Because he expects the hatchery to contribute to the betterment of the area, Mr Alam paid for fishermen to catch and provide the hatchery with over 1,000 kg of carp broodstock averaging 3-4 kg in size.

His relationship with Chilya started when the villagers helped him in their boats for angling and duck hunting on Keenjhar Lake. This friendship led to his constructing his fish farm nearby, his assistance to the villagers and supplying broodstock to the hatchery. On occasion he and his son spend weekends in Chilya, staying there, eating with their neighbors, at times attending their weddings and funerals.

Even though he's semi-retired, his mission is that, in the neglected coastal areas of Sindh where people are poorest, there should be small-scale fish and shrimp farming with minimum investments, under circumstances where farmers can afford most inputs. He also firmly believes that all public waters should be accessible to the people who live around them. His sincere efforts and practical experience were recognized in his appointment to the national task force that had commissioned the policy development process funded under the FAO Technical Cooperation Programme (TCP). Mr Alam himself talks about his transition from businessman, to fish farmer, to facilitator, to activist.

Is it a notion from another world to expect that the policy which results from the process – or future activities or projects – will have any impact at all on the women, girls, boys and men we met in Chilya? They certainly were knowledgeable, specific and vocal about what they saw as necessary to improve their lives, livelihoods and the lake itself.

The Government of Pakistan and FAO have put into practice a participatory process that sought to involve as wide a range of stakeholders as possible, with two rounds of consultations 'close' to people in communities and in some cases, actually with poor people and women. How will their voices be heard? How will their realities be understood and addressed? Among the participants in the consultations, Mr Alam was able, interested and willing to speak up for those not present. Short of having more poor people and women in the consultations themselves, or holding more sessions in places like Chilya, we need to be aware of who their advocates are among those with more prosperous experiences of life and with influence over decision-makers. Can they somehow be the activists who will work toward closing gaps even though they live in one world and not the other?

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Critical Steps in Preparing Coastal Communities for Effective Policy Changes

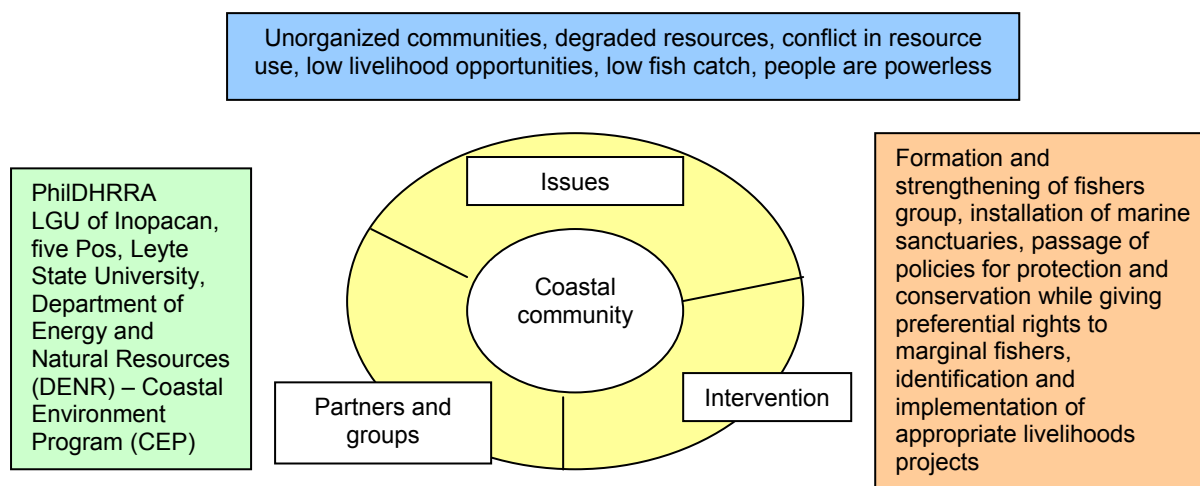
Josephine P Savaris

Six of the 12 major bays in the Philippines that have been declared as over-fished are found in the Visayas region. There has been widespread use of environmentally-harmful methods of catching fish such as dynamite, cyanide and locally-made poisonous substances, which are damaging fish habitats. These destructive practices have contributed greatly to the decline in fisheries productivity in the area.

Guided by the overall goal of achieving effective and efficient management of marine and coastal resources – while giving preferential treatment to marginalized fishers – the Philippine Partnership for the Development of Human Resources in Rural Areas (PhilDHRRRA) embarked on a pilot coastal resource management project in 1995 in the municipality of Inopacan, Leyte, in the Visayas.

PhilDHRRRA developed a framework (below) for the Tripartite Partnership for Marine and Aquatic Resource and Rural Development (TriMARRD) program that guided the implementers in project implementation and management. The framework highlights the importance of three sectors in society – NGOs, local government units (LGU) and people's organizations (POs) – working together to achieve the overall goal mentioned before. It likewise guided the groups in identifying key issues and concerns that became the basis for appropriate interventions in the area.

TriMARRD Framework as Applied in Inopacan, Leyte



Past experiences in managing coastal resources in a centralized manner proved to be ineffective since communities lose ownership and a sense of responsibility over their coastal areas. The failures showed that a better way of making coastal resource management more effective is by engaging local communities and other stakeholders in collective action and decision-making where they assume responsibility over management of local fisheries resources, their main source of livelihood.

Participatory Rural Appraisal

At the start of the integration phase, participatory rural appraisal was conducted to generate baseline information. The community was able to establish and analyze the status of their marine and coastal resources, as well as the economic, political and social situation of the community.

Building and Strengthening Fisher Organizations

Community Organizers were trained to work in their assigned villages. The presence of an organizer in the villages provided constant informal communication exchanges with fisher leaders, where local issues and concerns affecting fishers were discussed and addressed. Five fisher organizations were mobilized in 1996. These organizations underwent the process of organizational development (vision-mission goal setting, constitution and by-law formulation and elections) and education and capacity-building activities.

Strategic Alliance Building

The fisher communities in Inopacan established linkages with fisher organizations in five other nearby municipalities. They have affiliated with groups at provincial, regional and national levels. One of their leaders was chosen as the sectoral representative for Leyte and Samar provinces. During the consultations conducted for the passage of RA 8550² and in the recently concluded review process, the fisherfolk leaders from Inopacan actively participated, thereby improving their skills in policy and advocacy in the process.

NGO-LGU-PO Working in Synergy

The tripartite model was based on the premise that NGOs, LGUs and POs can work together as a team in reversing the degrading ecological, social and political situation. As an NGO, PhilDHERRA facilitated the formation of the five organizations, provided skills and knowledge needed by fishers, including the LGU officials, and the venue for the POs and LGU to partner. The PO, on the other hand, is the prime mover in the community. They mobilize their members on issues affecting them. What they learned from trainings are passed on and shared with other people in the community. The people examine their situation and at the same time identify solutions. They plan, negotiate and lobby with the *barangay*³ and municipal LGUs to support and respond to their needs. The municipal LGU has the necessary resources to sustain the development projects initiated by the NGOs through passage of policies and mechanisms to protect the fisheries-related activities of the communities. The roles of the three sectors converge in the tripartite model, bringing out the best of each.

Engagement and Active Participation in Governance

Direct involvement in the plans, programs, projects or other activities of the LGU is encouraged. The venue wherein people's participation can be maximized is through Local Special Bodies (LSB) such as the Local Development Councils (LDC), which is the planning and budgeting body at village and municipal levels.

The organized groups in Inopacan were accredited with the DOLE-BRW⁴. Six of the PO leaders were chosen as representatives to the Municipal Development Council (MDC) where the POs comprise 25% of the total membership. At the village level, the participation of the POs in the LDC resulted in the annual allocation of PhP150,000 (US\$ 2,727) to support marine development projects. The engagement and active participation in governance has facilitated the fisheries plan to be mainstreamed in the municipal LGU agenda, i.e., the strategic CLUP⁵ and MDP⁶ where Inopacan waters were delineated and declared a protected seascape. Four village-level ordinances and three municipal ordinances were passed to conserve and protect the coastal and marine resources.

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² Republic Act No 8550, otherwise known as the Fisheries Code of the Philippines 1998

³ Smallest geopolitical unit equivalent to a village

⁴ Department of Labor and Employment, Bureau of Rural Workers

⁵ Comprehensive Land Use Plan

⁶ Municipal Development Plan

New Guidelines on Data Collection and Information Sharing for Co-management

Charlotte Howard

Roles, Needs and Guidance

The increasing shift toward co-management has prompted fisheries managers to reflect on their new roles and reconsider their information requirements. There is much useful literature that can help guide co-managers in designing and implementing data collection programs. However, much of it has been written in the context of other sectors or with little emphasis on fisheries.

The Food and Agriculture Organization of the United Nations (FAO) are preparing to publish a new set of Guidelines that attempt to meet the growing need among co-managers for help in designing and implementing appropriate and cost-effective data collection programs or systems. The Guidelines represent the main output of two collaborative research projects funded under DFID's Fisheries Management Science Programme (FMSP) and involving MRAG, FAO, World Fish Centre, the Mekong River Commission, and several other DFID-funded projects [see <http://www.fmsp.org.uk/R8462.htm>].

Across Africa and Asia

The research began with an evaluation of data collection systems across a wide range of fisheries in Bangladesh, Cambodia, Lao PDR, Philippines, Tanzania, Uganda and Vietnam. The case studies revealed that:

- A common theme is the lack of reliable and suitable information on which to base management decisions.
- Policy-makers often do not have access to adequate information on the fisheries sector to make informed decisions in the multi-sector planning environment.
- Co-management raises new challenges which include 1) clearly identifying data needs, 2) coordinating the data collection strategy among a range of different stakeholders, and 3) developing systems that are sustainable.
- Capacity and resources are often limited so it is vital that data collection systems are efficient and fully utilize the data they generate.
- While stakeholders' objectives and responsibilities are different, they often have overlapping data and information needs. Therefore, opportunities exist to share data and the responsibility for collecting it.



*Staff of Lao PDR fisheries agencies, Living Aquatic Resources Research Center and Department of Livestock and Fisheries explore fishers' local knowledge of fisheries in deep pools of the Mekong, Khong Island, Champassak Province.
Photo by Sommano Phounsavath*

In Bangladesh and Thailand

The FAO Guidelines have been tested in both Bangladesh and Thailand. In Bangladesh, the use of the eight-stage approach (elaborated in the guidelines) within inland water bodies enabled local management institutions and the fisheries department to agree on a data collection system

that was closely related to management objectives. They were also able to identify mechanisms for regular feedback so that joint decisions on the resource could be made.

In Thailand, the Guidelines have been used to develop data collection and sharing systems to support the management of reservoir fisheries resources in Udonthani. Here, the lack of an effective data collection system was a key constraint to effective management. A participatory approach drawing on the FAO Guidelines led to a clearer understanding of the stakeholders involved, their information needs and how communications channels could best be utilized to share information in the future.

Lessons, Contents and Availability

Some important lessons that emerged from the application of the Guidelines were:

- Management plans, including explicitly-defined objectives, must be clearly formulated and recorded before appropriate indicators (and their data) to monitor management performance can be identified.
- Stakeholder roles and responsibilities to facilitate the management process must be clear and unambiguous.
- Existing data sources and information-sharing networks should be utilized whenever possible to avoid inefficiency.
- Stakeholders' motivation is fundamental to ensure system sustainability. Regular feedback, transparency and minimizing opportunity costs are key to maintaining motivation.



Stakeholders identifying their information needs and opportunities for information-sharing in Bangladesh. Photo by Parvin Sultana

Part I: Practical Guide has been written specifically for co-managers and facilitators working in the field. It offers simple and practical advice on helping stakeholders identify information needs in relation to their management objectives and responsibilities, and developing collaborative ways of collecting and sharing information in the most effective way.

The accompanying *Part II: Technical Guidelines* provides more technical detail on each of the sections in *Part I*, including examples of the types of data that might be of interest to different stakeholders, data collection methods and sources, the design of sampling programs, data analysis and interpretation. They will appeal to departments of fisheries, research agencies and academic institutions, but they will also provide field practitioners with a reference manual.

The Guidelines will be available for download on the FAO website at <www.fao.org/documents>. The full reference is: Halls A S, Arthur R I, Bartley D, Felsing M, Grainger R, Hartmann W, Lamberts D, Purvis J, Sultana P, Thompson P and Walmsley S 2005 Guidelines for Designing Data Collection and Sharing Systems for Co-managed Fisheries. Part 1: Practical Guide (42 pp), Part 2: Technical Guidelines (108 pp). *FAO Fisheries Technical Paper No 494/1&2*. Rome: FAO.

For further information about the Guidelines, please contact the project leader, Ashley Halls, Director of Aquae Sulis Ltd (ASL) <www.aquae-sulis-ltd.co.uk> based in Bath, UK. He can be contacted at <a.halls@aquae-sulis-ltd.co.uk>.

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About the STREAM Journal

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Purpose

The *STREAM Journal* is published quarterly to promote participation, communication and policies that support the livelihoods of poor aquatic resources users in Asia-Pacific, and to build links within the aquatic resources management and other sectors across the region. The *STREAM Journal* covers issues related to people whose livelihoods involve aquatic resources management, especially people with limited resources, and government, non-governmental and international practitioners who work with them in communities. Such issues include learning, conflict management, information and communications technologies, aquatic resources management, legislation, livelihoods, gender, participation, stakeholders, policy and communications.

Another equally important purpose of the *STREAM Journal* is to provide an opportunity for seldom-raised voices to be heard and represented in a professional publication that is practical yet somewhat academic. The contents of the *STREAM Journal* should not be taken as reflecting the views of any particular organization or agency, but as statements by individuals based on their own experience. While authors are responsible for the contents of their articles, STREAM recognizes and takes responsibility for any editorial bias and oversights.

Distribution

The *STREAM Journal* is available in three formats:

- An electronic PDF version which is printed and distributed by the STREAM Communications Hubs in each country
- A version which can be accessed and downloaded in PDF format from the Virtual Library on the STREAM Website at www.streaminitiative.org, and
- A printed version which is distributed by the NACA Secretariat.

Contribution

The *STREAM Journal* encourages the contribution of articles of interest to aquatic resources users and people who work with them. The *STREAM Journal* also supports community-level colleagues to document their own experiences in these pages.

Articles should be written in plain English and no more than 1,000 words long (about two A4 pages of single-spaced text).

Contributions can be made to William Savage, *STREAM Journal* Editor, at <savage@loxinfo.co.th>. For more information, contact Graham Haylor, STREAM Director, at <ghaylor@loxinfo.co.th>.

About STREAM

Support to Regional Aquatic Resources Management (STREAM) is an Initiative designed within the five-year Work Program cycle of the Network of Aquaculture Centres in Asia-Pacific (NACA). It aims to support agencies and institutions to:

- Utilize existing and emerging information more effectively
- Better understand poor people's livelihoods, and
- Enable poor people to exert greater influence over policies and processes that impact on their lives.

STREAM will do this by supporting the development of policies and processes of mediating institutions, and building capacity to:

- Identify aquatic resources management issues impacting on the livelihoods of poor people
- Monitor and evaluate different management approaches
- Extend information, and
- Network within and between sectors and countries.

The STREAM Initiative is based around partnerships, involving at the outset a coalition of founding partners (AusAID, DFID, FAO and VSO) supporting NACA. It has adopted an inclusive approach, reaching out to link stakeholders engaged in aquatic resources management and supporting them to influence the Initiative's design, implementation and management.

The partnerships' work is coordinated in each Country Office through a National Coordinator (a senior national colleague agreed with the government) and a Communications Hub Manager (a full-time national colleague supported in the first two years by STREAM), and linking a range of national stakeholders. The Communications Hub is provided with hardware, software, training, information-technology support, and networking and human resources support, and links national stakeholders through an internet-based virtual regional network.

National coordination is guided by an annually-reviewed Country Strategy Paper (CSP) drawn up by the Coordinator and Hub Manager in consultation with stakeholders with whom they regularly network. A CSP identifies key issues, highlights regional linkages, proposes and prioritizes key actions, and seeks funding for these from STREAM and elsewhere (with STREAM support).

The STREAM Regional Office (at the NACA Secretariat in Bangkok) directs the Initiative, provides a regional coordination function, and funds and manages cross-cutting activities dealing with livelihoods, institutions, policy development and communications, the four outcomes-based STREAM themes.

STREAM implementation is an iterative process, initially operating in Cambodia, India, Indonesia, Lao PDR, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Vietnam and Yunnan, China, and expanding within Asia-Pacific where opportunities exist to tackle poverty and promote good governance, as experience is gained, lessons are learned, impact is demonstrated and additional funding is secured. STREAM's communications strategy aims to increase impact by ensuring that existing knowledge and expertise inform ongoing change processes around the region, and that the lessons learned are disseminated throughout Asia-Pacific. The *STREAM Journal* and the STREAM website are components of this strategy.

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