

STREAM



Support to Regional Aquatic Resources Management

STREAM Journal

Learning and communicating about the livelihoods of fishers and farmers

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Note

This number of the *STREAM Journal* presents a mix of articles from the Philippines, India, Nigeria and Vietnam, once again representing a range of issues around which the STREAM Initiative promotes learning and communicating about the livelihoods of fishers and farmers.

The first article by Tee-Jay A San Diego of the Philippines describes how he learned with community members by being involved in a project's activities, and how he "felt closer to the fisherfolk as [he] observed changes in their thinking by the way they reacted to particular fisheries-related issues and problems". Elizabeth M Gonzales's article, also from the Philippines, documents how an orientation was run with community members on an "alternative development approach to maximize [their] participation ... in local governance." She also introduces us to Manuel Puzon, a fisherman who developed leadership capabilities and "became a member of a pool of local trainers ... tapped to handle community seminars for fisherfolk organizations."

The third article – by B K Sahay, K P Singh and S N Pandeya – is about a Self-Help Group in Jharkhand State of India, how they got started and how they came together to handle a conflict involving an individual who tried to claim ownership of their community pond. In the *STREAM Journal's* first contribution from Africa, Yemi Akegbejo-Samsons reports on a study which "look[ed] at the impact of [urban agriculture] on the coastal riverine environment and the reality of water use and re-use in ... Ondo state" of Nigeria.

The final two articles from Vietnam follow from the special number of *SJ1(4)* on participatory livelihoods analysis. Pham Minh Tam and Trinh Quang Tu write about lessons they learned through the experience of carrying out livelihoods analysis using Participatory Rural Appraisal (PRA) tools. Nguyen Van Tu and Nguyen Minh Duc then relate the use of a sustainable livelihoods approach in the implementation of a project aimed at "improv[ing] livelihoods of the poorest people in rural areas through sustainable aquatic resources management."

Happy reading!

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

Learning Insights from the Fisheries Resource Management Project

Tee-Jay A San Diego

The FRMP and BFAR

The six-year Fisheries Resource Management Project (FRMP)¹ of the Philippines Bureau of Fisheries and Aquatic Resources (BFAR) is running from 1998 to 2004. FRMP's long-term goals are to combat fisheries resource depletion, alleviate poverty in coastal areas, and improve social conditions, through the project's three components of Fisheries Resource Management, Income Diversification and Capability-building. FRMP is implemented throughout the country in 18 bays with one hundred municipalities, managed by the Project Management Office (PMO) which is headed by the Project Director.

In Region 6 (Western Visayas), the project site is in Sapián Bay, composed of fifteen coastal barangays² belonging to three municipalities: Batan in Aklan Province, and Ivisan and Sapián in Capiz Province. The project framework also involves these two provincial governments and three local government units (LGU) as co-implementers. At the regional level, the Project Implementing Unit (PIU), composed of BFAR 6 staff and headed by a Regional Project Coordinator, organizes planning, actual implementation and monitoring and evaluation activities.

Experiences as a PIU Member

Planning Workshop

After graduating from college, I worked as a technical staff member of FRMP, where I learned a participatory approach to coastal resources management. The first activity I was involved in was a planning workshop attended by project implementers from PMO, PIU, Aklan and Capiz provinces, and the Municipal Fisheries Management Units of Batan, Ivisan and Sapián. The output of the workshop served as an implementing guide for that particular year. From that experience, I became more familiar with the structure of the project, met people involved with it, and learned the importance of coordination, active participation of the sectors involved and sharing of experiences in the planning process.

Participatory Coastal Resource Assessment

My first actual experience in the project area itself was the Participatory Coastal Resource Assessment (PCRA) of the three FRMP coastal barangays of Ivisan. Selected fisherfolk leaders participated in the PCRA, which consisted of lectures about coastal ecosystems, workshops and fieldwork. Participants were asked to locate on their barangay maps the various biophysical features (e.g., sandy beach, rocky shore), resources, uses, issues and impacts present in their barangay. Fieldwork activities were undertaken in the mangrove area to assess the present condition of the ecosystem and to evaluate the resource map drawn during the workshop. Similar activities were also conducted throughout the year in the three barangays of Batan and nine barangays of Sapián. Through the process, fisherfolk became aware of social conditions affecting the coastal and marine environment. As a facilitator in these activities, I appreciated the necessity for stakeholders in project implementation to be knowledgeable about existing conditions in the area.



PCRA facilitators and participants conducting fieldwork in the mangrove area of Barangay Bilao, Sapián, Capiz Province

1 To learn more about FRMP, please visit www.frmp.org.

2 A barangay is the smallest government unit, equivalent to a village.

Fish Sanctuary

I was also part of the establishment of a fish sanctuary and fishery reserve situated at Pito Coral Reef in Barangay Mambuquiao, Batan, Aklan Province. We recorded geographic points of the sanctuary using a Global Positioning System (GPS) to determine its total area and to situate it on the map. We consulted with the residents of Barangay Mambuquiao to discuss the sanctuary's importance, basic concepts and management plans. The majority of the residents were in favor of the proposal because they already recognized its benefits. Only the owners of fishing gears inside the site were against it since they knew that their fishing structures would be removed once the sanctuary was established. After the consultation, the barangay officials drafted a resolution requesting the municipal government to pass the sanctuary ordinance. With the support of the Sangguniang Bayan³ and the community, the ordinance was finally passed and the sanctuary was established. At present, positive changes have been reported with a return of commercially important species and an increase in fisherfolk's catches.

Barangay Learning Resource Centers

Another of my responsibilities is the Information, Education and Communication (IEC) activities of the project. Under the Fisheries Resource Management component, IEC aims to convey messages to stakeholders about the sustainable conservation, protection and management of the bay's resources. The major activity that FRMP has initiated in Sapien Bay is the establishment of Barangay Learning Resource Centers (BLRC). The BLRC serves as a repository of information and a venue for group discussions, film showings, story-telling, lectures and seminars. A BLRC custodian was identified to take charge of activities at the center. The launching activity consisted of a ribbon-cutting ceremony, turnover of books and other reading materials, poster-making contest for children, film showing and story-telling. As of now, three BLRC locations have been launched in the barangays of Mambuquiao and Napti in Batan and Cabugao in Ivisan.

Capability-building

FRMP also conducted capability-building activities with peoples' organizations and cooperatives formed by contracted community organizers. Significant training activities included:

- The Mangrove Nursery Establishment and Plantation Management in Barangay Napti and Barangay Cabugao
- Exposure trips for community leaders to successful coastal resources management projects in the region
- Orientation on the Philippine Fisheries Code of 1998, and
- Smoke-boneless bangus (milkfish) training in Barangay Mambuquiao.

Through my participation in these activities, I felt closer to the fisherfolk as I observed changes in their thinking by the way they reacted to particular fisheries-related issues and problems.

Personal Reflection

Many initiatives have been conducted in line with FRMP's goals in Sapien Bay. The area's coastal communities and local officials initially want visible project results such as "dole-out" livelihoods projects, but are hesitant about developmental projects such as FRMP. Through regular explanation and IEC campaigns, people gradually recognize that success can be attained through a step-by-step process.

The impacts of the project are not only tangible improvements such as income-generating projects and infrastructure, but also in the awareness of communities and LGUs of their crucial role in the management of their aquatic resources. Increased awareness of their rights and responsibilities will be a sustainable contribution of the project, and one of the indicators of the FRMP's success.

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³ A Sangguniang Bayan, or municipal council, is a local legislative body.

An Orientation on the SIAD Approach and Participatory Local Development Planning

Elizabeth M Gonzales

SIAD

Sustainable Integrated Area Development (SIAD) is an alternative development approach to maximize the participation of community members in local governance. It is a prototype program of the Philippine Partnership for the Development of Human Resources in Rural Areas (PhilDHRRA), the secretariat of a national network of NGOs. As a strategy, it builds on concepts of sustainable development and people's empowerment. Emphasis is placed on prototyping SIAD communities selected by PhilDHRRA members to develop and strengthen the most advanced upland, lowland and coastal sites. A municipality is chosen as the base-planning unit for selecting prototype areas.

Critical components of PhilDHRRA's SIAD approach include area profiling and planning, capacity-building, program coordination and partnership-building, resource utilization for community organizing, resource tenure improvement and productivity systems development. SIAD implementation is complemented by PhilDHRRA's area-based anchor programs and membership services. Its innovations in these grassroots efforts provide concrete lessons and insights for realizing the SIAD approach.

The Proposed Site

Barotac Viejo in Iloilo is a third-class⁴ municipality about a two-hour drive north of Iloilo City. It has upland, lowland and coastal areas which satisfy the three terrains required by SIAD. It is also the site of a project entitled "Engaging the Local Government Unit (LGU) for Participatory Local Governance Towards Municipal Agrarian Reform and Agricultural Development." The *Pagduso Sg Agrikultura Sa Tingub Nga Aksyon Sg Mga Organisasyon Sg Mangunguma* (PATANOM), a federation of People's Organizations (PO), runs the project with the assistance of PhilDHRRA. PATANOM has organized a civil society organization to take the lead in the initiatives. Considering that there is already an existing memorandum of agreement between the LGU and PATANOM, Barotac Viejo is an ideal site for a SIAD program.

The Orientation

As part of capability-building activities, a SIAD orientation was conducted in November 2002 at the Barotac Viejo Municipal Hall. Thirty-five participants attended the orientation, as representatives of farmers, fishers, indigenous people, senior citizens, women, and jeepney and tricycle drivers. Participants were encouraged to introduce themselves and an expectations check was facilitated. A lecture on SIAD was then given by Josephine Savaris, PhilDHRRA's Program Coordinator. Participants were oriented on the definition, concepts, principles and characteristics of SIAD.



Manuel Puzon (left) during a SIAD external evaluation in Inopacan

Participants were oriented on the definition, concepts, principles and characteristics of SIAD.

⁴ Economic classification of a municipality with an annual average income from 21-27 million Pesos (US\$ 420,000-540,000).

Testimonies

A video documentary, entitled "A Town Speaks", showed the SIAD experience from 1994-2001 in the pilot site in Inopacan, Leyte. It recorded testimonies of multi-sectoral group representatives of how SIAD had affected their livelihoods. One significant testimony was that of Manuel Puzon, an elementary-graduate fisherman who started as a member of a fisherfolk organization and was observed to be quiet and reserved during meetings. As SIAD activities progressed, he gradually developed leadership capabilities which became apparent among his peers. Manuel was elected vice-president of his organization and became a member of a pool of local trainers who are tapped to handle community seminars for fisherfolk organizations. He is currently employed by the municipality of Inopacan to do community organizing work in other barangays⁵ of the municipality.

Participatory Local Development Planning

The afternoon session started with a lecture on Participatory Local Development Planning (PLDP), a framework that specifies proposals for guiding development growth of a particular area. The Comprehensive Land Use Plan (CLUP) prepared by the LGU is an example. Since CLUP is already institutionalized, it was the entry point used by PhilDHRRA to adopt SIAD in its Inopacan pilot site. A video documentary – "The Bold Steps Towards Sustainable Integrated Area Development" – was shown about PLDP activities in Inopacan. It depicted the chronological processes facilitated by PhilDHRRA that resulted in the formulation of a 30-year CLUP for Inopacan. It is a showcase of the collaborative and concerted efforts of the LGU, government organizations and agencies, NGO and PO that yielded significant sustainable development growth.

Local Sectoral Representation

The final activity was a discussion of Local Sectoral Representation (LSR): Advocacy for Making Participatory Governance a Reality. LSR is embodied in the Local Government Code of 1991. Because of the absence of a defined election process, it is not implemented at local levels. Allies in Congress and the Senate are sponsoring a bill on LSR. However, to speed up passage of the bill, a signature campaign is being initiated by NGOs all over the country.

In her closing statement, Josephine Savaris stressed that the SIAD approach recognizes the importance of collaborating with LGUs because they have the legislative power to institutionalize proposed initiatives developed by different sectoral groups in the municipality.

Follow-up

As a follow-up activity, two Participatory Rural Appraisal (PRA) training sessions were conducted in March 2003. Five people from each of the 26 barangays were recruited to participate in two batches. They would become the official local researchers of their barangays. The majority of participants were barangay health workers (BHW), nutrition scholars (BNS) and services point officers (BSPO) who could be easily trained in data collection. Presently, activities for data collection are ongoing in all barangays. Once this is completed, PATANOM plans to hire a statistician to assist and train local researchers to process the data.

With regards to the Local Sectoral Representation, copies of a "call for action" – signed by PO presidents from all over the country – were sent to individual Senators in time for the opening of the Senate in April 2003.

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To learn more about SIAD and the "significant change" story of Manuel Puzon, please contact Josephine Savaris at <phildvissect@pacific.net.ph>.

⁵ Basic government unit equivalent to a village

Group-building, Production Success and the Struggle to Prevent Capture of the Resource

B K Sahay, K P Singh and S N Pandeya

Getting Started

KRIBP-E⁶ activities on pond cleaning, removing weeds and use of lime were started in 1996 in Amber Toli of Nehalu cluster, of what was then Bihar state and is now Jharkhand. The community perennial pond (*Maria bundh*) of 1.96 acres was owned by villagers and used by everyone for bathing, cleaning animals and irrigation. Before 1996, there was no culture fishery. Then, the Young Generation Group (a Self-Help Group) of Amber Toli, with members from all 36 households, started doing aquaculture. They received training from KRIBP-E, and in June they stocked the pond with seed from SRI⁷ (10,000 fingerlings of 30 mm). The villagers developed a schedule, what they needed from the project, what could be provided and who would do what. The group also decided members' roles and responsibilities for feeding, watching and other management practices. Villagers provided manure by basket, about 60-70 kg of dry cow dung per week. From the project came lime, rice bran and chemicals for precautionary treatment. Fingerlings were added to the *hapa* net, treated and released.

Results

In 1996, there was no proper outlet facility and the group could not get a good yield. They harvested in March and got Rs 6,000. They had no big net and were not trained. They brought a net from another village, rented at Rs 200. In 1997, the community continued the activity and also added 2 kg of fingerlings purchased from the Bharno local market. Harvesting of fish that year was comparatively better and they sold fish worth Rs 9,000; some of the older fish now were 3-3.5 kg. This time a net was borrowed from Birsa Agricultural University. They tried to check



Group harvesting the success

the outgoing fishes by making bamboo net. But due to heavy rain they could not succeed and so, like in 1996, they lost many fish. They then decided that until there was a proper outlet, they could not succeed, so they raised a proposal. With the help of the (now) GVT project, in 1998 an outlet was constructed with an investment of Rs 60,000. Community members also provided labor at a 50% charge of the labor rate.

By this time, the community and *jankars*⁸ had received many training inputs from the project and their skills developed considerably. Group savings were about Rs 18,000 (12,000 in the bank at 12% annual interest; 6,000 in credit and savings at 5% per month). The lending rate in the village was 10% per month. In terms of marketing, if the group harvested 30-40 kg, they sold among themselves and to outside persons. When they harvest in March, a big crowd gathers. First they sell to the group at Rs 30, then to neighbors at Rs 40, and only then to outsiders, but there is never any left.

Conflict – Encroachment by an Individual and Community Struggle

When the outlet construction was in progress in 1998, a person of the same village – who lived at Ranchi⁹ and was employed in the survey office – represented to the GVT Bihar State Coordinator (SC), that this pond was his personal property, so please stop the work. But by that time the

6 DFID-funded project in eastern India of KRIBHCO, now the Gramin Vikas Trust or GVT

7 Society for Rural Industrialisation

8 Community members trained with GVT to be village specialists

9 Now the capital city of Jharkhand state

construction of the outlet was 80% finished. The claimant was requested by project personnel to settle it with the community amicably. Meanwhile, the claim paper presented by him was forwarded to the Circle Office (CO) Bero for verification about the ownership of the land, requesting the officer to give feedback to KRIBP-E.

The claim was found to be not genuine as there was no record in the revenue register for that land. Also revenue had not been paid to the office, which is required and supposed to be one of the major papers relating to ownership of the land. The claimant returned to the office with two other persons to discuss the matter with GVT's Bihar SC and Nehalu Community Organizer. They agreed that there was no objection to constructing the outlet for the benefit of the community, so it was completed. The Additional District Magistrate of Ranchi visited the pond in February 1998 to see the group's aquaculture activities and sanctioned a hatchery construction project of Rs 600,000, with the first installment of Rs 100,000 received late that year. They visited the site to plan and demarcate the hatchery.

Seeing the success of the pond and government assistance, again the claimant complained. So KRIBP-E requested the Circular Officer to make ownership clear, and papers were sent to LRDC¹⁰ Ranchi. The claimant also tried to harvest the fish by hiring some "musclemen", but the villagers united and prevented him from harvesting. He also lodged an FIR¹¹ in the name of some group members and filed a court case for ownership of the pond.



Pond with conflict – whose ownership?

In 1970, there was a mass transfer of government land to the people – “distribution of Pata” – without following proper procedures. The claimant's paper (from 1977) was 27 years old and there was no record with the LRDC. The paper showed that the plot was fallow land while the Circular Office record stated that this plot has a *bundh* – a big earthen bund – which cannot be personal property. The *bundh* had been paid for by the Block Office, i.e., constructed by the government, in 1970. Therefore this must be government land.

The villagers held a meeting and collected papers related to the ownership of the pond. The case was transferred to the LRDC court with a recommendation from the Circle Officer in favor of the community. The group members also jointly represented the issues to the local MLA¹², who also recommended to the LRDC in favor of the villagers – that this was a common village pond and did not belong to an individual. The case is still in LRDC court. The pond is presently under the complete ownership of the community and in 2002, they stocked 6 kg of fingerlings.

Conclusion

The group is cohesive and has good understandings of their rights. They have strategic planning to fight with probable emerging situations. In the worst situation, they are planning for the development of some other ponds to continue this activity but will not allow their skills in aquaculture activities to dissipate.

Mr B K Sahay, Field Specialist Social Development; Dr K P Singh, Field Specialist Aquaculture (retired) and Mr S N Pandeya, Field Specialist Monitoring and Evaluation (former) are (were) with GVT East in Ranchi, Jharkhand. They can be reached through <rch_gvteirfp@sancharnet.in>.

10 Land Reform Deputy Collector, government official looking at land-related issues at district level

11 First Investigation Report (a case has to be filed with the police after any incident)

12 Local elected representative at the state legislature

Urban Agriculture, Water Reuse and Local Economies: Case Study of Coastal Riverine Settlements of Ondo State, Nigeria

Yemi Akegbejo-Samsons

Introduction and Method

About 40% of the world's population lives within 60 km of the coast. In Africa, population growth trends indicate that this figure could rise to 75% within the next century (Odada, 2002). The coastal wetlands of Sub-Saharan Africa are in rapid transition, with rising populations swollen by rural-urban migrants and political refugees, growing competition for natural resources and living space, wide-scale pollution and transformation of vast coastal areas in a bid for rapid economic growth (Hatzioalos et al, 1994).

Urban agriculture (UA) has been defined as an industry located within (intra-urban), or on the fringe (peri-urban) of, a town, city or metropolis. UA grows or raises, processes and distributes a diversity of food and non-food products, (re)using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and material resources, products and services largely to that urban area (Mougeot, 2000). With the growth in the world's human population, the over-exploitation of land-based resources and recent advances in technology, there is increasing reliance on the maritime environment for a range of often conflicting uses such as the provision of food, the disposal of waste, transport and communication, mineral extraction, and recreation and leisure.

This article looks at the impact of UA on the coastal riverine environment and the reality of water use and re-use in the study area. The study was carried out in the coastal riverine wetland area of Ondo state – bounded in the east by the River Benue in Edo state, in the west by the Ogun state coastline and in the north by the Okitipupa and Irele local government areas. This is parallel to Nigeria's southwest coastline, which is characterized by extensive lagoons and a river-delta system. It covers latitudes 4-6° N and is part of the 853 kilometer long coast of Nigeria.

Activities related to urban agriculture were assessed through interviews and a structured questionnaire distributed to fishers and farmers during various village meetings from July to December 2002. Inputs used by farmers were assessed and activities that constitute urban agriculture identified. Water recycling and reuse options and methods were investigated. Problems associated with water use and re-use were investigated. The state of water (quality, quantity and pollution) was also assessed through on-the-spot visits to selected villages and laboratory analysis of samples taken from the different villages. Water availability in the required quality was also examined.

Results

The People and Their Livelihoods

The area is inhabited by three major ethnic groups: the Ilajes, who form about two-thirds of the population, the Ijaw Arogbos, and the Ijaw Apois, who are the Yoruba-speaking group. The two Ijaw groups constitute only one-third of the population. They are primarily fishermen with a negligible number of people involved in other activities. Twenty-three percent of men and women engage in fishing activities. Local industries include gin distilling, iron smiting, net fabrication and boat building. Economic activities include farming, trading and water transportation.

Benefits of UA

The practice of UA has numerous benefits for both the environment and the people:

- Urban and village food demand were noted to be higher than supply in locations where UA practice was not possible. Fishermen depended on supplies that were mainly from

“port towns” like Igbokoda, Atijere, Igbobini and Mahin. Households in nearly half of the settlements spend between 50-75% of their income from fishing on food.

- Where UA was considered to be effectively practiced, the retail prices of local vegetables and root crops were significantly lower than settlements that could not practice UA.
- Self-produced farm items provide nutritious food otherwise unaffordable to low-income households.
- The impact of UA on community welfare was high in coastal centers like Aiyetoro, Ajegunle, Idiogba and Mahin. Farmers and fishermen contribute to community welfare through generation of employment for youth and post-secondary school-leavers, who help to water and maintain urban gardens and annual crop farms such as pineapple, maize, okra, melon and orchards. Direct marketing by the producers plays a significant role in the communities.
- Women were the largest group involved in UA, where they are involved in various production levels such as simple farming, harvesting and sale of produce.
- In monetary terms, incomes from fishing were higher than from urban agriculture by over 65%. However, fishers still prefer to combine UA with fishing for reasons of food intake (feeding the family with staple food varieties).

Water Use

Water for human consumption and domestic use was from rain; wells or shallow boreholes; and streams, rivers and canals through the coastal landscape. Specifically, over 80% of household water demand is met by these latter sources in areas like Mahin, Idiogba, Ajegunle, Ugbonla, Kiribi and Gbolowo. Water for agriculture was found to be mainly from canals and rivers in all the coastal cities studied. Urban and rural agriculture seem to be the major consumers of “just any type of water”. In most of the visited coastal cities, over 75% of the rice fields were irrigated using direct water linkages from streams, and in most cases they were established in floodplains. Over 90% of the sampled areas consume untreated water directly from all available sources. The health implications of this include acute occurrence of diarrhea, typhoid, and various symptoms of water-borne diseases. The same quality of water was found to be used and re-used for human, animal and agricultural purposes.

Conclusion

Deteriorating water quality, sanitation and health problems are obvious in the study area. The absence of latrines and adequate municipal waste disposal have led to contamination of the surface water and shallow aquifers. Less than 25% of rural communities have access to safe drinking water. This alone has an enormous impact on the health of working adults and on the child survival rate in the study area's communities.

References

Hatzios M, Lundin, C G and Alm, A 1994 *Africa: A Framework for Integrated Coastal Zone Management*. Africa Environmentally Sustainable Development Division, The World Bank.

Mougeot, L J A 2000 Urban Agriculture: Definitions, Presence, Potentials and Risks. In Bakker, N et al (eds), *Growing Cities, Growing Food: Urban Agriculture on the Policy Agenda. A Reader on Urban Agriculture* (pp 1-42). Proceedings of a workshop organized by GTZ, CTA, ACPA, SIDA and DSE. Havana, Cuba, October 1999.

Odada, E O 2002 The Impact of Human Activities on Africa's Coastal and Marine Areas and the Implications for Sustainable Development. In Arthurton, R S et al (eds), *African Basins: LOICZ Global Change Assessment and Synthesis of River Catchment-Coastal Sea Interaction and Human Dimensions* (pp 71-80). LOICZ Reports and Studies No 25.

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Livelihoods Analysis: Actual Experience from Using PRA

Pham Minh Tam and Trinh Quang Tu

Introduction

Participatory Rural Appraisal (PRA), as a combination of research and practice, is useful in assessing the status and impact of projects and programs. PRA is usually an initial step in a process of planning in which the community takes a progressively more important role. It is characterized by people's participation in information-exchange and assessment of the actual situation. In some cases of PRA practice, however, we have not yet reached good results because we are still gaining experience. Therefore, we want to share some of what we have learned through the UNDP-funded project "Analysis of Sustainable Livelihoods of the Poor in Northern Uplands of Vietnam" (UNDP, 2001) and DFID-funded livelihoods analysis work (ARMP, undated; DFID, 2000).

Process of Livelihoods Analysis

We combined PRA methods and secondary data collection at provincial, district, commune and village levels, with a focus on poverty and nutrition status. At the household level, we analyzed farming systems, profiled poverty and nutrition status, and considered activity options for improving livelihoods. For instance, we compared aquaculture with other activities in the farming system – in terms of cost, benefit and vulnerability – for making decisions to stop or continue doing aquaculture.

The main data-gathering techniques were household interviews with men and women, focus group discussions, and key informant interviews with individuals in the community. Within the village, households could be classified into one or multiple groups according to such criteria as ethnicity, income, occupation, educational level or others such as vulnerability and "better-off" households.

Lesson Learned

Use of PRA Tools

Some of the lessons we have learned in using PRA tools include:

- We should prepare a checklist of information we want to collect, but avoid using a fixed-question format and overusing technical terms. There will be times when there are problems we do not see, or do not think to ask about. Questions should be related to our observations, using what, when, where, who, why and how?
- We should ask open questions which provide more information than closed ones. Information can be validated through cross-checking with different people and from different tools.
- It is better to use the resource map and transect walk tools first. They can help us with our overall understanding of the village before we use other tools. For example, a transect walk combines walking with a key informant interview and will stimulate deeper questions and answers than in an office or other building.

Report Writing in the Field

It is essential to record information in the field while the study team is together. Report writing is made easier by writing up the process in a diary format and by writing a brief summary of diagrams that result from using the PRA tools.

Diaries and Notes

Keep a private diary or series of notes to focus on where you, the outsider, would desire things to happen better next time. Where were the problems? What could be done to avoid them? Who might be able to provide some solutions? What errors should be thought about? What lessons are there to learn?

Ensuring the Participation of Poor People

It is a tendency that poor people are not able to participate in community activities because:

- They may not have the self-confidence or may be fearful of participating. They may have a sense of alienation from decision-making processes and feel ill-informed about government policies and programs.
- Study teams may prefer to involve “better-off” people in activities because it seems easier to work with them, and we want to demonstrate good results while showing that our main objective is working with poor people.

We must ensure that the poorest groups in a community take part and that their voices are heard in any activities.

Ensuring the Participation of Women

Women often have fewer opportunities to take part in, and are typically neglected by, social and development activities, particularly in rural areas. It is important that they be involved in participatory processes, because:

- Their needs and priorities are often rather different from men and are often more family-oriented. We need to take every opportunity to talk with both men and women.
- Women play important roles in development, especially in activities like aquaculture which are close to home.

Conclusion

As a practice, PRA integrates participation with research, and thus requires skilled facilitators and interviewers. In the PRA process, we should use appropriate tools in practical conditions, especially in rural and mountainous areas. We can also combine PRA tools with other methods such as questionnaires and interviews to achieve effective results.

References

ARMP (undated) *Poverty and Aquatic Resources in Vietnam: An Assessment of the Role and Potential of Aquatic Resource Management in Poor People's Livelihoods*. Bangkok: Aquatic Resources Management Programme, Network of Aquaculture Centres in Asia-Pacific and DFID South East Asia.

DFID 2000 *Sustainable Livelihoods Guidance Sheets*. London: Department for International Development.

UNDP 2001 *Analysis of Sustainable Livelihoods of the Poor in Northern Uplands of Vietnam*. Project VIE/98/009/01/NEX. United Nations Development Programme.

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A Sustainable Livelihoods Approach to Fisheries Development for Poverty Alleviation in Southeastern Vietnam

Nguyen Van Tu and Nguyen Minh Duc

Applying a Sustainable Livelihoods Approach in AIT-AOP

The SIDA-funded “Project on Rural Development through Aquatic Resources Management” of the Asian Institute of Technology’s Aqua Outreach Program (AIT-AOP) has been implemented in southeastern provinces of Vietnam since 1994. The project’s objective is to improve livelihoods of the poorest people in rural areas through sustainable aquatic resources management. With activities such as on-farm fish culture trials and upgrading the capacity of provincial Agriculture Extension Centers (AEC), small-scale fish culture has been gradually developed and contributed significantly to improving incomes of poor households. The objectives for carrying out a sustainable livelihoods (SL) analysis under the project were to:

- Analyze the current status of production, living conditions and livelihoods assets of poor farmers and fishers in target areas
- Identify main jobs and important income sources of poor farmers and fishers and to understand what is needed to help them eliminate poverty
- Understand institutions, policies and factors influencing resource use of poor people and to assist local governments and relevant agencies to formulate a proper Hunger Eradication and Poverty Reduction (HEPR) strategy through aquatic resources development, and
- Establish basic data for developing plans for the project’s collaborative activities aimed to assist poor people in improving their livelihoods through better use of aquatic resources.

Implementation

To implement the SL analysis approach, AIT-AOP staff coordinated with local authorities and relevant agencies – such as the Department of Agriculture and Rural Development (DARD) and AECs – to carry out Rapid Rural Appraisal (RRA) in communes of partner provinces. The survey group proposed to select Hoa Thanh Commune of Chau Thanh District – Tay Ninh Province, Long Ha Commune of Phuoc Long District – Binh Phuoc Province, and Thanh Son Commune of Tan Phu District – Dong Nai Province. These communes are poor but have high potential for aquatic resources development.

Before starting the survey, AIT-AOP trained local staff on the SL approach. Then, a multidisciplinary group was formed with staff of DARD, AEC, district agriculture and economics divisions, commune People’s Committees, Farmers Union and other relevant agencies. The SL analysis was conducted in the three communes from February to April 2002. Based on the SL framework, Participatory Rural Appraisal (PRA) methods were employed to collect data for the analysis of livelihoods assets, policies, institutions and processes affecting livelihoods. Data on problems, constraints and advantages of aquatic resources development were also gathered and analyzed.

Some Findings

Poor people in the surveyed communes lacked cultivated land, capital and techniques, and frequently faced risks caused by poor weather and disease. They are unable to obtain required capital for investment in production development, not even from the Bank for the Poor and Agriculture Development Bank.

Each poor household has its own particular situation. Therefore, HEPR programs must be based on the situation of households within the same context. Any programs must not only directly affect people’s livelihoods activities, but also supporting policies, e.g., credit and natural resources protection, through which poor people can realize benefits.

Poor farmers hire themselves out as farm labor, their main income source followed by cropping, fish culture and animal husbandry. They confirmed the need to utilize locally-available resources – such as labor, cultivated land and technical support from extension services – to develop aquaculture for additional income. Poor fishers' main income source is from fishing in natural water bodies. When aquatic resources have severely declined, they have to shift to planting or hiring themselves out as farm labor. Therefore, they need an efficient system of community-based protection to enhance the resources and sustain their catch.

There is a need to establish groups of poor people to help them share knowledge and experience to identify problems and constraints, find optimum solutions and mobilize community power. Through such groups, local governments, extension centers and HEPR committees can more easily provide support to help people overcome constraints to poverty elimination.

Support Activities

Farmer Field Schools on Fish Culture

Through the process of SL analysis, farmers expect to develop aquaculture as a means of income improvement. Based on farmers' needs, the AECs of the three partner provinces asked for AIT-AOP's support to establish farmer field schools (FFS) on fish culture. An extension approach that is centered on and led by farmers, FFSs would provide opportunities for them to share experiences and learn fish culture techniques. FFSs can facilitate farmers to learn about costs and benefits, carry out trials and find appropriate solutions to utilizing and managing natural resources. Application of the FFS approach in aquaculture can assist people in playing more active roles in aquatic resources use in their livelihoods. FFS can bring people into active participation in development planning processes at household and community levels.

Fishing and Aquatic Resources Protection Groups

For their food and income, farmers and fishers depend on aquatic resources in a reservoir in Long Ha Commune and in swamps and channels of the East Vam Co River in Hoa Thanh Commune. Realizing the urgent need to develop more effective community-based mechanisms for aquatic resources protection, the commune government, farmers and fishers established groups on fishing and aquatic resources protection. They produced fishing regulations and hold monthly meetings. Members agreed to stop fishing in spawning grounds during the fish breeding season. Thanks to the group's operation, illegal fishing activities have been reduced. To increase fish stock, in July 2002, the provincial DARD of Binh Phuoc Province helped stock 80 kg of fingerlings in the reservoir. Local governments of Tay Ninh Province have also formulated plans to develop fish culture in the commune, aimed at reducing pressure on natural resources and improving poor people's incomes.

Lessons Learnt

The SL analysis approach is a tool which helps poor people understand the resources they have and local staff understand poor people's livelihoods to support them better. To make SL analysis more effective, the following issues should be considered:

- *Formation of SL analysis group:* Members of the group should be representatives of agencies and organizations working closely with and providing support to poor people (e.g., the provincial AECs).
- *Duration of SL survey:* An SL survey should be carried out for not longer than two weeks. Representatives of key agencies and organizations should participate in all meetings with farmers and fishers during the survey.
- *Follow-up activity:* SL analysis is useful for understanding the main factors influencing poor people's livelihoods. After conducting SL analysis activities, it is also necessary to quickly develop follow-up action plans with the participation of farmers and fishers.

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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 communication 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 Programme 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 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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