STREAM

Support to Regional Aquatic Resources Management

STREAM Journal

Learning and communicating about the livelihoods of fishers and farmers

Contents

Note

Back in January-March 2002, we began our Note for *SJ1*(1) with this paragraph:

> *Learning, conflict management, information and communications technologies, aquatic resources management, legislation, livelihoods, gender, participation, stakeholders, policy and communications*. These are themes in the six articles in this first *STREAM Journal*. They represent the sorts of issues around which the STREAM Initiative is promoting learning and communication. The *STREAM Journal* will showcase a range of perspectives on issues and contexts from a diversity of views, and document these voices so that our dialogues can be informed and inclusive. The intention is not to criticize, but to join with colleagues to be helpfully critical.

That list of 'themes' was worked into the statement of the *STREAM Journal's* purpose (p 13), and now once again finds itself reflected throughout this number of *SJ2*(3). We'll let you discover for yourself – as you read the six articles by 14 authors from or working in five countries – how they relate to fish cages, marker buoys, traditional gear, Global Positioning System, text messaging and PowerPoint.

Reading further through that first paragraph also suggests that we need to become more aware of how STREAM is representing issues, promoting learning and communication, showcasing diverse views, documenting its work and realizing its intentions. Thus, we encourage *SJ* readers and other colleagues to join our current efforts at process-oriented monitoring and evaluation, along with a 'significant change story' approach, by giving us any feedback you have on the *STREAM Journal* or on any of the STREAM Initiative's work.

Happy reading!

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

Livelihood Improvements through Fisheries in the *Pode* Community in Pokhara, Nepal

Tek Bahadur Gurung and Jay Dev Bista

The Community

This story belongs to about 300 families of a fragile ethnic community known as *Pode*, or *Jalari*, living in Pokhara Valley of Nepal. The mother tongue of the community closely resembles Newari, the main tribal language of Kathmandu, therefore it is often said that they migrated from Kathmandu Valley. It is well known that members of the community were deprived of traditional agricultural land, skills, jobs and income until the early 1960s. The community had a nomadic life, traveling with their families among lakes, rivers and wetlands, fishing for food with a cast

A mothers group of the Pode *(or* Jalari*) community in a monthly meeting*

net. It is yet to be known exactly when they accepted fishing as an occupation. In Nepal, deprived poor people are generally known to enter forests or water bodies to harvest by-products, as these resources were no one's property until recently. Most forests are now managed by local communities for conservation and sustainable use. However, natural waters have yet to gain such a status. Generally, *Pode* in the Pokhara area lived close to lakes and rivers in temporary huts because their livelihoods are closely associated with fishing.

Participatory Cage Fisheries in Lakes

In the early 1970s, when fish catches declined due perhaps to over-fishing, mainly in the lakes of Phewa (523 ha), Begnas (328 ha) and Rupa (135 ha), one of the traditional fishers' livelihood sources was threatened. Meanwhile, the Fisheries Development Center (now known as the Fisheries Research Station) was established in 1962 on the bank of Lake Phewa. It aimed to support rehabilitation for deprived people, with jobs and income through subsistence cage aquaculture. Marketable fish are produced from eutrophic water bodies by stocking fingerlings in a room-size net cage (about 50 m^3 with dimensions of 5x5x2 m). Fish in cages subsist on naturally grown small organisms known as plankton. The Bighead Carp *(Aristichthys nobilis)* and Silver Carp (*Hypopthalmichthys molitrix)* reach marketable size (approximately 1 kg) in about a year after stocking. A single cage can produce 200-300 kg of fish annually depending on the productivity of the water body.

From 1975-80, cage aquaculture was supported by FAO[1] and UNDP[2], with the supply of cage materials and other technical assistance. At the beginning, only a single cage costing about 5,000 Nepal Rupees was given to members with financing from the local Agriculture Development Bank. Since the clients were landless and vulnerable poor people, the technical guarantee of fish production by the Fisheries Development Center was considered as collateral. The fish marketing system was channeled through the community Fish Growers Association. At present, most loans have been paid from the benefits from cage aquaculture.

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1 Food and Agriculture Organization of the United Nations
2 United Nations Development Program

Economic Activities, Environment-friendly Fisheries and Community Change

Initially, cage aquaculture could provide only part-time jobs and earnings for the community. Later, members owned additional cages but the supply of sufficient numbers of fingerlings became a bottleneck for fish production. However, with assistance from JICA[3], a fish hatchery complex was constructed near Lake Begnas under the auspices of the Fisheries Research Station, Pokhara, for meeting the current demand of fingerlings. At present, successful single families have as many as 16 cages producing about 3,000-4,000 kg of marketable fish annually with substantial income. Most families involved in cage aquaculture now own their land and houses, and have sources of income.

Fish from lakes and rivers generally have higher market demand because they grow on natural plankton food only. Thus, market prices of caged fish may increase in the future since they are produced in natural waters. Since caged fish consume phosphorus- and nitrogen-containing plankton, this can help in removal of unwanted nutrients from water bodies. Subsistence cage aquaculture is an environment-friendly fish farming approach.

Most families in the community can now afford for their children to attend school, and three students are ready to attend university. Before it was difficult to find a single literate member in the community. Most households now have a TV, gas stove and toilets, and a few have motorbikes. Some have reached medium standards of living. Indeed, the day has come when some mothers worry about boarding school for their kids.

Community mothers group marketing fish harvested from cage farming

Lesson Learned and an Implication

As a project, cage aquaculture by a landless, resource-poor and deprived community has been able to improve their livelihoods around the lakes of Phewa, Begnas and Rupa. Although fish farming was never a traditional occupation of this community, experience has shown that aquaculture can be successful regardless of people's occupational background. Indeed, the community could access communal waters and use their traditional knowledge of fish handling. Associated with cage aquaculture, such a community strength could be an attractive 'entry point' to improve the livelihoods of other communities.

A Community Moves towards Conservation of Lakes and Native Fishes

Recently, *Pode* people engaged in cage aquaculture realized that only harnessing the natural resource is not a wise idea, and that conservation is also necessary. They are self-motivated to remove water hyacinth to clean the lakes, and to formulate rules and regulations for conservation of the lakes' aquatic biodiversity through a participatory approach. The community also now pays taxes to the local development authority after every harvest.

There are about 25 species of fish in the lakes of Pokhara Valley. Some native species such as Mahseers (*Tor putitora* and *Tor tor*) are vulnerable because of their spawning behavior. They migrate to shallow, pebbled, inlet waters during the rainy monsoon for spawning, and are caught by other people. Now, *Pode* community members have started patrolling at inlet streams of Phewa Lake to protect the spawning fish during migration.

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3 Japan International Cooperation Agency

Women's Participation in Coastal Resources Management and Livelihoods in Khanh Hoa Province, Vietnam

Nguyen Thu Hue, Than Thi Hien, Pham Thi Phuong Hoa, Nguyen Viet Vinh and Dao Viet Long

IMA Projects and Women's Participation

International Marinelife Alliance (IMA) Vietnam is implementing a three-year project[4] on community-based coastal resources management through facilitation of a Locally Managed Marine Reserve in Van Ninh District of Khanh Hoa Province. The project aims to enable local people to better manage their coastal resources and improve their socio-economic situation by applying sustainable fishing and aquaculture methods.

IMA pays special attention to the participation of women. They play a critical role in both local fishing economies and in efforts to conserve coastal resources, but often face barriers to effective participation. Thus, gender is an important cross-cutting issue that IMA integrates into its project activities to improve gender equity and emphasize women's participation and capacity in coastal resources management.

Since July 2002, IMA Vietnam has carried out a sub-project entitled "Women's Participation in Coastal Management and Livelihoods in Khanh Hoa Province". The goal of the sub-project is to increase gender awareness and improve women's capacity in coastal resources management. With rural women as 'beneficiaries', the main activities include:

1. Conducting gender training courses for target groups (commune cadres and local people)
2. Organizing a livelihoods alternatives forum, and
3. Supporting women's selected livelihoods initiatives through provision of a small fund.

Sub-project implementation is undertaken by local agencies (Local Project Management Unit and Vietnam Women's Union) with support from IMA. A participatory approach is promoted in all project activities to ensure grassroots-level effectiveness. Work is conducted in partnership with experts and consultants to achieve a high quality of training. Local media play an important role in informing about and advocating gender issues, particularly women's roles in coastal resources management.

Gender Training Courses

As part of the sub-project's activities, during October 2002 two gender training courses were conducted for commune staff and community members in Van Hung Commune of Van Ninh District. A total of 60 participants were introduced to basic gender concepts and learned how to use gender analysis methods and mainstream gender issues into development projects. As a result of the training, gender awareness has increased. Moreover, men have positively changed their views on women's roles in household economic and community development activities, including coastal resources management. This was learnt through a final discussion and questionnaire in which men reported this change in their

Men were encouraged to share their views on gender roles

attitudes. In addition, women's capacity was improved. This was evident because they were confident

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in raising their voices about livelihoods alternatives and showed their ability in coastal resources management activities.

Livelihoods Alternatives Forum

Following the gender training courses, a forum was organized to create a dialogue for poor women to propose initiatives in alternative livelihoods. A team of experts from Khanh Hoa Fisheries Extension Center, officers of IMA Vietnam and the Local Project Management Unit successfully facilitated the forum with 60 people attending. Livelihoods experts provided participants with information on alternatives appropriate for their area. The forum also attracted the interest and participation of local officers and fishermen from the Hon Mun Marine Protected Area[5] for sharing experiences and learning.

Participants were introduced to environment-friendly livelihoods concepts

Women discussed and initiated their own livelihoods alternatives

Forum participants discussed options and selected the best alternatives to be piloted. Environment-friendly livelihoods, including small-scale aquaculture (seaweed and green mussel) and other alternatives, were proposed and then discussed thoroughly by the women. Participants reached a high degree of consensus. The selected alternatives would help to generate income for women and contribute to the improvement of coastal resources management through livelihoods activities that take into account the roles of women in communities.

Livelihoods Initiatives through a Small Fund

Thirty-one women were provided with technical support from IMA and aquaculture experts to implement the livelihoods alternatives they had initiated themselves. Their selected options are environment-friendly forms of aquaculture, helped improve water quality and created better habitats for local marine resources (including seaweed and green mussel). During the implementation process, women were directly involved in the preparation of facilities (such as marker buoys and net cages), post-harvest care and processing, while men provided monitoring support. They also marketed their products to visitors to Trao Reef Marine Reserve. It is expected that an increase in income will be seen within six months, as only a small capital investment is needed and the technology is available and inexpensive. Through livelihoods initiatives, women's capacity and their roles in coastal resources management have been improved.

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5 See *STREAM Journal 1*(4), 1-2, for an article about this IMA Vietnam project.

Supporting People's Efforts and Interactions in Coastal Resources Management in Indonesia

Tabitha Yulita

Circumstances of Life, Common Property, Community Participation and Conflict

In recent times, attention has increasingly turned towards problems related to the circumstances of people's lives. In Indonesia, there has been a recognition that the way natural resources have been exploited is both unsuitable and unsustainable. There has been a failure in local autonomy being realized and in addressing claims to customary rights to common property, which includes such resources as the sea, coast, air, fields and forests. These natural resources are not owned by anyone, so they may be used for people's collective benefit.

The formulation of policies and rules about access to common resources should be done in consultation with the people and communities for whom they are useful. Without such policies, rules and participation, the use of common property resources can result in conflicts. For example, in Batahan and Jaring Halus Villages, on the east and west coasts of North Sumatra respectively, there are conflicts between fisherfolk, with their traditional small-scale fishing gear, and operators who use more modern fishing equipment. This happened because there were no policies or rules about using coastal and marine resources that protect traditional fishing practices.

Related to these circumstances of community life and people's livelihoods, some questions can be asked:

- How can support for increasing social interactions improve the management of a community's coastal resources?
- What mechanisms may allow local traditions and values to be considered in the use of coastal resources?
- How are traditional ways that coastal people use and manage coastal resources viewed by 'mainstream society'?
- How do local communities use natural resources and how do local people adapt in the face of change and the demands of modernization?

Rules and Trust

There are different ways that management rules about the use of natural resources are formulated. They can be made formally by national, provincial or local governments, which is usually the case with coastal resources like mangrove *(bakau)* areas or the sea around Indonesia. They can also be informal, such as rules devised by communities about use of the sea and other coastal resources.

For example, dead coral rocks were not allowed to be taken in large amounts, but only for individual requirements, since their removal would also cause loss of *bakau*. Evidence of the breaking of this local rule was sent by people to community leaders, showing that the coral rock was taken in large amounts as building material. This case of local enforcement resulted from the community's knowledge of the functions of this resource. The effectiveness of the rule depended on a trust that people would obey it.

Resources, Modernization and Tradition

Fish, crab, shrimp, *bakau* and coral rock are examples of coastal and sea resources used by fishers. With the coming of 'outsiders', destructive practices are affecting the ecosystem of the coast and sea, for example, catching operations such as *pukat harimau* (trawlers), *lamparan dasar* (smaller trawlers), *pukat langgei* (fine mesh nets) and bombs. Their effects have been the destruction of coral rock and the degradation of fish resources. The dream of modernization to provide opportunities to improve the welfare of people has not been reached.

The development and introduction of technology has also had an impact on the values and traditions of coastal people (especially traditional fishers), changing social structures which depend on the availability of natural resources. The uses of coastal resources, previously controlled by unwritten local rules that were well known to communities and enforced together, are changing with modernization and technological developments such as traditional fishers using machines and engines on their boats.

Change and Adaptation

As a result of these changes, traditional ways to manage coastal resources have become threatened as outsiders come in with more economic power and legal authority. The effects that may be felt by local communities include degradation of the local economy, people becoming unmotivated and the changing of feelings of 'traditions as truth' to distrust.

To overcome these effects, people are finding ways to change and adapt:

- There are now several additional ways of fish rearing such as using *keramba* (floating cage) and *tambun* or *rumpon* (fish shelter).
- People have formed fishers organizations to become stronger groups.
- They use different kinds of catching equipment and make catch limitations in their areas.
- Efforts are being made to resolve coastal resources conflicts between local people and outsiders. For example, claims are being made to the government, local rules are being made, discussions are taking place, and patrols are controlling the sea.
- Efforts are also being made to understand the views of traditional fishers towards entrepreneurs and the government, and to build trust.
- There are also some inter-community strategies for communication and power-sharing with the potential to accommodate the circumstances and hopes of traditional fishers.

Most of the efforts and interactions described in this article are part of what may be called 'increasing social capital'. They will help in instituting traditions-based coastal resources management that accommodates traditional systems while responding to the challenges of modernization. Successes will depend mainly on how the concerned groups learn to trust each other.

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Planning for a Community Fisheries M&E System

Heather Airlie and Haiko Meelis

A Pilot Project

By collecting and managing information related to Community Fisheries, the CFDO[6] in Cambodia hopes to better understand issues about the sustainable use of natural resources as it pertains to subsistence living. A pilot project was recently conducted by the CFDO with the support of FLD[7], VSO[8] and STREAM, in 12 villages in Kampong Chhnang, Kandal and Kratie Provinces. This enabled the CFDO to investigate mechanisms for collecting and sharing data and to develop a pilot monitoring and evaluation (M&E) database on Community Fisheries. The main point of the project was the process itself rather than the actual data collected. A practical process was developed for identifying and recording the existence and location of Community Fisheries, monitoring activities and conflicts relating to co-management issues, assessing the development and operation of the fishery at the time of visiting, and updating this information in the database regularly. The resulting report – "Supporting the Planning of a Community Fisheries Monitoring and Evaluation Database" – is available on the STREAM website.

Opportunities and Challenges with Access to Aquatic Resources

The management of freshwater capture fisheries is important for food security, income generation and sustainable livelihoods in Cambodia. They provide the largest source of fish for subsistence fishers who represent significant groups of poor people who depend on aquatic resources for their diverse livelihoods, in rivers, lakes and inundated forests. Major issues for poor aquatic resources users in Cambodia revolve around rights and access to fishing grounds and communication between poor people and agencies that support them. The abolition of many commercial fishing lots provided an opportunity for poor aquatic resources users to exert greater legal control over the resources upon which their livelihoods depend. However, many poor aquatic resources users are unable to respond to these opportunities because of ineffective community representation within co-management.

Co-management of aquatic resources provides opportunities for the next generation

Monitoring and Evaluation to Support Co-management

Co-management may be considered to be a collective, participatory process of regulatory decision-making among representatives of users groups (Community Fisheries members), government departments and other supporting institutions. Community Fisheries have been given the authority to develop their own co-management regulations. If local communities are to play an effective role in promoting good governance, community management needs to be sustainable, and emerging trends towards people-centered approaches need to be maintained.

CFDO's management of Community Fisheries in Cambodia aims to improve the livelihoods of rural poor people. The mission of CFDO is to support their functioning as management partners towards efficient, sustainable and equitable use of aquatic resources. The better the understanding of issues affecting Community Fisheries, the higher will be CFDO's capacity to co-manage the fisheries, and to coordinate with provincial staff involved with Community Fisheries.

A Participatory Method for Collecting Baseline Information

The purpose of the pilot project was to examine processes, not specifically to collect information. This approach enabled the collection of baseline information for monitoring and evaluating the co-

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6 Community Fisheries Development Office of the Department of Fisheries (DoF)
7 Farmer Livelihood Development, the Cambodian NGO formerly known as SCALE
8 Voluntary Service Overseas of the UK

management of Community Fisheries in the three provinces. Focus group interviews with the community committee and village leaders helped to identify quantitative data, while Participatory Rural Appraisal (PRA) with the whole village enabled discussion of qualitative data.

The process identified and recorded Community Fisheries through the combined use of local knowledge and a Global Positioning System (GPS). Conflicts around co-management and measures to combat these were noted. The maturity and operation of a Community Fishery was determined by monitoring election turnout, administration processes and perceived levels of success, knowledge of the concept of a Community Fishery, the use of by-laws, establishment of fish sanctuaries, formation of patrolling groups and documentation associated with these.

Communities began to see how they could help themselves

A simple database was developed that enables data to be stored, updated and processed electronically, and reports generated. Further enhancement of the database will enable information to be analyzed and developed into a useful presentation suitable for distribution among stakeholders.

Towards Enhancing the Livelihoods of Poor People with the Help of M&E

With the pilot project concluded, the CFDO is trying to take the M&E project further, basically by starting to use what is now there. Provincial Departments of Fisheries are providing the required data[9], which is entered into a simplified database based on the one from the pilot project. The resulting overviews are available on the internet <http://www.maff.gov.kh/cfdo.html>. Although not perfect, they have helped CFDO staff to gain experience with M&E. So far, it has been quite easy to collect data on indicators for the establishment of Community Fisheries and capacity-building. It will be something completely different to do the same thing with sustainable resources management with data that is actually meaningful on a wider scale.

The UNDP[10] project "Capacity Building for Sustainable Development in the Tonle Sap Region" (part of the ADB[11] Tonle Sap Environmental Management Project) is supporting two staff from the CFDO Monitoring and Evaluation Section, and also some provincial staff, to collect data around the Tonle Sap Lake. This project will also support training on GPS equipment and GIS[12] software. Furthermore, in Component 2 of the same ADB project, which is starting next year, there will be a budget line for monitoring and evaluation activities. However, these will be limited to the Tonle Sap area, while CFDO's responsibility covers all of Cambodia. Also, the CFDO needs to become more aware of the information needs of various stakeholders operating at local, provincial, national and international levels.

Community Fisheries are still in their infancy, with large differences in the abilities and understandings of many of the committees. However, there are already some effective committees with a clear appreciation of their own roles in future development. With continuing dialogue among government and community stakeholders, and the use of an appropriate M&E database, there is a real opportunity to enhance the livelihoods of poor people in fishing communities, by directing appropriate advice and assistance to the areas where it is most needed.

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9 Except for GPS data, the collection of which depends on knowledge and equipment. DoF efforts are also constrained by budget.
10 United Nations Development Program
11 Asian Development Bank
12 Geographic Information System

Identifying Needs and Recommendations for Efficient Stakeholder Communications through an Information Access Survey

Elizabeth M Gonzales, Malene Felsing and Erwin L Pador

Information Access Survey

A growing number of government institutions in the Philippines believe that the key to reversing trends of fisheries depletion and poverty among coastal communities is community-based coastal resources management (CBCRM). As a strategy, CBCRM requires concerted efforts by all aquatic resources stakeholders. Thus, efficient communications with, and provision of resources and support to, coastal communities and other stakeholders are important.

With this in mind, an Information Action Survey (IAS) for Philippines Region VI[13] was conducted in June 2003 with the support of STREAM and the Bureau of Fisheries and Aquatic Resources (BFAR) Region VI. The survey aimed to:

1. Provide brief profiles of the main stakeholders within the aquatic resources and fisheries sector
2. Outline the main uses of different communications media within Region VI
3. Describe access to information, and the communication between and within stakeholder groups, organizations and institutions within the sector, and
4. Identify current needs and recommend strategies to maximize efficient communication, and summarize recommended communications strategies among stakeholders.

In preparation for the survey, potential sources of information were identified. During the survey, carried out from 11-26 June 2003, interviews were conducted in Metro Manila, other areas of Luzon, and within Region VI. Key informants included representatives from government departments, civil society, research institutions and municipal governments. In addition, focus group discussions (FGD) with fisherfolk, village officials and fisherfolk association representatives were conducted in three coastal municipalities.

FGD participants discussing their preferences among a variety of printed materials

Some Findings

Audience Profiles → Institutional support for fisheries and aquaculture development in communities is available through *government agencies*. Most government employees are educated to bachelor degree level, and prefer English for technical information and written communications. All government officials also know Filipino as well as their local language.

In terms of *civil society*, within the NGO sector, management-level employees are mostly educated to at least bachelor degree level, and have a high proficiency in English. Most NGOs target international funding, and the majority have internet access and use e-mail. Members of People's Organizations are mostly fishers, have primary school education, are literate in Filipino and local languages, but have limited knowledge of English. Within *research institutions*, textbooks are normally in English, which is also the main language for written communications. Most *Local Government Unit (LGU)* officials have bachelor degrees, with a high proficiency in English. In *coastal communities*, literacy levels are high, and most fisherfolk have completed elementary schooling. In addition to their local language(s), fisherfolk speak Hiligaynon and Filipino, and have some knowledge of English.

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13 The STREAM Philippines Country Office is located in Iloilo City in Region VI.

Communications Media → These include radio, television, newspapers and magazines, cinema, comic books, video, traditional and folk media such as *composos*[14] and development theater, village information bulletins, brochures, cell phones and information technology. Radio and television are the most popular media for all groups. The survey also showed that villagers consult or get information from LGU officials, government and non-governmental officials, and occasionally from municipal agriculture and fisheries officers, community organization officers, local politicians, police and fisheries enforcers.

Information Exchange → Personal interaction within agencies occurs via official channels. This normally requires the mailing or faxing of requests, which are always written in English. More informal contact may then follow, using landline telephones, mobile phones (including text messages) and fax.

Access to Information → Extension with coastal communities tends to focus on transfer of technology to fishers or fisherfolk organizations. Extension methods include training seminars, the distribution of leaflets and posters (mainly in English), and demonstration farms (particularly for seaweed and backyard aquaculture of tilapia, catfish or milkfish).

Needs and Recommendations

On the basis of the findings, information and extension needs of each audience group were identified, corresponding recommendations suggested, and stakeholder responsibilities defined. Key recommendations included:

- A national strategy for extension within fisheries and aquaculture sectors should be developed in a participatory manner.
- The extension services should be streamlined to ensure that all 'end-users' receive the same quality of service.
- Extension information should be targeted and pre-tested to optimize the efficiency of communication.
- Existing mechanisms for community feedback to extension providers should be strengthened.

Lessons Learned

An Information Access Survey is an important activity which should be conducted at the start of any development initiative. An IAS identifies stakeholder groups and effective ways to

FGD participants from the communities of the Banate Bay Resource Management Resource Council, Inc

communicate with them. IAS findings also lead to identification of communications and extension needs of stakeholders, providing relevant information for strategic planning. Pre-survey tasks such as preliminary networking with potential stakeholders, and identification of potential sources of relevant information, can ensure the effectiveness of the survey.

Having clearly defined objectives at the start of the survey is critical because they will influence interview guides and the direction of focus group discussions. Open-ended interview questions are effective because these allow stakeholders to highlight issues which interviewers might not have considered.

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14 *Composos* are folk ballads which recount struggles and triumphs of individuals or families.

IEC Seminar-Workshop in Support of
Fisheries Ordinance Implementation in Roxas City, Philippines

Belinda M Garrido and Elizabeth M Gonzales

Roxas City – Then and Now

Roxas City is the capital of the province of Capiz, located in the northeast of Panay Island and about 136 kilometers from Iloilo City. It has vast areas for aquaculture and mariculture activities. The city used to be the Philippines' major supplier of seafood such as crabs, prawns, shrimps, oysters, green mussels, scallops, kapis shells *(Placuna placenta)* and angel wings. However, in recent years, there has been unregulated expansion of fishpond areas, fishing activities in municipal waters, and construction of fishing structures in rivers and municipal waters. Thus, fisheries resources were depleted and environmental problems resulted, leading to a decline in fish production and catch. Aquaculture and marine fishing operations began to close. Small-scale fishers were among the first affected because they do not have capital to sustain their losses. Medium- to large-scale fishers prevailed and some influential groups have diverted into mariculture activities such as cage culture of grouper and other high-value fish species. The unregulated mushrooming of these structures is one of the major problems of the city government.

A Fisheries Ordinance

To address these issues, the Roxas City Government, in particular the City Agriculture Services Office (CASO), facilitated the formulation of a fisheries ordinance through a participatory process which involved fishers, fisherfolk organizations and the Fisheries Aquatic and Resources Councils (FARMCs) in the 25 barangays[15] of Roxas City. Although it has been eight months since the passage of the ordinance in December 2002, implementation is wanting. CASO saw the importance of popularizing the ordinance, but they felt they needed some assistance with how to go about it. One activity they decided on was to train the involved city government staff and FARMCs in the preparation of Information, Education and Communication (IEC) materials. Belinda Garrido, the CASO Fisheries Officer, submitted a proposal to the Bureau of Fisheries and Aquatic Resources (BFAR) Region VI Office seeking assistance with an IEC Materials Preparation Seminar-Workshop.

Participants and facilitators after the three-day learning experience

The Seminar-Workshop

The aim of the three-day seminar-workshop was to prepare IEC print and broadcast media to help popularize the ordinance. The facilitating team for the August 2003 seminar-workshop included Jose Razon III, Head of the BFAR-FRMP[16] Fisheries Management Information Center (FIMC)[17]; Agnes Solis of the BFAR 6 FRMP[18] IEC unit; Janice Tronco, BFAR 6 Information Officer; and Erwin Pador and Bebet Gonzales of STREAM Philippines.

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15 A Philippines administrative unit which is approximately equivalent to a village.
16 Fisheries Resources Management Project, a four-year national Asian Development Bank project working on poverty alleviation through a coastal resources management (CRM) approach.
17 The FIMC was created under the FRMP to support the development of the Philippine Fisheries Information System (PhilFIS).
18 Fisheries Resource Management Project

Among the 23 workshop participants were agriculture and fisheries extension officers, head of extension services of a polytechnic state college, editor of a government newsletter, FARMC representatives, and representatives from the Tourism Office and Planning and Development Office.

An introduction to the IEC planning process and production cycle – and current IEC initiatives such as FRMP activities and STREAM – were shared with participants, as were some findings from the Information Access Survey (IAS) carried out in the Western Visayas (Region VI) [see the previous article by Gonzales, Felsing and Pador]. A brief lecture on guiding principles, tips and techniques preceded every workshop session on the different print media, and broadcast media were introduced. After each presentation, a critiquing session of 'outputs' was also facilitated and changes made then, so there would only be minimal revisions necessary before final production. Topics on running effective meetings and facilitation with communities were also added for the benefit of extension workers and FARMC representatives.

At the end of the workshop, the group was able to prepare three billboards and three posters for their marine park, bathing area and shellfish protected area. They developed three 30-second spot announcements and three mini-dramas about important sections of the ordinance, a slogan and a jingle which they will use in their coastal resources management (CRM) campaign, a draft PowerPoint presentation about the ordinance which they could use to brief government officials and colleagues, and news articles about their CRM initiatives which their newsletter editor (also a participant) said he could work on for publication. They also plan to produce a primer on the new fisheries ordinance.

Some Stories

During informal conversations at break time and during the closing program, participants were encouraged to share some of their experiences. Here are two:

Salvador Bartocillo, City Planning and Development Office

Buddy said that he appreciated the way the workshop sessions were conducted because he was surprised to discover that he and his group mates possess complementary skills they could develop for IEC work. (Everyone noticed that Buddy's naturally modulated voice could be used in producing radio plugs for ordinance campaigns.) He also mentioned that the learnings he had about the use of PowerPoint could make him more effective in presenting his work at the City Planning and Development Office. He also realized and acknowledged that, unlike in previous seminars he had attended, the casual atmosphere in this workshop encouraged active and dynamic participation among participants and resource persons. This was reflected in the outputs achieved. He hoped there would be another workshop similar to this one.

Belinda Garrido, City Agriculture Services Office

Bels shared the struggle which she, the Technical Working Group and FARMC members experienced in facilitating the adoption of CRM approaches in Roxas City. The fisheries ordinance was a major fruit of that hard work. However, she acknowledged that the passage of the ordinance is only an initial step. The enormous task ahead is how to popularize and implement it, and she personally has no training in IEC. So she felt that the seminar was timely; she was appreciative that she now has some IEC materials she could use from the workshop. Bels was also glad that, with the learnings she and her colleagues had from the workshop and the momentum that the training created, she could encourage them to get involved in IEC planning and materials development. She believed that learning about guiding principles in running effective meetings, and in facilitation, would improve the way she and her colleagues conduct community meetings, which are vital to their extension work.

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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, Nepal, Philippines and Vietnam, 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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