

## Editorial

### • Theme issue

Most of the articles in this issue of the *PLA Notes* explore the use of participatory approaches with fishing communities. They examine how participatory approaches can be used to tackle the challenges of small scale fisheries development. The guest editor for the theme section of the *Notes* is Marie Thérèse-Sarch, who worked with the Traditional Management of Artisanal Fisheries project in Northern Nigeria (see Sarch, this issue). She is currently completing her doctoral thesis examining interactions between fishing and farming activities in households at Lake Chad.

### • In this issue

First, however, this issue opens with a suite of more general articles. The first two articles examine the use of participatory approaches in novel settings. In the first, Anbalagan, Karthikeyan and Narayanasamy describe the use of PRA to assess the impacts of tannery pollution on a village in Southern India. In the second, Torsten Striepke describes the use of participatory approaches in small business development in Nepal. Both these articles combine participatory approaches with other methodologies to build up a detailed picture of the local context.

Maxwell, Armar-Klemesu, Brakohiapa and Annorbah-Sarpei describe the use of participatory concept mapping to understand the causes of urban malnutrition in Ghana. Their approach is useful for studying complex problems which have multiple causes and can be adapted to different contexts.

A similar visualisation approach is used by Scheuermeier and Ayuk to enable researchers and farmers to explore the bottlenecks and potential pitfalls in an agricultural system.

They adapt food path analysis to examine food production. When completed, the diagram provides an 'entry point' for community discussions about the system under study.

In the final article in the general section, van Wijk explores how participatory approaches can enhance project evaluation. Describing a sanitation and hygiene programme in southern Niger, she shows how the programme benefited from an understanding of how adults learn. This is described in the article.

### Regular features

The *Extracts* section in this issue draws on a letter from Lepcha and Virgo and comments on the use of ladders as props for research. It responds to a previous article on 'satisfaction ladders' in *PLA Notes* 28. In the *Feedback* section, Anil Shah describes the challenges of promoting a development process that meets the needs of local people and development agencies. He highlights the importance of consensus building and the sharing of information within and between institutions and communities. In a response to Anil's article, Kudakwashe Murwira stresses the importance of flexible institutions that should play a facilitating role in participatory development.

For trainers in participatory learning, the serialisation of the *Trainers' Guide to Participatory Learning and Action* describes how games and exercises can be used to enhance learning in a workshop setting. The *Tips for Trainers* section has been prepared by Barbara Kaim and describes one such game called 'Buses'. This exercise can be used as an ice breaker and for grouping participants.

The *In Touch* pages (at the back of the issue) share experiences and publicise new and relevant materials and training events. The *RCPLA Pages* in *In Touch* section describe the work of a participatory network in Bolivia. Happy reading!

## Assessing pollution from tannery effluents in a South Indian village

K. Anbalagan, G. Karthikeyan and N. Narayanasamy

### · Introduction

The leather industry is an important foreign exchange earner for India. The states of Tamil Nadu, West Bengal and Uttar Pradesh together have 88 percent of the tannery units of the country. Tanners use a large number of chemicals during the process, discharging toxic wastes into the rivers and degrading agricultural land.

All of the 68 tanneries in Dindigul, Tamil Nadu, South India, are situated within a 5 km distance from the centre of the town. Several of them have been in existence for thirty to forty years. Effluents from the tanneries are discharged in to streams which drain into ponds, thereby polluting the ground water sources and cultivable land.

### Pollution due to tannery effluents

A variety of chemicals are used in the tanning industries, including lime, sodium chloride, sodium carbonate, ammonium chloride, sulphuric acid, tannins and dyes. All tanneries need a large amount of water for processing leather and depend on ground water sources for their daily requirements. The discharged effluents from the processing units are stored in large lagoons and pollution occurs as the dissolved salts percolate into the surrounding soil. Thus, the ground water sources are exploited to their fullest potential and polluted to a great extent. A state of severe pollution results from the cluster of tanneries in close proximity to each other.

This study was carried out to assess the magnitude of the pollution problem in Kamatchipuram village, 5 kms away from

Dindigul town. PRA techniques were used in combination with well-established scientific water analysis techniques. The aim was to analyse and understand the toxic effects of tannery effluents on agriculture and the day-to-day life of people in Kamatchipuram village.

### · Methods

As part of their outreach programme, the staff and students of the Department of Chemistry worked with the PRA Unit of the Gandhigram Rural Institute to conduct the in-depth study of the effects of pollution caused by tannery effluents. Together, the team from the Department and the PRA Unit made two visits to the village to explain the purpose of the study and to ask people to participate in it. It was during these visits that the team learned that an NGO, the Peace Trust, had been organising environmental awareness campaigns on pollution and its effects. The team decided to involve this NGO in the appraisal. Thus the final team for appraisal comprised chemists, environmentalists, social scientists and extension specialists.

Field exercises were conducted for three days in Kamatchipuram village. Social mapping was used to understand the social structure of the village and to know the families whose livelihood opportunities are linked to the tanning industry. While drawing the social map, a discussion evolved around the problems of polluted drinking and irrigation water. This led to the drawing of a resource map indicating clean and contaminated water sources, including ponds, wells, streams and boreholes. After drawing the map, people suggested that one could only understand the seriousness of the problem by observing it. This prompted us to go for a transect walk.

The occasion was also used to collect water samples for chemical analysis.

The other tools employed included a 'time line' to obtain a historical profile of the problem, 'trend change' to ascertain the effect of tannery effluents on the life of people, and 'focused group discussions' to have more insights into the problem and to find out possible solutions.

The findings of the appraisal on each day were presented in a plenary attended by villagers and the PRA team. This facilitated the cross-checking of information and also enabled issues, whether raised by villagers or the team, to be clarified. A plenary on the last day of the meeting was used to discuss possible solutions to the problems and the follow-up required.

## • Results of the appraisal

### Genesis of the problem

About 50 years ago, ten tanneries were started 5km away from the village. People did not feel the problem of effluents in the initial stages as tanning used natural materials, such as the bark of tamarind and Indian gooseberry trees. As the years passed, the number of tanneries in the Dindigul area increased and competition among the tanners intensified. This led to the introduction of chemical processing of hides. The tannery wastes containing these chemicals were emptied in to streams and open fields. Consequently, the land and the water in this region were contaminated.

### The effect of tannery effluents

The tannery effluents have damaged the environment and affected people's livelihood opportunities. The effect of effluents on water, soil, employment and health are described below, as are the findings of the chemical analysis.

### Water

Of the 56 wells located in Kamatchipuram, only 16 wells, those near the river, are uncontaminated (see Figure 1). The 16 'clean' wells cannot be used as drinking water sources

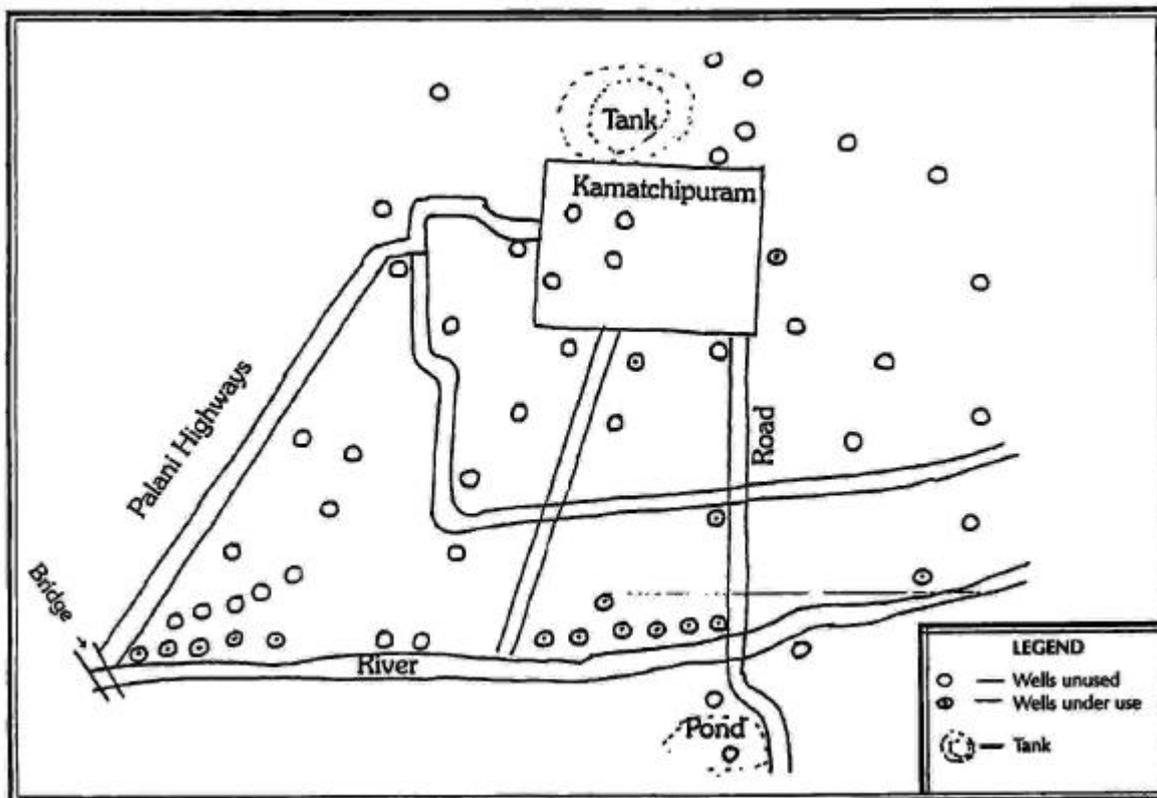
or for watering animals, but are used for irrigation. During the rainy season, farmers divert or pump water into the wells situated on the banks of the river and use it for irrigation purposes. In the non-rainy season, water in the wells is salty and cannot be used for irrigation. Our chemical analysis of the water showed that, in fact, it is neither fit for drinking nor for irrigation.

A public well in this village, which was once an important source of drinking water for the whole village is considered 'as a deep pit with poisonous water'. The village women have to walk two to three kilometres to fetch drinking water from less polluted areas.

### Soil

Effluents containing toxic chemicals have seeped into the arable land. Food crops, such as paddy rice and sorghum, and cash crops, such as cotton, chillies, cereals and pulses, were cultivated in the past. But now, agriculture is in decline because of the effects of tannery effluents. Some of the farmers have shifted to coconut cultivation because of the water and soil pollution, but even the coconut trees showed stunted growth. A farmer with 1000 coconut trees in his land reported that the yield from all the trees put together is just enough to meet his domestic consumption. With the decline in productivity, the land value has also decreased. A local woman commented; 'you cannot equate two acres of land here with two acres of land elsewhere – its value is less here due to the toxicity in the soil'.

**Figure 1. Water resource map of Kamatchipuram showing wells that can and can't be used by local people.** Drawn by the people of the village



### Employment

There has been a notable change in the occupations of people over a period of 25 years. There was a time when every family depended on agriculture; but now, only about 30 families, 16% of the village, pursue agricultural operations. The rest have shifted to non-agricultural pursuits, such as wood cutting, labouring in small and big industrial units, cart pulling, loading and unloading goods and charcoal making.

### Health

The effluents have also affected the health of livestock and humans. When cattle drink the water drawn from local wells or feed themselves on the grass, they become sick. The humans are also prone to epidemic diseases, like cholera, jaundice and malaria. Summing up the problem, an old woman said

‘can you purify cancerous blood in the human body? This is the condition of the soil and water in this village, due to the effects of tannery effluents’.

### Water analysis

The chemical analysis carried out in the laboratory reveals that the ground water has high saline content, high values for both biochemical oxygen demand and chemical oxygen demand. The agricultural land has been made unsuitable for crop production because of high saline deposits over the soil.

### • Conclusion

The study offered a valuable opportunity of approaching a problem by combining methodologies and using PRA together with chemical analyses. The lessons we learnt are summarised below:

- Chemists normally study problems by conducting soil and water analyses, based on standardised procedures and established technologies. We realised the value of sitting, listening and learning from the people and blending the conventional analysis with a more participatory approach and methods. The exercise gave us an opportunity to understand the diverse nature of the problem of tannery effluents.
- Combining the results of the laboratory water analysis with the real situation of the village people helped us to jointly analyse the problem and draw conclusions with a high degree of reliability.
- This study showed that the knowledge of local people is considerable, up-to-date and provides a long term perspective. In this context, it should be of great relevance to decision-makers.
- This study offered an opportunity for physical scientists and social scientists to work together to tackle a serious environmental problem and learn from each others' approaches.

The exercise has highlighted the importance of the local analysis of a problem. We are reminded of the words of Mahatma Gandhi; 'your laboratories are devil's workshops unless they serve the rural poor'.

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## 2

## Participatory action research for a small industries promotion programme

Torsten Striepke

### • Introduction

In June 1995, the Swiss Agency for Development and Co-operation (SDC) embarked upon a new Small Industries Promotion Programme in Nepal. This focused on meso-level interventions designed to favour Small Business Membership Organisations (SBMOs) in various sectors. The long-term strategy aims at capacity and institutional building through participatory action research methods.

### The preparatory phase

For over a year prior to practical implementation, SDC explored the potential for launching a programme supporting SBMOs, and thus micro- and small enterprises in Nepal. Six small business membership organisations were selected as entry points for the Small Industries Promotion Programme (see Table 1). These had links to existing Swiss projects.

A three-tier strategy was developed for the preparatory phase. This was expected to provide planners with the key data and experiences necessary to plan a long-term programme. The strategy comprised:

- action research activities within the six SBMOs;
- detailed sub-sector studies; and,
- an overview study.

### • Participatory action research activities

The three activities also aimed to familiarise the SBMOs with the Swiss project. The participatory action research approach was introduced to highlight the key features of the project to the SBMOs:

- that the financing of all activities was to be raised jointly by the SBMOs and SDC;
- that stakeholders would participate actively;
- that all exercises would be planned jointly; and,
- that all activities would be realistically budgeted.

This partnership approach to project development was rare in a Nepalese donor-recipient situation. Normally, the donors dictate the budget and pace of the 'development'. Participants frequently attended trainings to gain *per diems* for themselves, rather than making contributions to the project. Yet 'over-financing' by donors can be one of the factors that reduces the sustainability of projects in the long term.

Agreeing to the participatory action research approach, the six SBMOs discussed their problems and identified activities that could bring about positive changes. In a number of rounds of discussions with individual SBMOs, small, concrete and practice-relevant ideas were developed. This was promoted because SDC stipulated that a 30% financial contribution towards each project should come from the participating SBMOs.

**Table 1. Participating SBMOs and activities planned**

| SBMO  | ACTIVITY PLANNED  |
|---|---|
| Auto-mechanics Association of Nepal               | Engine Overhauling Training Programme;<br>Literacy Classes for illiterate Members |
| Women's Entrepreneurs Association of Nepal        | Bamboo Product Training   |
| Association of Nepal Cottage and Small Industries | Sheet Metal Fabrication Training Programme  |
| Nepal Micro Hydro Power Development Association   | Promotional Exhibition  |
| Federation of Nepalese Industries                 | Training on Tax Assessment and Accounting   |
| Federation of Nepalese Transport Entrepreneurs    | Training on Correct Behaviour of Bus Personnel                                    |

Table 1 shows the activities that were agreed upon between SDC and the SBMOs. All SBMOs reached or even exceeded the 30% contribution that was required. Much emphasis was placed on training activities being demand-driven. All trainings were preceded by a workshop at which the participants expressed their specific training needs. This enabled planners and trainers to tailor-make the curricula.

### Sub-sector studies

The participatory action research activities were supported by sub-sector studies, which focused on the enterprises at the micro-level. They explored the entrepreneurs' economic problems and their views about their representative bodies, the SBMOs. The sub-sector studies were undertaken to get direct contact with small entrepreneurs struggling for daily survival. These studies enabled the entrepreneurs to analyse their own situation. A large number of entrepreneurs were met from each of the following sub-sectors: transport, metal works, electrical apparatus and appliances, food-based technologies, and auto-mechanics.

To the best of my knowledge, participatory appraisal methods had not previously been used for investigating small industries promotion. Thus, a number of innovations needed to be introduced in order to make the approach a viable one. An intensive two-day workshop was undertaken with about twenty local interviewers to adapt the key method, the semi-structured interview, to the local situation. The interviewers worked with local entrepreneurs. In total, 24 interviewers visited three locations: Kathmandu, Pokhara and the

Terai Belt, which were identified as having the highest number of entrepreneurs per sub-sectoral cluster. Their role was to identify key informants in each sub-sector. The key informants acted as 'door-openers' to find entrepreneurs who were members of the SBMOs. Through the entrepreneurs' networks, entrepreneurs who were not members of the SBMOs could be easily located and visited.

Each interviewer paired with one of the key informants so that teams were formed for each location. A date for a feedback meeting was fixed at the beginning of the study. In this way, the entrepreneurs were sure that the information provided to the research teams was fed back to them. This differs from a more traditional research approach which can leave the 'object' of the research without any clear understanding of the role of the researcher and the utility or application of the information they provided.

On average, the feedback meetings were attended by more than 50% of the entrepreneurs interviewed. This is a positive finding and demonstrates the interest generated by the study. The main findings centred on bottlenecks and ideas to overcome these problems. In most cases, the entrepreneurs highlighted the need for unity and for greater representation of their demands in the SBMOs.

The reports filed by the local interviewers featured the basic information gained during the semi-structured interviews, together with a photograph of the entrepreneur in front of his/her workshop, signboard, or with his/her machinery. The locations of the entrepreneurs were marked on a city map so that they could be retraced. The report, photos and map

provide a baseline survey which can be used for reference purposes at a later stage of the Programme.

### Overview study

The overview study provided a range of information which could not have been obtained by means of pure action research. This information included:

- the sub-sectors' present growth potential;
- the future prospects from an economic perspective, and,
- a compilation of existing written reports and project documents from other donors' interventions.

The study included an overview of the existing structure of the SBMOs. This was complex, comprising different chambers and federations, as well as individual associations affiliated with different organisations.

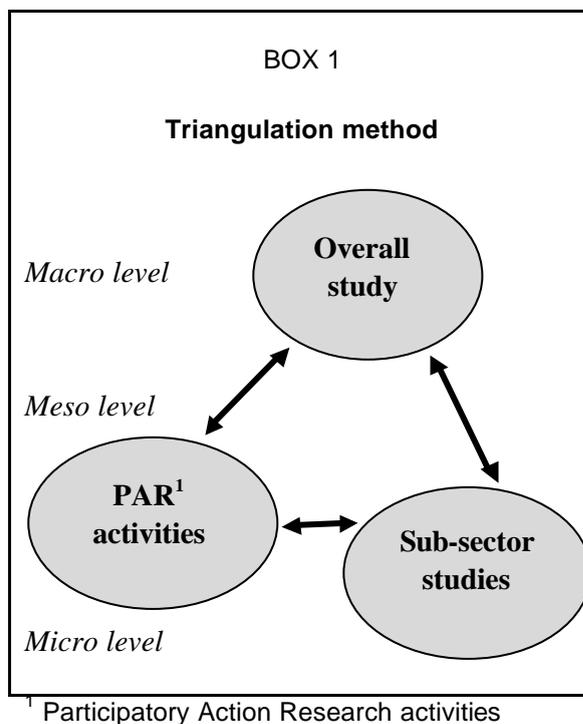
The information gathered in the overview study provided a framework for the two activities described above. For example, the overview study confirmed that the manufacturing industry achieved the highest growth rate during the past seven years when compared to other sectors, such as agriculture, construction work and services. The study revealed that all the sub-sectors selected, with the exception of agro- and forest-based industries, fell under the category of 'potential for growth'.

The present system of SBMOs is marked by an expansion in new, mainly commodity-based, associations, trying to position themselves in a 'jungle' of other organisations. The Federation of Nepalese Chambers of Commerce and Industry is at the helm of the entrepreneurs' movement, due to its historical roots and its influence on government politics. However, the lines of command are far from being clearly structured. The fees paid by different enterprises vary widely, as do the services provided to the member enterprises. This occurs because many SBMOs have been created for political and lobbying purposes, without an intention to deliver services to their members.

### Triangulation

The findings of all three activities were compiled, analysed and fed into a Planning Workshop (see Box 1). This was attended by representatives from the collaborating SBMOs, the Nepalese Government and other donor projects, the local interviewers, and Swiss delegates.

The qualitative and quantitative data obtained from the three activities were compiled to develop the starting scenario of the Small Industries Promotion Programme. Discussions regarding the final selection of partner SBMOs revolved around three clusters of criteria: the different sub-sectors' *growth potential*, the *performance* of the SBMOs during the preparatory phase, and their *geographic distribution*.



- **Key features**

At a policy level, and prior to the official start of the Small Industries Programme, broad guidelines were defined to maintain and enhance the participatory nature of the project. All practical decisions were left to the participating SBMOs and the project staff.

The guidelines included the following:

- **Long-term commitment:** The donors committed themselves to a four year Orientation Phase prior to the Implementation Phases that will follow.
- **Facilitating functions:** The Programme will concentrate on facilitating, mediating and linking SBMOs with institutions, in Nepal and abroad, for the provision of services. These might include the attendance of entrepreneurs on training courses, access to credit and information or technical and market know-how, or the organisation of fairs and exhibitions.
- **Participatory action research** has been identified as the guiding strategy. This reflects the need for development that is based on the perspectives of key actors in the SBMOs and their member-entrepreneurs, rather than on the views of external planners.
- **Institution building and organisational development** at the meso-level are primary objectives. The economic development of member-enterprises, through the provision of a comprehensive service and policy package, is an overall goal of the Programme. This was identified by the collaborating SBMOs.
- **Operational guidelines:** The focus of the project is on the meso-level member organisations. However, to facilitate their development, the project requires complementary activities aimed at the regulatory bodies at the macro-level. These should aim to bring about a more conducive policy environment for small enterprises, by simplifying and harmonising taxation, import and export regulations and employment law etc..

Gender and environmental issues must also be given due consideration.

- **Lean Management:** The facilitating nature of the Programme requires a lean management structure based on a 'learning institution' approach. This institutional set-up is thought to be the best guarantor for democratic changes within the SBMOs that will ultimately lead to the provision of better services to the entrepreneurs.

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## Participatory concept mapping to understand perceptions of urban malnutrition

Dan Maxwell, Margaret Armar-Klemesu,  
Lucy Brakohiapa and James Annorbah-Sarpeil

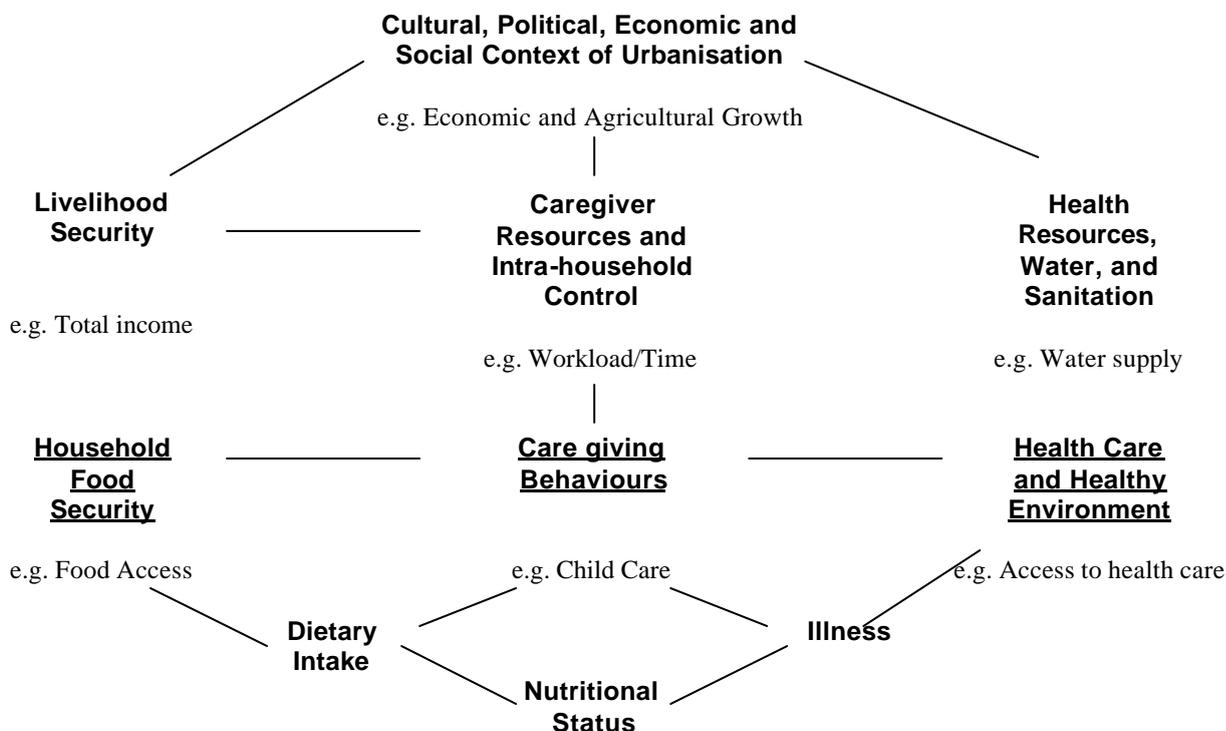
• **Introduction**

Malnutrition in Sub-Saharan Africa has long been viewed as a rural phenomenon. But with rapidly growing cities, and particularly rapidly growing urban poverty, concern has been expressed about the prevalence of malnutrition in cities as well. In Accra, Ghana, urban poverty has increased rapidly since the mid 1980s, prompting a study into the extent and causes of food insecurity and malnutrition in the city. The study deliberately relies on multiple methods, and incorporates PRA with

a random sample household survey to investigate the complex determinants of nutrition: food, health and care (see Figure 1).

There are large gaps in the knowledge base about malnutrition in the study areas selected. Thus, the first step of the research was to use a PRA-based methodology to rapidly gain community level information on the problems of food insecurity and related factors. The aim was to gain an understanding of people's own perceptions of malnutrition and its causes.

**Figure 1. Conceptual framework for malnutrition** (Study Proposal, based on UNICEF 1990).



The PRA studies were carried out in two neighbourhoods in the study area: one in the most densely populated, low-income area of the old part of the central city; and the other in the rapidly growing, but as yet still sparsely populated, peri-urban area. The study team included nutritionists, social scientists, urban planners, urban community activists, and members of the communities where the studies took place. Full reports of both studies have been published (Ga Mashie Study Team, 1996; Ngleshie-Amanfro Study Team, 1996).

In both of the study sites, the link between poverty and food insecurity was clear in people's perceptions of the problem of malnutrition. However, in both places, the study team saw evidence of many other factors that contribute to malnutrition besides food insecurity. Yet in most group interviews in the early part of the studies, the standard answer from community members about the causes of malnutrition was captured as poverty. One woman, who was a bit frustrated with questions to which she thought the answer was so obvious, cried 'Shika, shika, shika!' meaning 'The answer to all your questions is money, money, money!'

In an attempt to solicit more detailed perceptions of the causes of child malnutrition other than the simple linkage of poverty => food insecurity => malnutrition, the team devised a participatory concept-mapping exercise. This attempted to improve the quality of group discussion, and to understand in more detail people's own understanding of the central problem of the study.

Part of our difficulty was the issue of language. The term 'kwashiorkor', which describes one kind of severe malnutrition, was actually invented within the study area in the early 20th century. The term is used in the local dialect, though it is not the most common form of malnutrition found currently. Marasmus, or wasting, is much more common under contemporary circumstances. But there is not a commonly used term to describe this condition in the languages used in the study area except 'being too skinny.' Complicating the language problem is the fact that within the city, there is rarely one single language that all members of a single community share. Researchers face the problem of either using a

*lingua franca* that some people may not speak, or speak only very poorly (certainly not well enough to know and understand complicated concepts like 'malnutrition'), or working in more than one language. With a focus group methodology, we had little choice but to work in a single *lingua franca*, but took some time to understand all the words related to malnutrition. In general, malnutrition was perceived as a kind of illness related to what one eats, and both 'kwashiorkor' and 'being too skinny' served as the definition of malnutrition.

## Methods

The method relied primarily on focus groups made up of women who all shared a single characteristic (e.g. mothers with young children, working mothers) but who otherwise represented a broad cross section of the community. The procedure developed was first to describe and discuss the definitions noted above and to make sure that members of the group shared the same understanding of the topic under discussion. Then the facilitator would ask the group to brainstorm all the possible causes of the condition, or things they believed to be associated with the condition.

Each idea or concept resulting from the brainstorming exercise was noted by the note-taker, and this continued until all possibilities had been exhausted. Each idea or concept was written down on a piece of card. Some kind of symbol was drawn to represent the concept so that all members could participate in the exercise, even if they could not read, or could not read the language in which the word was written. Using a concrete floor or slab, the group was then given the whole stack of note cards and several pieces of chalk.

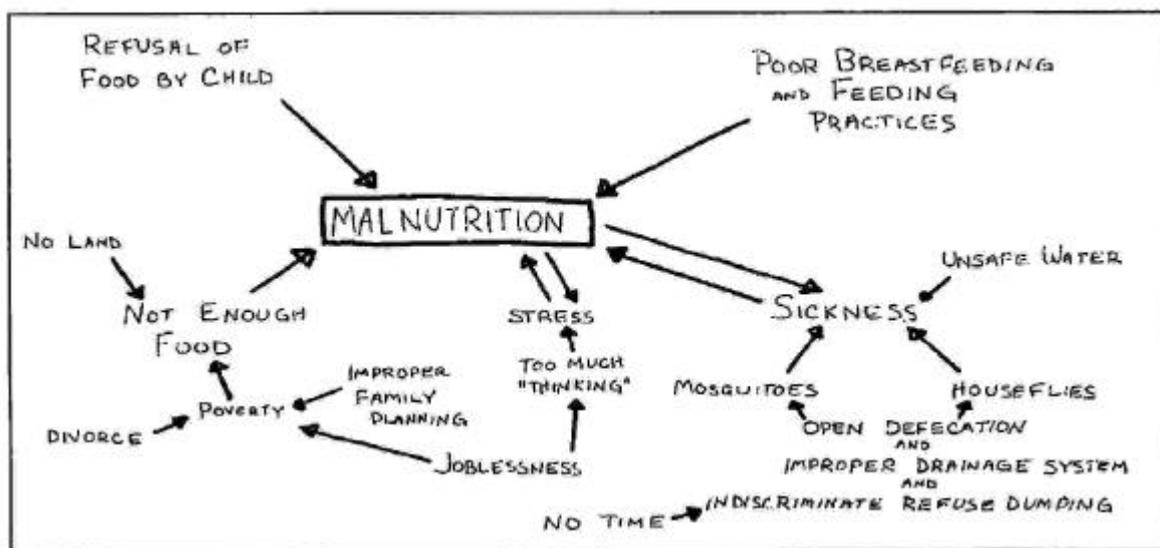
The participants were asked to discuss as a group, all the concepts on the note cards, and arrange them on the floor in such a way as to show how they thought the various concepts were related to the central issue of malnutrition. They used the chalk to draw lines, arrows or whatever they thought would indicate the kind of relationship they believed to exist between two or more of the concepts brainstormed.

For the most part, the facilitators, did not intervene in any of the group discussion or arrangement of the cards. Occasionally facilitators posed questions asking 'what is related to what?' where a group was having difficulty deciding how to arrange their cards, or questions about 'what leads to what,' if a group was having a problem deciding how to draw lines between related concepts. Among twelve focus groups, only two had difficulty in arranging the cards in a way in which they could agree. In these two cases, the exercise eventually had to be stopped. But in the other ten groups, members were able, with very little intervention from facilitators, to derive concept maps showing what they believed depicted causal relationships determining child malnutrition. A number of these maps depicted a very sophisticated understanding of the etiology of malnutrition. Two of these, drawn by working and lactating mothers respectively, are shown in Figures 2 and 3 and contrast with UNICEF's (1990) well-known conceptual framework for analysing child malnutrition (an adapted version of which appears in Figure 1). Upon completion of the concept maps, it became much easier to discuss and analyse the

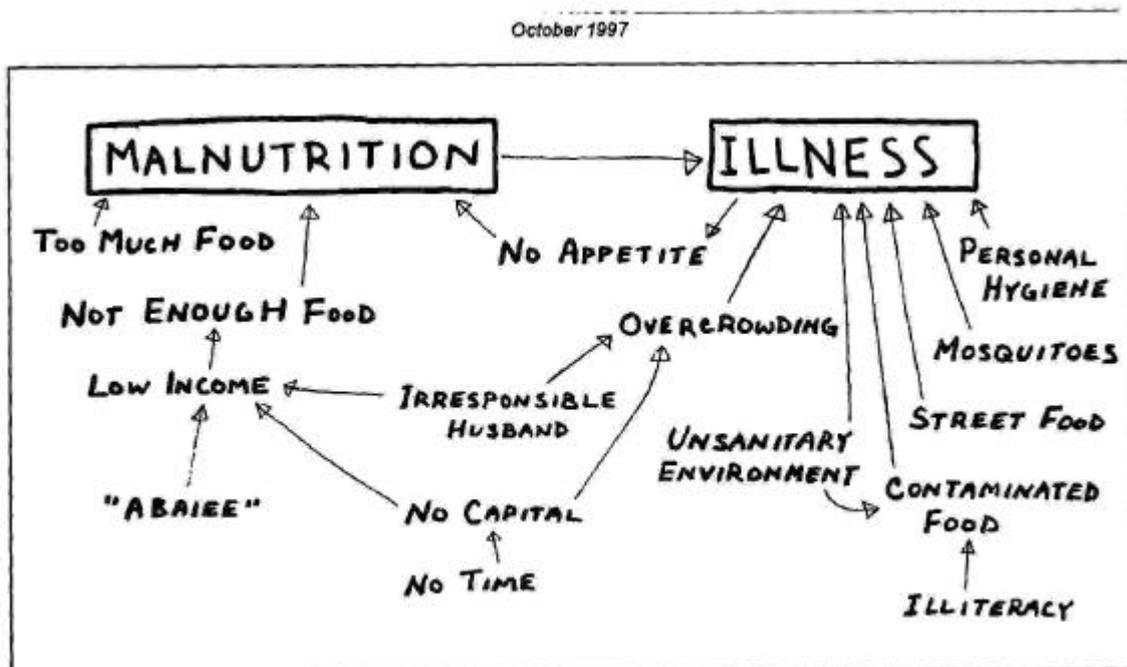
'root causes' of child malnutrition. This discussion clearly still included a poverty and food insecurity element, but also focused on, for example, environmental sanitation, unsafe drinking water, contamination of food (especially the street foods on which people in the densely populated study site are heavily dependent) and other forms of illness and stress.

Finally, and in some cases with very little prompting from the facilitators, the discussion turned to the issue of what could be done to prevent childhood malnutrition. This would not have been possible had other factors not been identified - the analysis would have become stuck at the 'shika, shika, shika' level of discussion, as happened earlier in the study. The use of the participatory concept mapping exercise thus helped to establish a group analysis of childhood malnutrition and helped to bring about a discussion analysing what could be done about the problem.

**Figure 2. Concept Map of Malnutrition: Working Women's Group** (from Ngleshie-Amanfro Study Team, 1996)



**Figure 3. Concept Map of Malnutrition: Lactating Mother's Group** (from Ga Mashie Study Team, 1996). 'Abaiee' is a vernacular term for the municipal security police, it literally means 'they are coming'.



## Discussion

The two concept maps presented here depict a sophisticated understanding of various causes of malnutrition. They are, in many ways, comparable to the well-known UNICEF conceptual framework. Certainly, both concept maps bring out the poverty => food insecurity => malnutrition connection that was emphasised in group interviews, but they both go beyond this analysis.

Both concept maps note that poor health generally contributes to malnutrition; both note some of the environmental health hazards of living in densely populated settlements; both note the role of caring and feeding practices, as well as child appetite and stress. Thus, while there may be some discrepancies over the placement of various concepts, or the linkages among concepts, these maps show that the groups who made them were able to work together to develop a good understanding of malnutrition and its causes.

A concern discussed within the study team was whether we had 'biased' the results of the

concept mapping with the kind of questions we had been asking during the week prior to the concept mapping exercises. Clearly, the team asked questions related to several of the factors that came out in the concept mapping exercises. Was the presence of these concepts in the maps the result of the women's own analysis, or had they simply been listening to our questions over the previous week, and telling us what we wanted to hear?

Several answers were found in discussions among the study team. First, the members of these focus groups had not been members of other group exercises or interviews completed in the previous week. Second, the main point of the participatory concept mapping exercise was not the individual concepts listed, but the way in which people thought the concepts related to each other and to child malnutrition. While the study team had asked questions about some of the factors that came up in the brainstorming exercise, on this more complex matter of the way in which these factors were believed to be related, the study team had been quiet. Third, the concept maps were very much a product of group processes - several participants in both of the groups that made

the maps presented here approached members of the study team to say that they had never thought about malnutrition in quite this way before on their own. Thus our conclusion was that the analysis represented in the concept maps was truly that of the groups, even though some of the concepts may have been gleaned from the study team.

## • Conclusion

This kind of an approach can have applications in other PRA studies in which the central concern of the study is a complex, multi-factorial phenomenon. This approach can help identify the 'root causes' of such problems, together with useful points of intervention for policy makers.

It is too soon to judge the impact of this kind of methodology on community change, but several points should be noted about the potential of this tool. First, the use of concept mapping helps to outline what kind of interventions could build on people's own understanding and their own means of addressing or coping with problems. This is likely to lead to more successful interventions. Second, where proposed interventions are based on conventional research methods, the interventions could be analysed with community participants, making them more likely to lead to community support and action.

The concept maps depicted here were made prior to survey-based research. But similar activities will be carried out after survey results have been analysed and possible recommendations for policy or programmatic intervention have been proposed. Promoting analysis and planning with community

members offers one of the best way of dealing with complex, poverty-related problems.

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## ACKNOWLEDGEMENTS

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## 4

# Visualisation as a platform for entry into dialogue with farmers

Ueli Scheuermeier and Elias T. Ayuk

### • Setting

In December 1996, we were asked to facilitate a workshop on On-Farm Research for researchers of the ROCAFREMI-network (Réseau Ouest et Centre-Africain de Recherche sur le Mil) in Ouagadougou, Burkina Faso. The workshop was to be attended by natural scientists working on millet improvement though out West and Central Africa.

The challenge of the workshop was to give participants the opportunity to explore new ways of interacting with farmers. This was achieved by having a practical phase in the workshop, in which scientists were given the opportunity to discuss with farmers their millet production systems together with their perceived constraints and bottlenecks. The researchers tried to identify potential solutions and went back to farmers to discuss probable on-farm trials for overcoming the identified bottlenecks.

### A framework for interaction

For indigenous and scientific knowledge to interact, a framework is required, which:

- enables scientists to have an overview of the production system in all its complexity; and,
- provides farmers a means to point out important processes, bottlenecks and potentials they perceive in the system in which they operate. Based on the experience of PRA, we thought that

visualisation would create a framework for interaction.

The visualisation had to be with symbols for two reasons. First, most farmers could not read or write. Second, and this proved to be more important, we had a complicated language problem in the workshop. Participants were mixed anglophone, francophone and lusophone, and only four of the 25 participants could speak the local language Moore. Therefore, we formed 4 groups with one Moore-speaker in each group. Each group worked with a different group of farmers. Symbols were used to help the scientists who did not understand Moore to understand the discussion. This reduced translation time.

### The tool

Looking for a useful visualisation, we came across food-path analysis. This has been developed by health-oriented workers to understand household constraints leading to malnutrition. In this approach, one starts with a typical dish, then works backwards through all the operations involved in this dish, back to field preparation (in the case of agricultural households) and seed storage and collection. Once the sequence of operations is clear, one can start to explore the bottlenecks, such as shortage of required labour, cash or materials, for conducting each operation. Prioritisation of bottlenecks can lead to the identification of areas where future efforts can be concentrated.

To explore the millet-production system we had to adapt food-path analysis. We realised that major agronomic constraints, such as poor soil fertility, pest-incidence or lack of water, would not necessarily emerge, since there may be no interventions directly aimed at the

constraint. For instance, there is no remedy against downy mildew and so it can be overlooked if we use a rigid list of operations in food production.

To get around this, we drew symbols on cards for each operation. These were spread out on the ground in whatever arrangement and sequence the farmers regarded as useful to make their point. Each card was an entry-point for probing questions, not only regarding material or labour constraints, but also regarding farmers' observations and previous solutions they had attempted.

### How did it go?

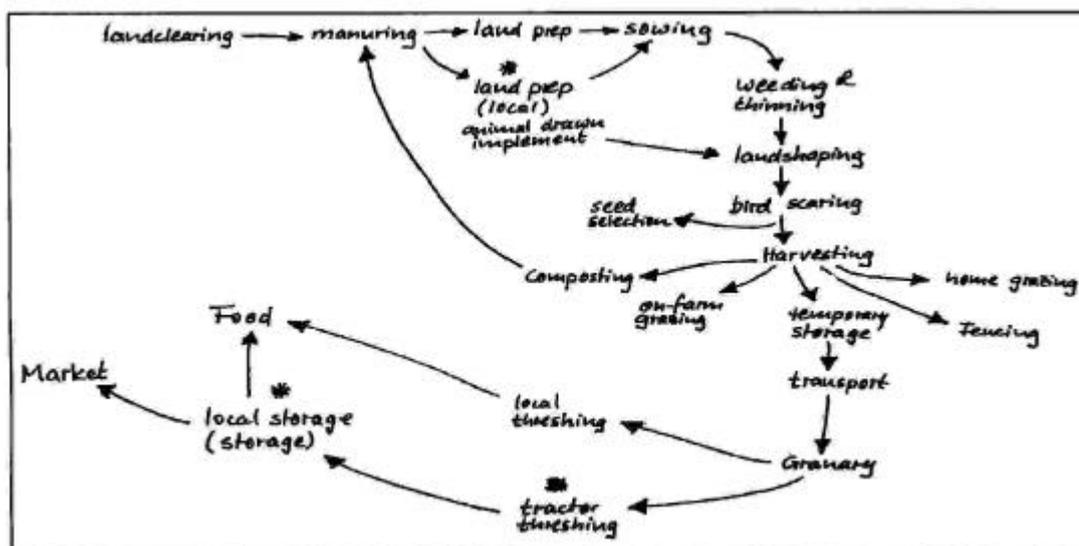
In a preparatory session among the researchers we played through a visualisation, with drawings on cards arranged on the floor. This helped us prepare for what we might encounter when interacting with farmers. We decided that the researchers would present their understanding of the system to the farmers, and ask them to comment and correct their analysis. This was because many of the workshop participants had been involved in systems research on millet for some years and knew the system rather well. Thereby we hoped to save on time.

In the field, the system of cards and symbols was arranged on the ground by the farmers. The meaning of each symbol was verbalised in French or English and written on overhead-sheets. The relative positions of the cards on the ground were copied onto paper. Figure 1 shows an example of a written translation of a symbolic system presentation.

The following were observed during interaction with farmers. Firstly, the visualisation saved time. Researchers knew a lot about the system already and farmers could relate to the presentation. They also added important aspects which had not been thought of by the researchers. For example, the farmers described how they grow millet in combination with sesame. This had not been considered previously by the researchers. Furthermore, the farmers described how they use shea butter to control downy mildew which was new to the researchers.

After seeing the symbols, the body language of farmers indicated that they identified with what the symbols represented. This indicated a consensus between farmers and researchers across different language, cultural and knowledge backgrounds.

**Figure 1. Example of a written translation of a symbolic system-presentation drawn by male villagers in Bassenko village, 20 kilometres from Ougadougou. Asterisks are the farmers' perceived bottlenecks in the system.**



The visualisation on the ground started a whole range of interesting reflections about the system. Farmers and researchers often referred back to the diagram highlight the aspects and relationships of which they were talking. The researchers felt that it was a good means to enter into a dialogue with farmers.

The four groups identified different problems in their millet systems. The difference was particularly pronounced between the all-women group and the men's groups. However, key constraints, such as decreasing soil fertility and water scarcity, were identified in all groups.

The researchers found it difficult to refer to constraints in the system which they could not address. For instance, as agronomic researchers, they saw discussing bore-wells as outside their scope of work. However, during the visualisation, discussion among researchers became more focused on interactions between parts of the system rather than on specific agronomic problems.

### What could be improved?

Although we were pleased with the effect the visualisation had on the interaction between researchers and farmers, there are four points we think should be explored further:

- It would be possible for the farmers to draw the symbols in the exercise to ensure that they can identify with those used.
- Visualisation cannot be more than an entry-point for discussion about the details of the workings of a system. Probing skills are a pre-requisite for making maximum use of this tool, yet we had underestimated how important this skill would be. We now recommend that a concerted effort be made to train outsiders in asking positive, open and encouraging questions before trying to visualise a production system with farmers.
- It proved difficult to visualise the results of some discussions and the consequences of changing something at one of those points, such as improving the efficiency of a particular operation. It also proved difficult to keep track of the implications of change for other production systems. We don't

know how to solve this, but it may be another indicator that visualisation is an entry-point that helps to establish a framework for interaction.

- The fourth point is not directly related with the visualisation. We realised that there is scope in improving the formulation of hypotheses for on-farm-trials using this approach. Hypotheses should be discussed and agreed upon between researchers and farmers, using visualisation as a basis for interaction. In this way, trials on farmers' fields would be truly participatory as farmers have a say on the agenda.

### • Conclusion

For researchers experimenting with visualisation for the first time, this was found to be a useful tool in getting farmers to participate in the diagnosis of problems and in the design of experiments. Many of the researchers who had not yet completed plans for the next cropping season, indicated that visualisation would be one of the tools they would use for a better understanding of farmers' circumstances. Trials in the pilot village in Burkina Faso, where this exercise was undertaken, are being revisited in the light of this approach and researchers plan to extend the use of this technique to two new sites at Thiougou and Zongo. The ROCAFREMI network plans to use this approach to ensure that farmers' views are incorporated in future research activities.

The implementation and sustainability of this experience depends on the availability of properly trained personnel. Furthermore, donors have a role to play in institutionalising farmer participatory approaches by taking a close look at the capacity of organisations to undertake participatory research. This means monitoring research proposals that claim to take a participatory approach to ensure that farmers have been consulted in the research process.

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## 5

# Using participatory appraisal methods to review a sanitation and hygiene programme in Southern Niger

Christine van Wijk

### • Introduction

The Village Water Supply Programme in Dosso, Niger is in its fourth phase. First wells were protected and several small piped water supplies built. Then a programme for hygiene around the waterpoints was added. Later this was expanded to a full-fledged programme for measurably improved hygiene and sanitation.

The programme started by investigating existing knowledge, conditions and practices. Knowledge on water, sanitation and health was high, but had not led to adequate conditions and practices. Hence a pilot project was started in 19 villages. This led to progress in improving water storage and latrine construction.

The pilot was carried out by selected village men and a few women whom the programme already employed to monitor the villages' maintenance of their water supplies. The villagers had expressed an interest in expanding their work. When a relatively low, financial investment resulted in considerable progress in sanitation and hygiene the approach was expanded to 200 villages.

### Review and support mission

In this paper, I share two activities which were carried out as part of a review and support mission which had been requested by the

programme<sup>1</sup>. The mission aimed to analyse the objectives, approaches, strategies and activities of the programme and formulate recommendations for its continuation. These two experiences demonstrate that it is possible to use participatory techniques on a short (16 day) review mission and move away from an extractive approach to programme review.

The mission team's initial review of the programme documents showed that it had a large number of objectives with varying degrees of relevance to health and community feasibility. It was also clear that the programme did not make best use of participatory techniques. Thus, it was decided to undertake a participatory review so that any recommended changes would be more acceptable to, and sustained by, programme staff.

### • Participatory appraisal of project objectives

The programme documents showed that the project had 38 objectives. These were not prioritised according to the incidence, seriousness or potential for prevention of water and sanitation related diseases. Neither had the project assessed how many measurable improvements could be achieved in the four year life span of the project. Hence the first step was to review and reduce the objectives and formulate measurable indicators. This was done

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<sup>1</sup> The mission team comprised the author and Renata Sy Koutou from a GTZ supported primary health care programme in Burkina Faso.

through a participatory process: the staff knew the local situation and would ultimately have to work with these objectives and indicators. The mission team provided methodological and facilitation support. Nineteen participants took part: 9 members from the field teams, 5 members of technical teams and 5 promoters (village extension workers). They ranged from villagers to heads of departments. All were literate; two were women.

The participants started by listing the goal and objectives on small cards. They then listed the activities associated with these objectives and determined where the best and least progress had been achieved. The establishment of physical infrastructure and the spreading of health knowledge were rated as the project's strengths. Behaviour change, action research and development of people's capacities to plan and implement their own changes were identified as areas that needed reinforcement. At the end of this sessions the agreed goals and objectives were glued on a large sheet.

In the next session, participants listed the local diseases and the practices and conditions through which they spread. They described potential areas of intervention and these were ranked in a plenary session in order of importance:

- Against diarrhoea: safe disposal and handling of human and animal excreta; increased production and use of locally made soap; preventing the contamination of food and drinking water;
- Against scabies and conjunctivitis: showers and showering with soap;
- Against malaria: proper drainage of water at water points and in compounds;
- Against rat-transmitted diseases: safe disposal of solid wastes combined with general environmental cleanliness;and,
- In a small number of villages measures were included against dracunculosis, guinea worm.

Objectives were also set for village capacity building and action research. In small groups of

higher and lower level staff, to combine knowledge of overall planning with local practicalities, the participants formulated specific objectives and objectively verifiable indicators. Each group wrote its objectives, indicators and means and frequency of verification on cards. The use of cards gave equal value to the views of each participant, irrespective of gender or status, and ensured that those with field experience were in the majority.

The objectives were derived by relating the existing disease pattern to the programme's focus and analysing the degree to which present approaches enabled villages to make and sustain changes without depending on external support. The result was a list of six key objectives, with 2-8 indicators for each, ordered according to relevance and the ease of measurement. For example, one objective is to reduce mosquito breeding grounds resulting from poor drainage. The indicators for this are that wells and showers should have drainage facilities installed and these should be functional.

### • **Participatory appraisal of promotion methods**

The programme's field teams promoted sanitation and hygiene using an *Information, Reflection and Application* conceptual model. To give information, the promoters organised target groups discussion, where water related diseases were explained and ways of prevention discussed. These theoretical sessions were followed by practical sessions, in which the teams helped men and women to clean water points, build latrines and showers, make soakpits and produce soap from locally available low cost materials. The promoters and their trainers/supervisors commented that these methods gave good results, but the villagers remained dependent on their intervention.

A different approach was therefore tried, based on the principles of adult learning. Adults learnt by undergoing experiences or doing things which prove to be important for similar

situations in the future. This experience, and the reflection upon it, provides them with general rules on how to act to achieve a particular effect or goal in the future (Lammerink and Wolffers, 1995). While many education programmes start by giving information and general theory, the adult learning cycle starts with experience and reflection: Experience > Reflection > (additional) Information > Application.

Following these adult learning principles, the mission and fieldstaff decided to make experience and reflection the first activities. Both villagers and staff would take an active part. Three villages were chosen: one where work had been difficult and unsuccessful, one with easy and good progress and one where the programme was starting. The learning technique applied was participatory village mapping. The villagers would be asked to depict the hygiene and sanitation situation in their quartier (neighbourhood) at the start of the programme and at the present time, after which they would discuss the changes and work for the future.

In the project area in Dosso, men and women differ in their means, responsibilities and authority in sanitation and hygiene. Their ability to participate in village affairs also differs. To experience gender differences, the first session was carried out with men and women together, the second with men and women separately and the third with two separate groups followed by a joint session.

To bring about the learning process of the field workers, the first mapping was guided by the mission team. In the second, the fieldworkers were in charge, with assistance from the team. In the third, the field workers guided the mapping on their own.

In the first village, a large group of men and women gathered in the agreed place. The mapping exercise was explained and after some hesitation the women took the initiative. Initially, they did not have much confidence but as the first outlines began to take shape, they became keen mappers. The men, who had been

observers up to this point, now began to take over. Various types of beans and leaves were used to indicate sanitation and hygiene facilities, skills and habits.

When the men began identifying female skills and tasks, the mission team intervened. They pointed out that female work was best indicated by the women. The men sat down and refused to continue. The women took over and indicated where male responsibilities for environmental hygiene had not been taken up. This resulted in a hot debate on gender divisions and the conclusion that the men would build open air stores for fodder. The fieldworkers thought however that the process, while being participatory and revealing, had been too confrontational for the men to act on this decision.

In the second village, both groups made their own map. Both groups used local materials to indicate what the sanitation and hygiene conditions and practices were initially and after a year of the project. Comparison of the maps revealed that each gave different kinds of information, confirming the relevance of gender-specific assessments.

This led to a discussion on the roles of men in hygiene. As husbands and fathers, the men saw several roles, such as setting examples of hygienic behaviour to children and supporting home improvements, such as the construction of safe drinking water storage and draining facilities.

In the third village, the same method of mapping was used. Each group then presented their map to the other and the field workers had to learn to leave the initiative to the groups. They managed to do this and succeeded in stimulating the women to present their map to the men. Again both maps overlapped only partially. The women's map had more detailed information so the plenary decided to use it for further planning. As before, the participants were surprised that they were able to map their own quartier and transfer their knowledge of unsatisfactory and satisfactory conditions and practices into a plan of action.

## • Conclusion

The use of participatory appraisal methods helped the programme staff to: review their programme objectives and working methodology, identify staff training needs, establish a community managed sanitation and hygiene programme in villages with management capacities, help these villages to set up a participatory monitoring system on sanitation and hygiene and introduce participatory working methods with families in the other villages.

The fieldworkers concluded that the use of participatory techniques stimulated village capacities for self development more than their original promotion methods. They were convinced that analysis should start with separate groups of men and women, so that gender differences in responsibilities, needs and resources become visible and women can fully take part. Moreover, the approach reduces the risk that the burdens of changing sanitation and hygiene are placed only on women.

The programme management agreed that more skills training in participatory techniques was needed and three months later a special training course took place. The use of the new techniques resulted in a higher output in the next campaign (see below), but more importantly, village organisations and quarters have begun to plan and monitor their hygiene improvements themselves.

Analysis of cost-effectiveness data after using the new approaches for one year showed that with the same programme inputs, latrine coverage in the villages with self-management was almost twice as high as in villages without self-managed sanitation. A system for self-monitoring of the use and maintenance of these latrines using PRA has since been developed.

In summary, we draw three conclusions from our experiences: participatory methods based on the principles of adult learning are more effective than conventional teaching; it is possible to use participatory methods with

programme staff and villagers in a brief (16 days) mission; and participatory appraisals and promotion of hygiene should be gender-specific.

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## Participation and fishing communities

### Addressing the challenges of fisheries development

Marie-Thérèse Sarch

#### • Introduction

The community is a relatively recent focus of fisheries development. The central role of small-scale fishers and their livelihoods to development initiatives emerged from analyses of earlier failures (Lawson, 1977; Emmerson, 1980; World Bank., 1984). Fisheries development efforts of the post-war period were aimed almost exclusively at increasing production and were focused on industrial fishing fleets. Ironically, concerns over the failure of these efforts were soon followed by concerns for over fishing and initiatives designed to conserve the fish stocks and assist with the management of the newly assured Economic Exclusion Zones (EEZ) of coastal nations in the South (see Sarch 1997 for a full review of fisheries development policy).

The focus of fisheries development has now largely moved away from production enhancing investments in the industrial sub-sector to artisanal (small-scale, semi-commercialised) fishers. Nonetheless, conflict between development objectives remains and how to balance the needs of sustainable resource management against those of sustainable livelihoods has not been resolved.

Although fisheries development approaches have shifted, towards the needs of small-scale fishers, the methods used to plan and implement development initiatives have been slower to follow. Campbell and Townsley comment on this in Box 1.

Fisheries development is characterised by specific challenges which other sectors do not face. Firstly, the nature of the resource makes it particularly difficult to monitor, fish are

highly mobile, hidden from view and subject to environmental fluctuations that are often not documented or well understood by outside experts. The information requirements for development interventions based on fish resources are challenging whatever approach to development is used.

#### BOX 1 EVOLUTION OF POLICIES

The shift in fisheries development policy towards greater concern for social issues, very apparent in wider international development policy, has been much less visible in fisheries than in other sectors. The past emphasis of policies towards production and conservation, is reflected in the structure and skill levels in many fisheries departments. This has often emphasised the technology of production and processing, and the biology of the resource. The social, cultural and micro-economic aspects of the fishery have been less well addressed. In addition participatory methods has come late to fisheries and are still not widely used. This lack of emphasis on sociological and participatory aspects of the sub-sector is closely associated with, and in some cases may have contributed to, the marginalisation of small-scale fisheries from the development process.

Adapted from Campbell and Townsley, (this issue)

Secondly, the diversity of small scale fishing, especially in the South, has important implications for development initiatives. Access to fish can be subject to tenure arrangements which adapt to changes in the wider environment, often irrespective of any legislation which may govern them. This can make it difficult to monitor policy impact. Further, the role of fishing in the overall

livelihood strategies of poor communities can be complex. Such diversity is challenging to understand and difficult to plan for.

And thirdly, a history of conflict between fishers, fishery managers and their enforcement agents means that fishers have frequently seen attempts to intervene as threats to their livelihoods. Fisheries development has not managed its public relations well.

Participatory approaches offer methods which attempt to tackle these challenges at a level appropriate to small-scale fishers. Participation has achieved widespread success in avoiding the suspicion of fishing communities as the contributions in this issue demonstrate. Participatory approaches have also been used to explore the issues which have proved so challenging to fisheries development, for example, in investigating the operation of fishing tenure arrangements at community level, in achieving consensus between different interest groups and in tapping local knowledge to learn about the fish resource base. This overview considers how the contributors to this issue have used participation to meet the particular challenges of fisheries development, the lessons that can be learned from their experiences and the challenges that remain.

### **The contributions**

The contributions to this issue reflect fisheries development efforts aimed at a spectrum of objectives ranging from co-management for sustainable fish stocks to improving the welfare of fishing communities. The contributors show how participatory approaches have been used to understand the resource, manage fisheries and plan for development.

### **Understanding the resource.**

Thomas and Danjaji (this issue) explain how they adapted RRA methods for a wetland-wide assessment of environmental change. Ira (this issue) describes the process of documenting participatory methods for coastal zone management.

### **Managing fisheries**

Both Townsley et al (this issue) and Sarch et al (this issue) demonstrate how useful participatory approaches can be in investigating local arrangements for access to fishing. Inglis et al (this issue) describe how they used PRA methods to bring local views into fisheries management in Scotland. Baird et al (this issue) explain how a school-based community awareness programme has supported community-based management in Laos.

### **Planning for development**

Ramesh et al (this issue) and Nkwentie (this issue) explain how they have used participatory workshops to reach consensus between different interest groups within the fishing sector and formulate recommendations for development initiatives. Alvares and Maneschy (this issue) describe a similar process with the women of three fishing communities in Brazil. Inglis et al (this issue) and Campbell and Townsley (this issue) both examine the role of participation in the vertical integration of planning from resource users up to managers and policy makers. Johnson and Camara (this issue) examine the lessons learned from the experiences of 14 planning committees created following a participatory port profiling initiative in Guinea.

The experiences documented here reflect all stages of the fisheries development cycle from learning to learn, planning for action and learning from action. They have been ordered on this basis, starting with experiences of participatory learning and closing with experiences from participatory action. I hope that this special issue on participatory approaches with fishing communities provides a resource for further participation in fisheries development. *PLA Notes* looks forward to its readers sharing their experiences with fishing communities in future issues.

### **The challenges: fish resources**

Understanding the aquatic ecosystems on which fisheries development initiatives are ultimately based poses problems whatever approach to development is used. Fish remain

hidden, mobile and fluctuate whoever is catching them. The implications of this for initiatives based on external regulation of the numbers of fish caught are expensive, highly technical, and unpopular. Participatory approaches to 'stock assessment' based on indigenous technical knowledge can be impressive. Whether or not the accuracy of such knowledge is accepted, it does provide a valid basis for community development initiatives, the success of which depends on community perceptions of their fishing resources. Box 2 summarises the participatory techniques used by a fishing community in the Philippines to reveal a wealth of information about their fishing resources and to provide a basis for micro-planning.

**BOX 2**  
**PRA IN SANTA MERCEDES VILLAGE,**  
**THE PHILIPPINES**

The community used a range of PRA techniques to analyse their fishing (and other) resources. The fishers were particularly pleased with their seasonal calendar which they used to provide a detailed breakdown of the fish species availability throughout the year. Matrix ranking was used to analyse species preferences. A sea map detailed the resource base of the estuary fished by the community: fish habitats, the location of different species, breeding grounds and gear types were included.

*Adapted from Mascarenhas and Hildago (1992).*

Given the mobility of fish and their sensitivity to environmental fluctuations, an ecosystem-wide understanding of the resource base is vital for fisheries development planning. The local specificity of PRA techniques is often cited as a reason why they cannot be used for development planning at higher levels. But in this issue Thomas and Danjaji show how they investigated environmental histories with 27 villages throughout a wetland region in Northern Nigeria. Using this approach, they were able to derive a regional picture of environmental change for development planning.

Mascarenhas and Hildago (1992) and Thomas and Danjaji (this issue) have shown how

valuable local-level knowledge can be in understanding fisheries resources. At this stage, however, further examples of participatory investigations of fisheries resources have been hard to find. Much scope remains for the development of participatory techniques which will reveal community understandings of their fishing resources and provide bases for community development efforts.

### **The challenges: fisheries management**

There is an increasing realisation in fisheries development that managing fish stocks is as much a political issue as it is a technical one. Who is able to fish is as important, if not more so, than how much fish are caught and this underlies many fisheries management failures. Participatory approaches based on local perceptions of the resource base and existing community institutions can be non-threatening and provide a common understanding on which to plan successful development.

The experiences documented in this issue show how PRA methods have facilitated a detailed understanding of local systems of fisheries tenure in the South Pacific and in Northern Nigeria (Townsend et al and Sarch et al, this issue). Both experiences highlight the importance of documenting what were previously unwritten boundaries and understandings. This process was valued highly by the fishing communities, and as Townsend et al point out, could fundamentally alter the nature of the tenure system.

PRA practitioners need to be aware of the power of their methods. Baird et al (this issue) show how this process has been used positively in Laos. Having agreed on management institutions to govern access to fishing resources in their village, fishing communities 'ratified' these at a village meeting attended by outside officials and politicians. These people legitimised community-based management and strengthened commitment to it.

The experience of community-based fisheries management in Laos shows that it is possible to move from understanding the details of community institutions for managing resources

to strengthening them. The investigations of local management systems in Nigeria and the Pacific show how the rapport developed with the communities during this process can provide a useful starting point. However, as yet few documented experiences of the processes that lead from understanding to action are available. They are needed and would undoubtedly provide a valuable contribution to community-based fisheries management world-wide.

### **The challenges: diversity**

Although heterogeneity within the fisheries sector is well known, its diversity continues to challenge development efforts. How do initiatives which benefit one group within the fishery affect the others, especially women? How do fisheries initiatives affect household livelihood portfolios? For example how would credit for women fish processors affect the prices they pay fishers for their catch? How will credit repayments affect their ability to feed fish to their children?

An approach which has been used in two of the contributions to this issue is to achieve consensus between the different groups at the planning stage. Ramesh et al and Nkwentie explain how they used a workshop environment to bring together fishworkers as diverse as fish smokers, deep sea divers and ice-plant workers. PRA methods were then used to explore and analyse their problems. Nkwentie explains how fishers, fish processors and fish retailers were able to agree on fish preservation as an area in which development would benefit them all.

Despite the importance of women's work in fishing communities, often in the selling and processing fish, and their crucial role in fishing households, the challenges which confront them have, until recently, received little attention in fisheries development. Alvares and Maneschy (this issue) examine the role of women in three Brazilian fishing communities. Their work demonstrates the diversity of the income sources in many fishing households, who depend both on fishermen's income and that of their wives. Alvares and Maneschy describe how group meetings were used to plan actions which the women of the fishing

communities believed would be of most benefit to their families.

The articles by Ramesh et al, Nkwentie and Alvares and Maneschy all show how valuable the participatory workshop can be both for understanding diversity within the fisheries sector and achieving consensus. Alvares and Maneschy point out that some women find it difficult to attend group meetings because of social and moral restrictions. This illustrates the need for participatory approaches, for both learning and action, which can reach women within poor households and for attention to be focused on using participatory approaches to understanding the role of fishing in complex household survival strategies.

### **The challenges: vertical integration**

The need to integrate fisheries policy, its implementation, and fishing community goals challenges fisheries development whatever its starting point. Campbell and Townsley (this issue) start at the beginning. They describe the PIP (participatory and integrated policy) process which has been developed to improve the implementation of small scale fisheries development. The PIP process overtly addresses the conflicts which can exist between the policy objectives of different (development) agencies and the article explains the practical ways in which these can be addressed.

Inglis et al (this issue) start halfway through the process. They describe how they were asked to use participatory approaches to enable local views to inform fisheries management in Scotland. Up until that point resource users had been polarised from fisheries managers. Inglis et al describe how a series of workshops using PRA methods enabled local people to express their views to fisheries managers.

The official acceptance of community-based initiatives is an important component in their sustainability and can be crucial as Schärer describes in Box 3. Baird et al's description (this issue) of community based management in Laos also demonstrates this point. Johnson and Camara's explanation (this issue) of the characteristics of successful and enduring landing site development committees in

Guinea highlights the importance of both official status and political support to the success of the local-level planning committees.

## BOX 3

**COMMUNITIES JOIN FORCES TO GUARANTEE SUSTAINABILITY**

For seven years, predatory fishing with illegal boats and fishing gear went unchecked in the communities of Prainha and Redonda in Brazil. Neither armed conflict at sea, declining lobster exports nor the cries for help from the communities' artisanal fishers alerted the authorities. The death of a fisherman finally brought the communities together to send a protest delegation on the sailraft, the SOS Survival, to Rio de Janeiro. Their 74 day protest hit the headlines and after a march on the Governor's Palace, a state fisheries committee was created and a Lobster Management Plan implemented. Within two months, 40 'pirate' ships had been apprehended and the fishing communities were able to implement and enforce their local management plan to restrict catches of undersized lobsters.

*Source: adapted from Schärer, R. (1997) Fishing Communities and Movements in the North-East of Brazil. Contact: Amigos de Prainha do Canto Verde, Caixa Postal 52722, 6051-000 Fortaleza, Ceará, Brazil.*

- **Conclusion**

Fisheries development initiatives are increasingly concerned with the well-being of fishing communities. Participatory approaches are a recent and welcome addition. The contributions in this issue document a wide range of experience and it is hoped that they provide a springboard for further participatory work with fishing communities. Specific challenges continue to confront fisheries development and much scope remains for exploring participatory solutions.

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**NOTES**

The *In Touch* section of this issue contains a number of relevant resources, including videos, books and journals, on the participation and fisheries theme.

A Topic Pack on 'Coastal Resource Management' is available from the Institute of Development Studies, University of Sussex, Brighton BN1 9RE, UK. Contact: Patta Scott-Villiers.

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## 7

## Mapping change in time and space: floodplain fishing communities in Nigeria

David Thomas and Mamuda Musa Danjaji

### • Introduction

One of the strengths of RRA methods is their ability to explore and reveal local, fine level detail. Understanding variation is essential if development is to be equitable and reach those at the 'margins' of society. The level of detail required to understand processes of development, and to plan accordingly, requires understanding of variation at a number of temporal and spatial scales. For example, planners compiling an agricultural development programme at a district or regional level will require a different and broader understanding of socio-economic and environmental variation than village-based extension workers that ultimately implement the plan.

Much RRA focuses on within-village variation, exploring the differences within and between households. This paper records an RRA approach<sup>1</sup> that was used to explore patterns of development at much larger spatial and temporal scales. The study looked at change within the Hadejia-Jama'are floodplain in northern Nigeria - an area of about 5000 km<sup>2</sup> - over a period of 20 years.

### The Hadejia-Jama'are floodplain

The floodplain and the uplands surrounding the Hadejia-Jama'are floodplain are inhabited by hundreds of thousands of people whose livelihoods depend on the fertile, well watered lands. Since 1974, the floodplain has been affected by a programme of dam building on one of its major tributaries - the River Hadejia - and by a prolonged drought that affected

much of the Sahel region. By altering the river flows and patterns of flooding, the dams have disrupted economic activities and social relations of floodplain inhabitants. For most of these people, fishing had been an important source of food and income.

Most studies of the ecology and economy of the Hadejia-Jama'are floodplain have treated it as a spatially homogeneous unit and changes caused by the dams have been described as if they were uniform. There has also been little attempt to explore temporal dimensions to change in the floodplain, most economic studies have been short-term. Yet floodplains are known to be spatially and temporally highly dynamic systems, and understanding this dynamism is central to the sustainable development of intact floodplains, as well as the relief of inhabitants of floodplains affected by dams.

### • Methods

Profiles of change usually depend on reliable statistical data through time and baseline information. However, for the Hadejia-Jama'are floodplain no written records existed at the level of detail required. In the absence of written records, the study relied on the recall of floodplain inhabitants for information on environmental and socio-economic change.

The study took place within 27 floodplain villages that had been selected by stratified random sampling. The stratification was based on administrative boundaries, dominant ethnicity of communities, proximity to main markets and all season roads and distribution of natural resources (forests and water).

<sup>1</sup> The study contributed to a PhD thesis. The research mode was mainly extractive and has thus been classified as RRA rather than PRA.

## **Environmental change: perception of change in floods and river flows**

Environmental change around each village was explored through semi-structured interviews and field visits. Within an unmodified floodplain there are considerable fluctuations in flood extent resulting from annual variation in rainfall and natural changes in channel morphology (e.g. siltation, meandering.). Floodplain inhabitants are aware that such fluctuations are normal. In the discussions that took place, participants were asked if they had perceived any change in patterns of flooding and river flows in the vicinity of the village that were longer term and more lasting than this annual variation. The nature and timing of such change was determined using a list of key events in recent Nigerian history.

## **The village economy: past and present**

The objective of this part of the study was to explore spatial patterns of economic development in the floodplain in the 20 years since the onset of the environmental changes associated with dams and drought. The survey sought to obtain a general picture of the village economy, and to compare it to the present time.

A ranking method was used to determine the relative importance of different economic activities. A group of men and unmarried women in each village were asked to rank their activities in terms of their relative importance to the village economy using the marketable value of all produce. This was chosen as the best single measure of the importance of each activity given the high degree to which villages in the floodplain are now integrated into a market economy. Also, the complications caused by some products being traded, others consumed by the household, others stored and others divided and disposed of according to individual household circumstances, made this the best general measure of the economic importance of each activity.

Once ranked, the group was then asked to score each activity. The exercise was undertaken with reference to two periods: the present (the last 2-3 years) and the years immediately prior to the 1972/73 drought and the construction of the Tiga Dam. Because of the natural between-year variation in floodplains no single year was used as reference; the goal was to produce a picture of the general orientation of the village economy for these two periods.

The results of this exercise were used as the basis for a debate on the changes that had taken place. Explanations for the decline or expansion of activities were sought, together with more detail on the timing of significant shifts in the economy. The result was a spatial representation of how the contribution of different activities to the economy of the floodplain has changed in the last 20 years, and an interpretation of how and why the economy had been transformed.

## **Results: environmental change**

Differences in inhabitants' perceptions of changes in the direction and timing of flooding highlighted that the environmental changes caused by the Tiga dam and by drought had not been uniform. Neither were they random. Analysis of the information provided suggested that the floodplain could be divided into 4 main areas of environmental change. Box 1 describes the major changes recorded in these areas.

## **Results: economic change**

Today, the floods, although diminished compared to the recent past, are central to many of the productive activities in the floodplain. The study found that patterns of change in flooding have had a significant effect on patterns of development in the region and in particular, in the fishing sector.

## BOX 1

**SUMMARY DESCRIPTION OF ENVIRONMENTAL CHANGES IN PARTS OF THE HADEJIA-JAMA'ARE FLOODPLAIN**

Within the **floodplain of the Keffin Hausa Channel** regular flooding virtually ceased in about 1968 (i.e. before dam construction). This is likely to have been caused by a northward shift in the channel caused by siltation and other 'natural' processes, although reduction in river flow subsequent to dam construction probably hastened this effect. As a result of this change, large areas of floodplain forest in this area (dominated by *Mitragyna inermis*) are in a severely stressed and degraded condition.

In the area around the **Marma Channel**, the extent and duration of flooding, and the area of permanent water, reedbed and marshland has increased since the early 1970s. This is caused by dry season releases from the Tiga reservoir which flow down the River Hadejia and are channelled into this part of the floodplain because of blockage to the Hadejia River by silt and weed.

Adjacent to the **Burum Gana Channel**, the extent of flooding from the River Hadejia has declined since the construction of Tiga dam due to reduced peak season flows and flow diversion into the Marma channel (due to channel obstruction, see above). However, a proportion of the dry season flows released from the Tiga reservoir do flow down this formerly seasonal channel, with the result that along part of its length it flows perennially.

Within the **Jama'are floodplain**, most communities reported a change that coincided with the onset of the drought, and many reported that floods, whilst less extensive than in the past, still covered large areas of land around the village. Indeed, the River Jama'are is virtually unmodified.

Figure 1 summarises some of the patterns of economic change in the floodplain over a period spanning approximately 20 years. The results show clearly that suppositions regarding 'the floodplain' as a homogeneous economic unit for planning and development are mistaken. Discussions with village inhabitants provided a wealth of village-level detail on the pattern of changes revealed in Figure 1, and their economic, environmental and social causes and consequences. Patterns of change in production systems were viewed in the light of changes in patterns of flooding and in the context of more general economic, social and policy changes in northern Nigeria over the period.

The sections that follow discuss very briefly patterns of change in the fishing sector of the floodplain economy<sup>2</sup>. This shows how environmental changes have interacted with wider economic and technological change to produce complex patterns of development within the floodplain.

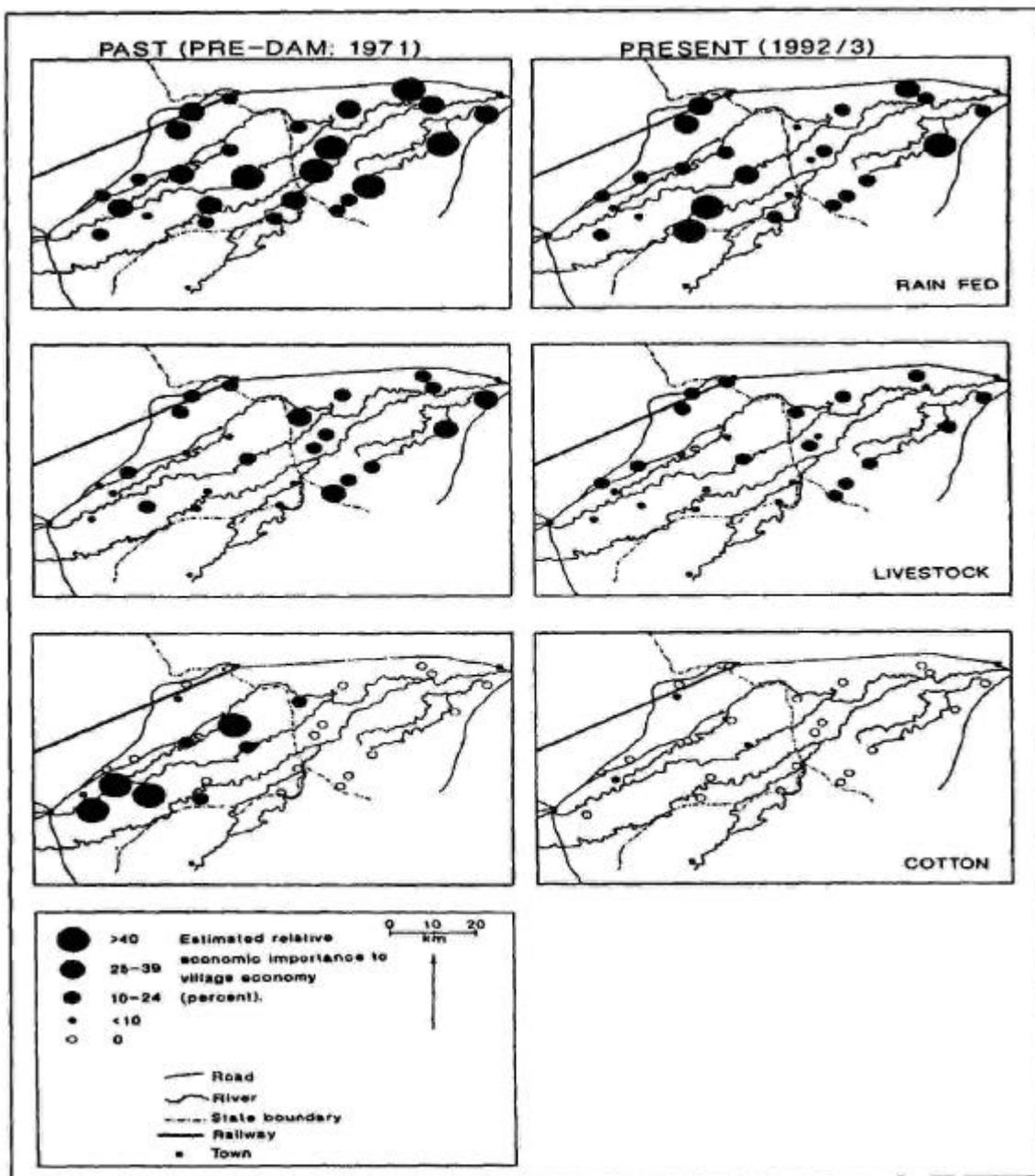
The study found that compared to the years immediately preceding the construction of the

Tiga Dam and drought, the relative contribution of fishing to the village economy has decreased in most parts of the floodplain. This result was expected, and had been demonstrated at a floodplain level by earlier studies of the fishery. The significant finding of the present study was that the relative economic importance of fishing has not decreased in all parts of the floodplain.

The study's sample size is small and so the findings are interpreted with caution. Nevertheless, within the upstream part of the Jama'are floodplain, the Marma Channel floodplain, and the Nguru Lake area a significant number of communities reported that the relative importance of fishing had remained constant or had even increased. Predictably, these are the zones where changes in hydrology caused by the Tiga dam and drought have been least dramatic (see Box 1). The Jama'are floodplain is largely unaffected by hydrological developments in its catchment, and in the Marma Channel and Nguru Lake areas, the extent and duration of flooding has increased since Tiga dam was completed.

<sup>2</sup> The sectors of the economy are actually intimately linked but fishing has been separated for the purpose of description and discussion.

Figure 1. Spatial patterns of change in the economic importance of rainfed farming, livestock production and cotton farming in the Hadejia-Jama'are floodplain, 1971 to 1992/3



However, in villages where the relative importance of fishing has remained constant or has increased, fishers reported reductions in catch size, less diversity of species in the catch, and a reduction in average size of the fish caught. In semi-structured interviews, fishers explained that fishing had maintained or increased its position in the economy due to relative price changes.

Pre-Tiga dam, fish were abundant, and prices were generally low. Small fish or those of particularly low economic worth were discarded. Since then, the price of fish has increased at a greater rate than have the prices of other commodities. This increase is fuelled by the scarcity of fish induced by environmental change, and also by expanded markets due to improvements in

communications between the floodplain and cities. As a result, in villages where the productivity of the fishery has declined less than in the floodplain as a whole, the relative economic contribution of fishing to the economy has been maintained or has even increased, even though there may be less fish.

## • Conclusion

The methods used in this study allowed spatial patterns of economic and environmental change to be mapped. The overall result was a better understanding of how the changes caused by the Tiga dam have altered the environment in different parts of the floodplain, and how fishing and farming communities have responded to that change. For an area that had previously been treated as a homogeneous unit ('the floodplain') this demonstration of broad and significant differences between villages has important implications for planning and development programmes in the region. Use of the participatory assessment methods allowed the picture of change to be produced rapidly despite the absence of detailed records for the period.

As described in the introduction, most RRA methods have been used for planning at a village level (with some significant exceptions). Certainly it is at this scale that the methods have great strength. However, this study demonstrates the potential of RRA methods for planning at much greater scales: mapping village level results at scales of a geographical region can provide a level of detail not readily or quickly obtainable by other methods. This may allow regional planners to take account of local differences in resources, production systems or other

important variables (e.g. health facilities, education, communications).

This paper describes an extensive inter-village survey method used to explore environment-development relationships on a large scale. The advantage of such an extensive method is that it provides an understanding of variation that is not readily measurable at other levels - studying the household picks up on socio-economic factors, whereas studying the entire floodplain misses important within-floodplain differences in flooding that are an important influence on village level economic development. The lack of household-level detail in extensive surveys should not therefore be seen as a disadvantage. That is not what was being investigated. Choosing the most appropriate scale for study is an important decision to make and is determined by the objective of the study and the questions that are to be answered.

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## 8

## Participatory methods for community-based coastal resource management

Gregory C. Ira

A workshop or 'write-shop' on participatory methods for community-based coastal resource management (CBCRM) was held from 28 July to 8 August 1997 at International Institute of Rural Reconstruction (IIRR) in the Philippines. The workshop documented field-tested participatory methods used by CBCRM practitioners. More than 30 community-based coastal resource management practitioners from four different countries prepared approximately 50 short papers on the theme.

While many of the methods documented were similar to those used in terrestrial settings, there were significant differences because of the focus on the coastal zone (see Box 1). It was this difference in methods that had driven the production of a publication on participatory methods specifically for the coastal zone. In addition to basic methods, multi-method activities were described (i.e. activities that employed the use of two or more methods) and their applications highlighted.

A few characteristics of the coastal zone were identified as having important influence on the general use of participatory methods. These include the heavy emphasis on common pool resources, the mobile nature of many of the resources, the temporal cycles that influence coastal communities and resources, the frequently strong gender differentiation in roles related to coastal livelihoods (e.g. fishers), and the dual influence of terrestrial and coastal livelihoods. The participants made special effort to describe the unique characteristics of the methods as a result of the coastal setting.

### BOX 1

#### ADAPTING PRA TO THE COASTAL ZONE

- Mapping tools suggest that the marine area that can be mapped is much larger than the terrestrial area;
- The use of community logbooks is seen as a useful method of recording events affecting the common pool resources of the coastal zone;
- The transect walk is usually oriented perpendicular to the shoreline and includes a 'walk through' and 'swim through' portion;
- Institutional analysis appears to be more complicated in marine areas as a result of multiple stakeholders and institutional arrangements found in these areas;
- Zoning plays an important role in coastal zone management because resources are 'common pool' and there is open access to 'state owned areas'; and,
- Assessment of income is complex because it needs to consider the seasonal dimensions of coastal activities.

The workshop produced a near final manuscript of 'A Source Book on Participatory Methods for CBCRM'. The target audience for the source book includes extension workers and facilitators from government and non-government organisations working with coastal communities.

The participatory workshop or 'write shop' approach has been refined over the last 10 years at IIRR and involves a cycle of writing, presentation, review and revision. A workshop team is employed to support the process and produce near final materials by the end of the two-week workshop. The participants serve multiple roles as authors, editors and reviewers.

The first section of the source book addresses the characteristics of the coastal zone, describes community based coastal resource management, and looks broadly at issues of participation. It also introduces some general guidelines for the use of participatory methods.

The participants felt it was very important to describe community-based coastal resource management as an approach that emphasises local participation in community capability building, sustainable livelihood development, environmental conservation, and education. It recognises the importance of food security, equity in access and control of resources, gender fairness, indigenous knowledge and multi-sectoral partner ships. Introductory chapters on these themes set the context for the remainder of the source book.

The degree of participation involved in each methods varied greatly. The participants recognised the value of all of the methods described rather than limiting the source book to those tools that involved only a high degree of participation. It was agreed that the various methods could complement each other, just as participatory methods can complement more formal academic research methods. It was generally believed that participatory methods are best suited to the early stages of projects when research questions have not yet been clearly formulated. Variations on certain methods were presented that would allow for greater participation.

Other factors affecting the selection of the appropriate methods include the availability of human and financial resources. In cases where methods were used in different ways by participants, the common steps were presented and the differences were described as variations.

In general, I felt that the methods presented were less participatory than those developed in terrestrial areas. It is unclear as to whether this can be attributed to the field of CBCRM itself or is an artefact of the specific experiences of the participants themselves. It may also stem from the lack of existing publications on participatory methods for coastal areas and the relatively recent arrival of participatory methods to coastal areas.

The participants at the workshop shared freely their experiences. The result is a source book that can help organisations currently working, or planning to work, in the coastal zone.

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#### NOTES AND ACKNOWLEDGEMENTS

For more information on the 'Source Book on Participatory Methods for Community-based Natural Resource Management' please write to Joy Caminade or Gregory C. Ira at the above address.

For book orders write to the Publications Unit, IIRR c/o Joy Caminade. The cost of the book is US\$12, mailing cost is US\$18.

The workshop and the publication received support from IDRC, CIDA Manila, SMISLE, WESAMAR, the Dutch Embassy and VSO in the Philippines.

## 9

## Customary marine tenure in the South Pacific: the uses and challenges of mapping

Philip Townsley, James Anderson and Chris Mees

### · Introduction

The current world-wide crisis facing fisheries, and the apparent inability of centralised agencies responsible for fisheries management to deal with the crisis, have encouraged an increasing interest in alternative forms of managing fisheries resources. Among the forms of management that have attracted the attention of researchers are the numerous customary mechanisms found in the Southern and Western Pacific. On the reefs and lagoons of the Melanesian islands, a wide range of measures are still widely used. These appear to ensure some level of sustainability in the harvesting of fish and shellfish which form a key element in the livelihoods of local people.

These customary arrangements have persisted in spite of increasing commercialisation of fisheries and appear to adapt to changing circumstances. This has provoked interest among fisheries policy makers and planners as the incorporation of such mechanisms into wider fisheries management strategies offers many advantages. By definition these arrangements should be locally acceptable, they are generally 'self-policing' and they encourage the decentralisation of decision-making.

In contrast, the costs of centrally-imposed regulation of coastal fisheries is high and they are often not effective in the management of tropical, multi-species fisheries with large numbers of small, opportunistic fishing activities. In this context, there is interest in making use of existing, well-established arrangements. Various forms of 'co-management', which combine some of the

methods of fisheries researchers with the knowledge and skills of local resource-users, have been investigated and introduced with some success in Fiji, Vanuatu and other countries in the region.

### Customary marine tenure

Customary forms of tenure over marine areas is one set of mechanisms frequently encountered in the region which is widely interpreted as a form of management of marine resources. Recent research has investigated both the impact of customary tenure and the social and cultural features of marine tenure systems in Fiji and Vanuatu. It aims to determine how appropriate it is to incorporate customary tenure systems, which control resource-use, into more formal systems of fisheries management. A range of marine tenure areas in Fiji and Vanuatu are being monitored and the conditions of resources under different forms of tenure arrangement and different forms of control have been compared.

In order to make sense of observed differences in resources, an understanding of the social and cultural features of the tenure systems, as well as the economic forces affecting levels of fisheries activity in different areas, was crucial. As the first step in the work, PRA was planned in each area involving both the biologists concerned with the monitoring of resources and a social scientist.

### PRA tools - extraction and intervention

The PRA techniques employed included the use of semi-structured interviews with individuals and groups of respondents. During the interviews, various mapping, timelines and

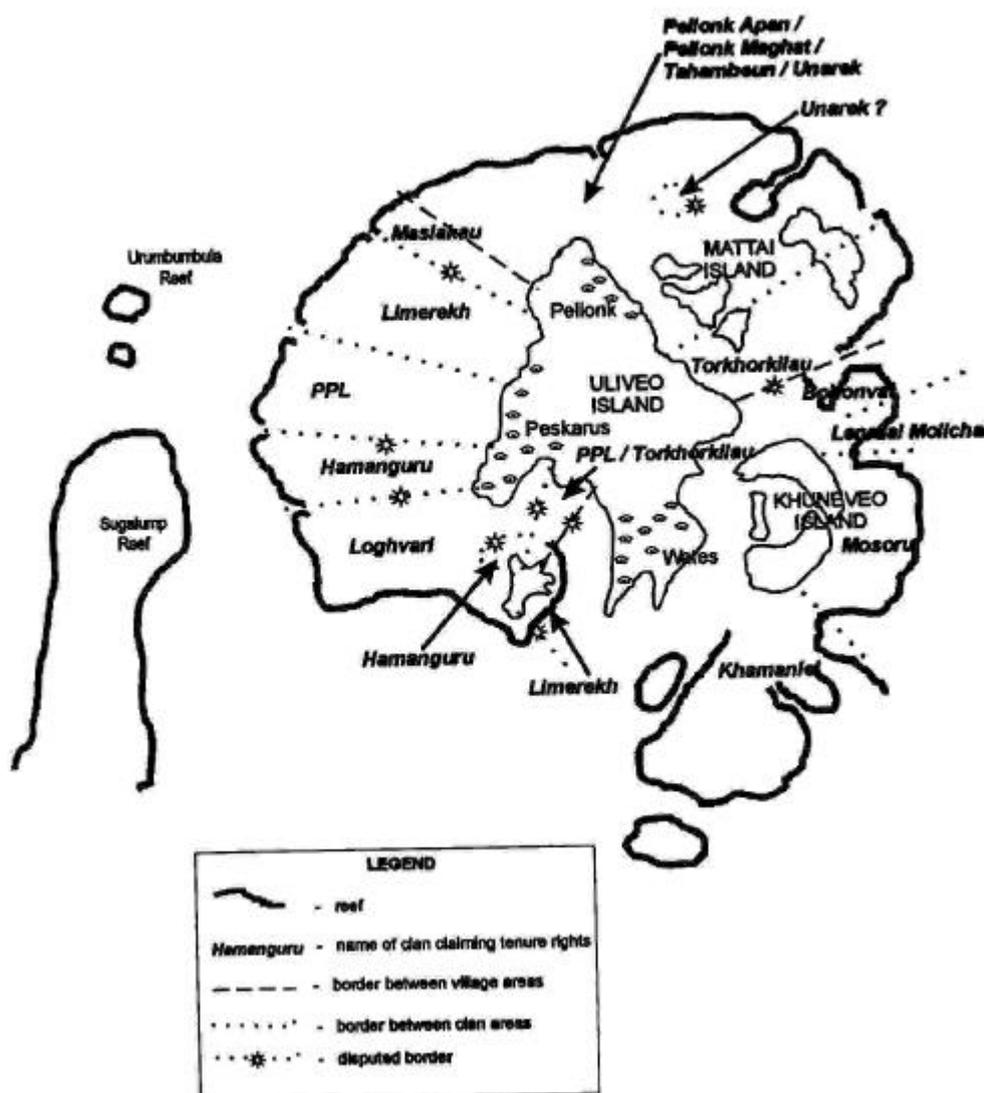
ranking tools were used. These encouraged local people to analyse and discuss patterns of resource use and the ways in which tenure can influence resource exploitation.

The mapping of marine tenure areas showed that the notion of 'tenure' is in most cases different from the western notion of some kind of exclusive control of clearly defined areas.

The frequency with which members of different tribal or clan groups with adjacent tenure areas would claim different boundaries appeared, at first sight, to be simply a question of competing claims for potentially valuable resources. But discussions over sketch maps of tenure areas clarified that there was more at stake (see Figure 1).

**Fig. 1. Claims to marine tenure areas on Uliveo Island, Maskelyne Islands, Vanuatu**

Disclaimer: All details shown on this map are based on unofficial spoken accounts given by a range of local people and shown for illustrative purposes only. The details shown, including all borders, are approximate and do not, in any way, indicate any officially recognised claim to any of the areas shown.



The land and sea areas associated with different clans and tribes are an integral and inseparable part of that group's identity and the identity of all its members. But it is also clear that the identity generated by tenure over a particular area comes less from controlling it and protecting it from others, but from sharing it. The notion of customary tenure emphasises the importance of an area as an instrument of exchange in dealing with other tribes and clans and in defining different degrees of relationship with those other groups.

The intrinsic value of an area's resources appears only of secondary importance. The exclusive right to use them probably had little meaning until the recent advent of commercialised fisheries and the possibility of generating income through the sale of fishing rights in customary tenure areas. This has implications for the notion of protecting the resources within tenure areas for the future. In a quite profound sense those resources seem to acquire meaning by being shared with others.

It is notable that, in Fiji, the process of mapping customary tenure areas, both on land and sea, during the course of the British colonial period seems to have had a seriously disruptive impact on the whole notion of 'property'. Boundaries which had always been mobile and subject to dispute and negotiation became fixed. This removed an important element in the interactions between the various tribes and clans which exercised tenure. The drawing of boundaries by the authorities inevitably seems to have involved a decision to believe one version of 'who owns what' rather than the opinions of many others. Needless to say, as these boundaries begin to acquire a different, economic meaning (e.g. with the penetration of tourism and commercial concerns), the disputes over boundaries and 'ownership' are becoming increasingly acrimonious.

The research team itself risked becoming part of a similar process in Vanuatu. In some communities, the arrival of an outside team asking questions about tenure over marine areas seemed to escalate into claims to different areas. This was indicative of how flexible are the tenure systems. In such circumstances the act of drawing a sketch map could become charged with political overtones

and interpretations. In one specific case, tenure was explained to the team in terms of rival ancestral claims going back ten generations.

Our understanding of the concepts of tenure and property which were generated by these mapping exercises, and subsequent discussion of them, underpinned one of the principal findings of the research to date. This is that customary marine tenure, at least until very recently, has had little to do with the conservation of marine resources, at least in the minds of local resource-users. This does not necessarily mean that customary marine tenure is not a valid instrument for fisheries management. But it is an important factor to be considered when customary mechanisms are being used as a means to implement fisheries management with a view to resource conservation.

The study encountered numerous cases where traditional measures that were adapted to exploitation control for the purpose of 'conserving resources' (e.g. taboos) were systematically ignored by resource-users. In contrast, equivalent measures imposed for 'customary' purposes, such as to mark the death of chief or to demonstrate the relative status of one resource owner over another, were more frequently observed. The exercise of customary marine tenure rights makes sense in its own cultural context for customary reasons, but does not necessarily make sense when a new rationale, such as marine resource conservation, is added.

### **Issues - research and intervention**

Mapping techniques proved useful during the research but they also highlighted some of the problems associated with participative research. It is clear that, while assisting in stimulating a discussion of the issues with which the research was concerned, the activity itself constituted an intervention in the situation being researched. Awareness among local people that the lines which they drew on the sand were being noted down in a notebook by the researchers significantly influenced the responses being given. This was so, even if the researcher was at pains to record what was being said after the interview, rather than during it. The presence of interested outsiders

appeared to be a powerful symbol of official ratification.

Similarly, questions about resources and their management would stimulate responses that tended to exaggerate the environmental motivations behind certain interventions. Awareness of the environment, and the need to preserve natural resources, was generally associated with being advanced, modern, and progressive. This had apparently been induced by recent government campaigns to raise environmental awareness through posters, radio and television. This could lead to discussions of environmental issues with community leaders becoming stimuli for action.

In one case, this led to the placing of taboo on fishing grounds. This was not necessarily based on real needs or priorities, but on a desire to be seen as active and ready to accept new ideas brought in by 'researchers'.

## • Conclusion

In different circumstances, this sort of process, where learning and analysis led directly to action to address identified issues, might be exactly what was hoped for - Participatory Learning and Action. But in the context of a research initiative, it highlights certain dangers.

Outsiders carrying out a PRA 'intervene' in local reality, even if they may do so in a way which they regard as being informal and participatory. This can foster the belief that whatever comes out of the process is the result of deliberations by those directly concerned and is therefore locally appropriate. However, the impact which the presence of outsiders can have, no matter how 'low-profile' they try to be, always needs to be taken into consideration as it can significantly alter that outcome. Alien and inappropriate concepts of organisation and

action may be exhibited, and acted upon. Local people, and particularly local leaders, may feel this is expected of them and that it represents modernity and association with the 'progressive' outside world.

In the context of participatory research for development, the opportunity exists for compensating for this through a more systematic and thorough participatory analysis of the issues involved. This could encourage local people to identify more firmly those actions which they regard as of prime importance. But without this, and an awareness on the part of the PRA team of the possible effects of their presence, there is a risk that decisions reached by local people are aimed more at the outsiders and their assumed objectives, than at the real needs and priorities of local people.

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## Investigating systems of fisheries access along the River Benue in Nigeria

Marie-Thérèse Sarch, S. P. Madakan and B. L. Ladu

### · Introduction

Fishing plays an important role in the communities living along the Upper River Benue, Nigeria. Economically fish provides an important source of food and income for both men and women and fishing has an important social and cultural position in the villages of the river side. Decreased flood levels and modern fishing techniques have caused concern about the sustainability of these livelihoods. This concern prompted a participatory investigation of access to fishing to understand the fishing systems along the River Benue. This paper describes the findings of this study which was conducted as part of the Traditional Management of Artisanal Fisheries (TMAF) in North East Nigeria project.

### Background

The River Benue is a major tributary of the River Niger: it rises in the mountains of central Cameroon and flows south-west for 1500 kilometres before joining the River Niger in central Nigeria. The river consists of a series of braided channels of different sizes which meander across the floodplain. The floodplain also contains seasonally inundated depressions, known as *fadama*. These provide important fishery resources, which are exploited after the flood has receded.

The Bwatiye people have a long history along the River Benue in Nigeria. They claim to be first settlers of the Upper River Benue Valley. The Fulani arrived in the Upper River Benue valley during their *Jihad* (holy war) at the beginning of the 19th century. The Fulani

imposed an administrative structure based in the current state capital, Yola, and used this to collect taxes and/or dues such as forced labour, from the Bwatiye people. British colonists arrived in the Upper River Benue valley at the beginning of the twentieth century and worked with the collaboration of the Fulani hegemony to colonise the region. During the British colonisation, a modern administrative structure was developed in parallel to the Fulani administration. Since Nigerian independence in 1960, this has evolved as the Federal Republic of Nigeria.

Under, the 1992 Inland Fisheries Decree, the management and regulation of access to the fisheries comes under the jurisdiction of the State Commissioner for Agriculture (in this case, Adamawa State). However, evidence from sample surveys indicates that there are many different systems of access to fishing in operation, many of which do not conform to the system stipulated by the State Fisheries Department. Despite the ultimate aim of both the State Fisheries Department and the local fishing communities to sustain fishing livelihoods along the river, there are instances where the local fisheries management systems are subject to dispute and/or conflict.

The aim of the investigation was to understand the fisheries access along the Upper River Benue and contribute to a community-based fisheries management plan. This article describes the participatory approach used to understand systems of access to fishing rights and their evolution in a series of five village appraisals. The sequence of the participatory techniques that were used are described using examples from the appraisal of Njoboliyo village. The second part of the paper discusses the lessons learned from the five villages which

participated in the study; Geriyo, Rugange, Njoboliyo, Worro-Bokki and Bilachi-Bwatiye.

### **Investigating systems of fisheries access**

On arriving in each village, the research team met with the village head and requested that he call a meeting of the village elders in order to explain the research mission and request the village's participation. By working through the village head and meeting with the elders, the team was able to follow traditional protocol.

Furthermore, the team used the opportunity to discuss the village history with the elders. They were keen to explain their history and believed that it was important that the key events in the village were recorded. The process worked well as an 'ice-breaker': the elders were able to talk about something of which they were proud, while the research team was able to demonstrate their genuine interest in the village. The village history provided a useful introduction to the community and enabled common, temporal, points of reference to be established.

The elders were also asked to explain the administrative hierarchy of the community. They spent an afternoon consulting, and then provided a detailed explanation of the clans in the village, their leaders and their roles. The research team asked the elders if a group of youths could draw a diagram of this hierarchy. The youths drew the hierarchy diagram independently of the elders. This confirmed the

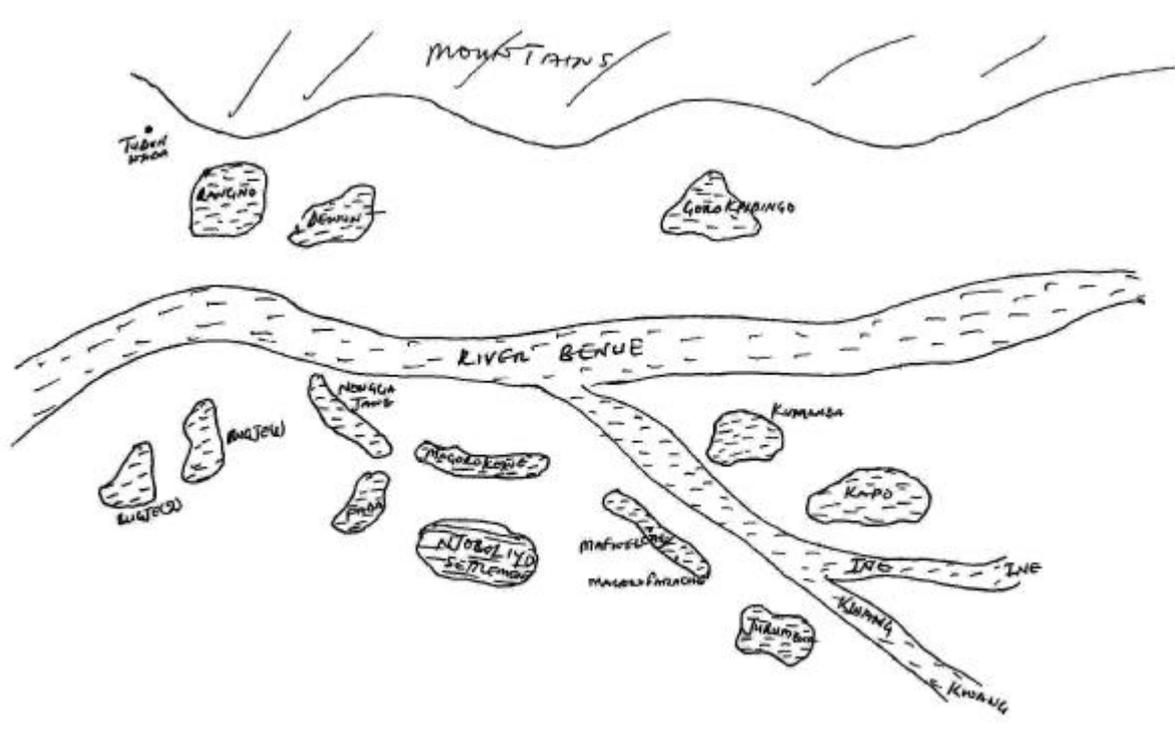
roles of the key members of the village, which had been described by the elders.

Having learned about the basic administration of the village, the research team went on to inquire about the administration of fishing within the community. The community believed that fishing was an important part of their heritage and were eager that the team understood how access to fishing worked in Njoboliyo.

A young men's group drew a map of Njoboliyo and the water bodies surrounding it which has been reproduced in Figure 1. The map indicates the water resources which the community relies on for their livelihoods. The water bodies to the north of the village are associated with the River Benue, while those to the east of the village including pools and *fadamas* are associated with the Ine and Kwang tributaries of the Benue. Discussion around the map revealed that the floodplain is also an important resource as it provides grazing and farm land. The forests on the mountains to the north of the River Benue provide some fuelwood and hunting opportunities.

The group explained that access to the River Benue is open to all. However, a number of lakes are privately owned, as are the floodplains which are mostly used as farmlands. The owners of the lakes control their usage and decide when fishing in each lake is open to the village. Before the 'open season', individuals can fish for a fee at the discretion of the owner. Fishers are usually expected to acknowledge the owner of the lake which they have fished with a part of the catch.

Figure 1. Map of water resources drawn by a young men's group, May 1995



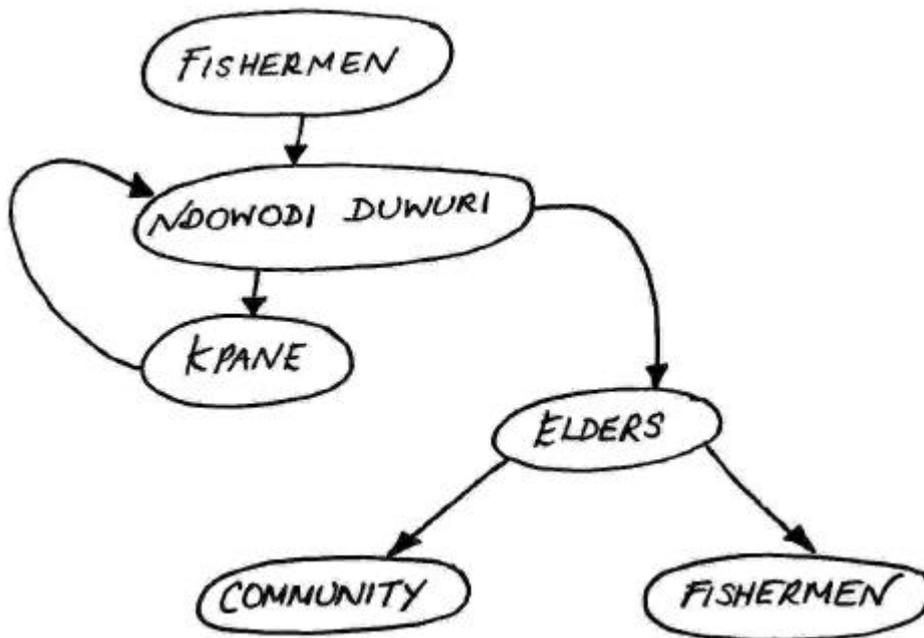
Throughout the village appraisal, careful attention was paid to discussion of conflicts or disputes. Towards the end of the study, and when a rapport had been established with the community, it was possible to hold discussions with community leaders about conflicts and problems in the community. The various conflicts and disputes which emerged were used as the basis for discussions about how these had arisen, and if, and how, they had been resolved.

Several conflicts emerged from the study in Njoboliyo, many of which concerned access to natural resources and the power to control access to them. One of the most important conflicts concerned control of the Bugje, Rangno and Dewun lakes, which the elders described using the conflict resolution chart in Figure 2. The lakes are owned by the Duwuri

clan, and two brothers in the family both wanted the lakes as their own personal property. The brothers consulted the head of their clan, the Ndowodi Duwuri who discussed the problem with other Clan heads and elders in the village. Oracles were then consulted and the lakes were then divided into two portions for the separate ownership of the two battling brothers.

In recent years, conflicts over ownership of water bodies have occurred with outsiders. These have arisen where outsiders, usually rich individuals from the cities, have bought land which has included a seasonal waterbody. The community have disputed their rights to the fish in the waterbody and several such cases are awaiting settlement through court cases. The community felt less able to draw a chart for these conflicts.

**Figure 2. Conflict resolution process chart redrawn from the discussion with the village elders, May 1995** This shows the process by which the brothers' dispute was referred to the clan elders, to the elders and ultimately to the oracles.



### • Lessons learnt

#### Can the participatory process be manipulated?

Almost everybody in each village was keen to participate in the participatory appraisal of their village. This willingness can be partly attributed to earlier visits by the research team in the previous two years. The village communities knew about the TMAF project and supported the basic aim that there should be a better understanding of fishing livelihoods along the river.

Although the team made it clear that any development initiatives were not within the scope of the project, there were, not surprisingly, some expectations that the research may result in some development investment. It is also likely that this response originates from the community's history of co-operation with European missionaries. Through this collaboration, the youths had received an English education which was

frequently mentioned as an empowering and valuable development in the community.

Most of the case study villages had been included in a sample survey in 1993. Villagers told us how much they preferred the participatory approach. They felt that the 'every tenth house' approach meant that many of them did not get their chance to speak. They wanted to share their views because access to fishing resources is an important topic and they wanted their views to be represented. Although this is a very positive endorsement of the participatory approach, we were always aware of how the approach can be manipulated by the more powerful in the community. For example, within the community, various groups were most confident when discussing issues which they believed they knew the most about: the elders preferred to talk about administration, the youth about their community development work and the women about fisheries marketing.

This meant that most of discussions concerning the administration of fishing were directed to the village elders. The research

team needed considerable diplomacy in order to triangulate the details of fishing rights, especially in villages where there was some tension between different groups over access to fishing. The team needed to be careful not to upset the elders by overtly cross checking their information with that provided by other groups. The research team would explain that they did not want to trouble the elders to show them the water bodies of the village and would ask if a group of young men could direct the team around them. This provided a means of discussing access issues with other groups.

### Can every issue be triangulated?

The detail with which each community explained the development of their administrative structures and procedures not only illustrates the value and the depth of local knowledge, it also shows how the participatory approach has facilitated a highly valued record of the village history. The level of detail provided suggests that the research team has not simply been used to legitimise the claims of an interest group, although it is impossible to consolidate local information outside of the village. For example, it is unlikely that the records of the court cases mentioned during the discussions of conflict would be available to examine. This sort of problem confronts the issue of triangulation of information outside the village, since its utility to the village community far exceeds that to anybody else.

### Can rapport be sustained?

Despite the diplomacy needed to discuss certain issues within the study villages, a genuine rapport was developed between villages and the research team. Many of the researchers were permanently employed by the State and Federal Departments of Fisheries and developed an enormous respect for the village communities. The relationships developed were a key part of the research process and are crucial to the success of any future initiative. However, it has proved difficult to ensure that a sense of this mutual co-operation and the depth of information provided by communities themselves is included in project reports.

## Conclusion

A sequence of participatory research tools has proved valuable in investigating issues of access to fishing rights. They have been used to reveal the complexity and detail of the systems of fisheries access along the Upper River Benue and have provided useful information for future fisheries development initiatives.

The participatory process has not been simple or easy to use. Pitfalls do exist, and avoiding them has required careful thought and preparation. The next challenge is to sustain the rapport established with the fishing communities and use it to build a participatory process of fisheries management and development.

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### NOTES

The goal of the TMAF project was to examine the need and potential for designing a more effective management system for the fisheries of sub-Saharan Savannah region. TMAF was funded by the UK Overseas Development Administration Project No R5471 from 1993 to 1996. It was conducted by the University of Portsmouth (UK) in collaboration with the University of Maiduguri (Nigeria) and the Federal University of Technology, Yola, Nigeria.

The research team included: Nuhu Adamu, Jafa'aru Ali, Sunday Anthony-Dilli, Terka'a Dajoh, Bernard Ladu, Mustapha Lawan, Rebecca Livingstone-Saleh, Sonny Madakan, Sahabo Njobdi, Maurice Pila and Marie-Thérèse Sarch.

## 11

**Local voices to the surface****Andy Inglis, Hugh Govan and Susan Guy****• Background**

The fisheries around Scotland's coasts have traditionally been managed by the government Department of Agriculture and Fisheries. Local fishers are represented, to varying extents, through associations and organisations. Community or local participation is touted as important by certain authorities<sup>1</sup>. A number of authorities and statutory agencies already claim to involve local communities in local decision-making. But in reality this usually consists of advertisements in the press, written requests for comment to representatives of user groups and the occasional questionnaire survey.

**Solway Firth Partnership**

In response to the need for more integrated coastal zone management, a number of voluntary coastal fora have been established, particularly in the major firths or large inlets that dominate Scotland's coastline. These fora aim to integrate the views of a wide range of stakeholders in the design and implementation of coastal management strategies.

The Solway Firth Partnership is one such forum that was established in the Solway Firth, a large inlet bounded to the South by England and to the north by South West Scotland. It was established in 1994 to develop a joint management strategy compatible with the sustainable development

of the area. The partnership comprises representatives of statutory and non-statutory bodies, economic interests, users and local communities interested in the sustainable use or development of the area.

In 1996, we were asked by the Solway Firth Partnership to design and facilitate regional workshops to enable local people to present their ideas and develop action plans to inform the development of fisheries management plans. This paper provides a brief overview of the process we designed and carried out to assist the Solway Firth Partnership to run effective open meetings in three coastal towns: Gretna, Wigtown and Workington in the summer of 1996.

**• The approach**

The Solway Firth Partnership was composed principally of authorities, agencies and representatives of user and interest groups. The formally agreed route for interaction with local people is either through fishing representatives on sector specific working groups or through attendance at yearly conferences.

The general agency understanding of public participation is influenced by the prior history of carrying out statutory consultation procedures for planning activities and dealing with often hostile members of the public. Thus, usually proposed methods of public consultation centred on questionnaires, the production of a newsletter and conference type meetings. From the perspective of the local fishers these approaches were not working in ways which were meaningful or useful to them. A fisherman from Gretna

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<sup>1</sup> Throughout this article we refer to the responsible government bodies and local planning authorities as 'authorities' and statutory designated advisory and watch-dog bodies and NGOs as 'agencies'.

explained: *We felt there was a lack of local consultation for people who are living and working and have roots in the Solway. .... We would like more consultation. We know a little bit more about what's going on here than perhaps the pressure bodies.*

In an effort to introduce a new approach to the consultative process, we facilitated three public workshops at sites around the Solway Firth. We realised that we were working within a flawed process and that we had been invited to assist the Partnership at a late stage in the project. Because of these limitations and constraints, we negotiated exactly the ground rules for the meetings and publicity, what the outputs would be and how they would be used.

### **Participatory appraisal**

For the public workshops, a participatory appraisal (PA) process was designed. Agency and local authority staff were trained in the facilitation skills (e.g. mapping and action-planning processes) required for the proposed public meetings. An important part of the training event was for the participants to assess their own attitudes, behaviours and roles as facilitators, rather than as agency and authority officials, educators and environmental experts.

The training involved the development of clear, realistic and achievable objectives which would provide the structure and focus for the open meetings. The objectives were:

- To bring together a variety of people and views;
- To assist people in the locality to analyse aspects of the marine and coastal situation and their feelings about the future; and,
- To start a process by which people may come to a better understanding of each others' ideas and concerns regarding the future of the Solway Firth.

We designed a process called 'locality mapping' which builds upon mapping, a well known PA tool. This assisted people: to identify, share and record their ideas and views, prioritise issues and work as a group to develop and record ideas for how they would address their issues. Locality maps were completed at each of the three open meetings which were held over a ten day period.

Each meeting lasted three hours. Participants worked in small groups to analyse aspects of their marine and coastal areas. They mapped the area where they live and work. Everyone had the opportunity to express, explain and record their ideas and views. As a group they scored the relative importance of each of the issues raised.

The participants recorded information directly onto their maps. Everyone had the opportunity to look at, and discuss, the maps generated by other working groups. Each working group developed action plans which described which issues could be addressed, why, how, by whom and when. After each group had explored the issues fully, a plenary session was held where the groups presented their findings and action plans to each other. Finally, reports were generated that reproduced the original material. These had no external analysis of the unedited material describing the marine and coastal situation in Wigtown, Gretna and Workington as defined by those people with whom the facilitation team met.

### **Some issues raised**

The issues confronting local resource users are perhaps best described in their own words. Tables 1 and 2 are extracts from the matrices generated by two different working groups. The first was recorded by a working group of fishers and the second was recorded by a group composed mainly of agency representatives.

**Table 1. An extract from the action plan developed by one fishers' working group**

| CHANGE  | WHERE                        | WHY   | HOW  | WHO   | WHEN              |
|---|------------------------------|---|--|---|-------------------|
| Removal of threat to Annan, Royal burgh fishing rights                                  | Annan, Royal Burgh territory | Cultural and historical rights to be kept in perpetuity for local people. Distinctive activity of great interest to tourist. Defining point of the area.  | Local people must be notified and consulted prior to sale of land/ rights or any change of legislation. Recognition of rights by all fishing interests on or near Solway. LEAVE US ALONE. Stop threatening us. We have a right to exist. | Riparian business interests, legislative bodies, Solway Firth Partnership; Scottish Natural Heritage.                           | NOW!              |
| Improvement of fish stocks: spring - run salmon and sea trout.                          | All of Solway estuary.       | Beneficial for all fisherman and conservation benefits.   | Control of afforestation; drainage; pollution; sewage; restocking; change law to allow fines to be used directly to mend damage done to river - Restocking.  | Forestry Commission; farmers; industry; local authorities; Government; Scottish Office; more action from Environmental Agencies | ASAP <sup>1</sup> |
| Return of rights to local people to fish local rivers. Affordable access for pensioners | Annan River                  | People feel aggravated the local river is out of bounds to locals. Only the rich visitors can afford to fish. Only town in SW. Scotland not to have control of fishing rights within Burgh area. Few benefits to locals of visitors coming. | Investigation of legality of sale of fishing rights. Details of sale (nobody knows). Concessions by present owners to allow pensioners and juveniles to fish. Other timeshare operations allow one day's fishing to locals.              | Local councillors;<br><br>Present owners  | ASAP              |

<sup>1</sup> as soon as possible

**Table 2. Extract of an action plan developed by a working group comprised of agency representatives.**

| CHANGE                                     | WHERE   | WHY  | HOW  | WHO  | WHEN     |
|--|---|--|--|--|----------|
| Reduce erosion                             | Gravel and sand extraction; visitors damaging dunes | Can be achieved soon.<br><br>Done without permission.  | Planting issue; inform crown commissioners; enforcement; strategy/ policy; signs to encourage and educate. | Planners<br><br>Public; farmers; us                                    | ASAP     |
| Establish coastal footpath (long distance) | Along coast, both sides of Solway.                  | Tourism , link nature conservation sites (birds); input the money generated into farm economy. | Without demolishing dykes or causing conflict with dogs/ stock; incentives to owners; Public backing       | Landowners must agree; Council; dedicated person to plan and implement | soon-ish |
| Loss of village and town local identity    | Almost every settlement                             | Strong identity-attracts tourists; sense of belonging for residents.                           | Planning policy and residents  | Council  |          |

## • Strengths of the approach

Agency staff often find it difficult, if not impossible, to talk or negotiate with fishers. Likewise, fishers often find the methods, venues and timing of agency-initiated events intimidating and difficult to follow. Some of the strengths of the PA workshops were:

- they demonstrated to agency people that meetings can be run in effective and meaningful ways while providing outputs which are documented, specific and practical;
- the informal, neutral venue, facilitates discussion between different interest groups that may never usually meet;
- the participants record their own ideas and views in their own language. The process can be documented and distributed to the participants and other interested parties; and,
- a video was used to document the process and some of the outcomes. This helped to describe the events to others who did not attend the meetings.

Three comments from participants highlight some of the other benefits from the process. A regional environmental agency official was impressed by the process: *I was sceptical when we were being trained about how it would actually work but..., the way we dealt with the subjects was fantastic. Better than standing up on stage being hailed abuse at.* An Environmental Planning Manager from a local authority had a similar, positive experience: *I found the process difficult at first but once we got over that initial hurdle it all went really well. There have been lots of good ideas..... we actually got somewhere...good things came out.. certainly detail that I was not aware of 50 miles away.* An environmental agency official found the mapping process helpful: *by focusing on a map discussion is specific and therefore the ideas and solutions tend to be achievable.*

## Involving local people, not just their representatives

Prior to these workshops, user groups and other interests were usually represented by officials. This system, as in many other areas, did not seem to be working. Several of the local fishers who participated found the PA approach a positive experience. A young fisherman from Gretna explained: *I felt it gave people who wouldn't speak in a regular kind of meeting a chance to give their views. I really enjoyed it.*

We had anticipated, and prepared for, the presence of two main types of saboteurs: officials of some of the partnership agencies and the single issue activists. Officials wanted to ensure that only the 'right' issues were raised. We devised a group forming exercise to reduce the chances of them dominating the discussion. As officials often live outside fishing localities, we formed working groups based on where people live. This gave fishers the chance to raise specific issues with out being dominated by agency agendas.

We had another strategy for the single issue activists who often come armed with 'props': dossiers, files, documents, maps, newspaper cuttings, etc.. If given the opportunity, they will start to quote from these and hand them around. As we were using big pieces of paper for mapping, we asked everybody to put all their things under the table, thus creating a level playing field. This was appreciated by a fisherman from Annan who exclaimed: *I am delighted to be given the opportunity to contribute to the Solway Firth Partnership agenda. We felt that we had been hijacked before by certain interest groups that are more vociferous than us. We are more at peace now that our voices are being listened to*

## • Some difficulties

### Incorporating PA into existing institutional structures

In this example, PA was incorporated into a project that required 'participation' but where agencies had not given much thought to the implications of what this would involve.

Specifically:

- the processes for involving people needed to have been considered at the project design stage;
- mechanisms should have been devised for incorporating more effectively local people's ideas and views;
- commitment and resources should have been secured at the outset of the project to enable meaningful follow-up to the public consultation; and,
- approaches were needed to overcome the reticence of the more conservative of the partnership agencies to accept anything more than token public consultation.

### PA and Scottish fishing communities

Designing appropriate participatory processes to achieve realistic objectives has great potential in the Scottish coastal zone. This approach enabled discussion about resource allocation *within* specific resource user groups and facilitated interactions *between* different user groups. A fisherman from Annan appreciated the inter-group co-operation: *Discussions being made affect our livelihood. We would like to have a say in any changes. We would like someone from our side with hands on experience involved in a management committee.*

PA approaches, specifically diagramming tools such as mapping, can be well suited to resource planning and management situations. They are uniquely appropriate to resource allocation issues and are not threatening where people from differing backgrounds are coming together to discuss and work through complex issues. Furthermore, they help keep the discussion of issues specific rather than in terms of abstract concepts. Whilst in this instance they were successfully used in regional meetings, their value, and the number of participating stakeholders, increases if used at a more local level (getting out to where there are people e.g. boats, shops and pubs).

### Hitting the rocks

Based on our involvement with this project, we recommended to the Solway Firth Partnership that participatory management appraisals (i.e. follow-ups) should be held in 'hot spot' localities identified at the regional workshops. But over a year later, the participatory process has not been carried forward as planned. This appears to be because dominant voices, both in and around the Partnership, were uncomfortable with the open agenda of the regional meetings and have blocked the local-level events and meaningful follow-up.

Our experience has shown us that working with PA in the British fishing sector requires all the usual aspects of best practice. It also requires great efforts to ensure that the many local voices are heard above a few, powerful external actors who determine the outcomes. A fisherman from Gretna was optimistic about the future however: *I felt today's meeting has taken a lot of the mistrust out of things from what has gone on before. The users have never been considered before and today this was brought to the surface. ...We should all work together and I'm sure this is going to come.*

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## 12

# Participatory student research increases awareness of sustainable fisheries management

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### • Introduction

This paper considers the use of participatory student research and essay writing in rural fishing villages as a way of raising environmental awareness and increasing the quality and quantity of local debate and discussion. Here it was used to examine aquatic resources, fisheries management and conservation issues in the Mekong River, in the Lao People's Democratic Republic (Lao PDR).

Lao PDR is a landlocked country in mainland Southeast Asia. Most of the country's 4.6 million people are semi-subsistence rice paddy farmers and fishers living in the lowland plains adjacent to the large rivers, including the Mekong River, which passes 1,993 km. from the north to the south of the country before entering Cambodia. Wild caught fish make up the largest proportion of protein for people living in rural areas. Wild capture fisheries also provide rural people in many parts of the country with a large proportion of their cash income.

The Lao Community Fisheries and Dolphin Protection Project (LCFDPP) is an NGO supported, Lao government project operating in the southernmost part of Lao PDR in Khong District, Champasak Province. The objective of the project, which was first established in January 1993, is to support the Khong district government and rural villages living next to, or on islands in the middle of, the Mekong River to sustainably manage and conserve natural aquatic resources in the district.

An important part of the LCFDPP's integrated natural resource management and community development programme is the support it provides for community-based aquatic resources co-management. The Khong district government has agreed to permit villages to set up and enforce individualised village rules designed to improve the management of aquatic resources, including fishes and frogs. The local government has recognised a system in which local communities can voluntarily request permission to conduct a village workshop to officially establish such rules in the presence of all the members of the communities, neighbouring village leaders, and district government officials.

The LCFDPP provides support for the participatory planning workshops through helping to facilitate the process at both village and governmental levels and by providing requested technical and financial support. To date, 59 villages in Khong district have established these types of village rules. Each village's rules are different, so as to adequately consider special circumstances at the community level.

### Working with students

Supporting the work with the communities, the LCFDPP also works with village primary and secondary schools in Khong district. The aim is to strengthen teachers' and students' understanding of the need for sustainably managing aquatic resources for present and future generations. The LCFDPP believes that effective and sustainable co-management systems are more likely to be developed if the environmental awareness of all members of

communities, including the younger generation, is high. Thus, there is a crucial link between the project's community-based aquatic resource management programme and its work with teachers and students.

In 1993, the LCFDPP, in co-operation with various schools in Khong district, began trying out various extension techniques designed to raise student awareness about aquatic resources sustainable management and conservation. Cartoon books and posters with sustainable natural resource management and nature conservation themes were introduced to primary school students.

The project provided students with coloured pens and paper for drawing pictures of fish and Mekong River dolphins. Teachers participated by requesting that students answer simple questions about the biology, ecology and conservation status of the dolphin and various fish species. Discussion in class was encouraged. The method seemed to work well with primary students, but junior secondary students seemed less enthusiastic about drawing pictures.

The LCFDPP decided to experiment with secondary school teachers at the Khone Island Junior Secondary School to develop a different methodology for working with secondary school students. It was recognised that one of the biggest deficiencies of the education system in rural Laos is its general lack of support for:

- learning about issues relevant to daily life in the villages; and,
- providing incentives for the promotion of individual free thinking and the open analysis of everyday problems and their solutions.

Through informal discussions with the Khone Island Secondary School teachers, it was decided to develop a process which would allow students to individually conduct participatory research about fisheries and other aquatic resource management issues of relevance to their communities.

Project staff and teachers introduced groups of students to the participatory research exercise. The students were provided discussion topics

related to fisheries and other natural aquatic resource management issues. The discussion were clustered around three sections, focusing on the past, the present and the future. Each section contained a number of questions. For example, the section dealing with the past included the following questions:

- 'What was the status of wild fish populations in the Mekong River in the past?'
- 'What fish species were abundant in the past?'
- 'What fishing gears were used in the past?'
- 'Were fish easy or difficult to catch in the past?'
- 'What was the marketing system for fish in the past?'

The other two sections of the discussion used similar questions but dealt with the present and future situations. In addition, the students were asked to investigate:

- What fishing methods should be restricted to ensure the sustainable management of aquatic resources; and,
- What other measures should be taken to manage aquatic and fishery resources sustainably.

Using a semi-structured interview approach and working individually, the students researched the topics outside of the classroom and in their own villages. They were encouraged to discuss the questions informally with elders and family members. The students were given two weeks to submit a discussion paper on fishing. It was stressed that there were no right or wrong answers, rather it was up to each student to carefully collect information about the issues, analyse the situation and provide their best interpretation of it.

## Results

The first student participatory research and essay writing contest was initiated at Khone Island's Junior Secondary School in November 1993. 123 Students, or almost 100% of the student body, submitted essays entitled 'Managing Indigenous Fisheries for the Benefit of Lao People'.

Teachers and the extension team of LCFDPP graded the essays according to style and the individuality and depth of their content. There were no significant gender differences in the quality of essays received. Some teachers had expected the boys' essays to be the best, but some of the best essays were written by girls.

Once the best essays had been selected, the writers were requested to prepare to present their essays at an awards ceremony for the essay writing contest. All the teachers and students attended the awards ceremony, which was organised in early 1994. Village chiefs, district government officials, and members of the school parents committee also attended.

Each student who contributed an essay was provided with a small prize, a note book, in acknowledgement of their efforts. The writers of the top essays received slightly bigger prizes, including notebooks, pens, rulers, and student book bags.

As a follow-up step to the process, one of the best essays was sent to the Lao language newspaper 'Sangkhom-Thoulakhit', where it was published in three parts. This was an added bonus for the project, enabling it to reach towns such as Vientiane, the capital of Lao.

## Discussion

The co-operating teachers, students, parents, and government officials were all pleased with the results of the participatory research and essay writing contest. We were all surprised by the depth of understanding and analysis demonstrated by many of the students. The majority of the essays were well researched, analysed and written.

Almost all the students concluded that the fisheries and other aquatic resources around their communities required immediate and drastic attention in order to reduce or stop their decline. Many provided clear, and sometimes draconian, recommendations of measures required to solve perceived problems. Other students endorsed the strict implementation of management and conservation measures already included in some villages' co-management rules.

At the end of the process, we felt that the exercise had been successful in increasing awareness levels regarding important aquatic resource management issues at a number of levels. First the students benefited from the research and essay writing. They succeeded in becoming active contributors to the community debate regarding these important issues. They also learned to appreciate the important role that indigenous knowledge from elders can play in analysing situations.

Second, teachers increased their understanding regarding community resource management issues, and ways of encouraging idea-developing processes in their classes. Third, parents and other relatives who helped supply the students with information during the research phase of the project expanded their own understanding of issues. Fourth, it gave parents and grandparents a unique opportunity to participate in their children's school education process. It linked the content of school studies to real-life village situations, helping parents to see the value of their children going to school.

Finally, the LCFDPP learned from the various ideas and recommendations provided by the students. We were encouraged to see how much the content of the essays impacted on village leaders and district government officials who attended the ceremony. Many were visually shaken up when they heard that their children and grandchildren had strong views about the urgent need to stop the inappropriate, inequitable and unsustainable exploitation of aquatic resources.

The essays have made a long term impression in southern Lao. For example, in his speeches advocating effective aquatic resource management in the Mekong River in late 1996, the chief of the Agriculture and Forestry Office from Khong District, referred to the essays written by students in 1993. Furthermore, a father of a student stopped trading fish from Cambodia that had been caught using explosives after he read his son's essay which was critical of the use of explosives in fishing.

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## • Conclusion

Since late 1993, the LCFDPP has completed this exercise at two other junior secondary schools in Khong district. Work in three more schools in the district has also begun. So far the results in all cases have been promising, and greater expansion of the methodology is planned. There is also potential to adapt the methodology described here for use in other situations and with regards to other natural resources. The method has proved itself to be a valuable participatory tool for working with fishing communities and one that supports ongoing community-based aquatic resource management.

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## 13

## Getting fisherfolk off the hook: an exploratory PRA in Southern India

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### • Introduction

Fishers in India are largely unorganised. Where they are grouped together, it is usually in small numbers and their associations are rarely strong enough to ensure their voices are heard. Yet fishers live with many challenges: occupational, seasonal, geographic, social and economic and have not used collective bargaining to ameliorate their conditions. Many claim that they live with the hope that there are as many good fish remaining in the sea as ever came out of it.

Fishing can be lucrative, yet many fishers are poor because of the exploitation which has become so institutionalised that the fishers often do not realise it for themselves. According to a survey of Indian small fisheries, for every hundred rupees worth of fish bought by consumers, only one-third reaches the traditional fishers, the remainder goes to merchant intermediaries.

The Tri-Sea Fishermen Union at Nagercoil works for the welfare of fishers in Kanyakumari district, Tamil Nadu, India. The union approached the Gandhigram Rural Institute's PRA Unit to assist it conduct a three-day workshop to study the fishing livelihoods in Kanyakumari District. This paper reports the outcome of the PRA workshop which was attended by 25 men and women engaged in different fishing trades.

The objectives of the workshop were:

- to study the socio-economic and occupational problems of the fishers;
- to analyse the factors that underpin these problems; and,

- to elicit the views of fishers on ways to ameliorate their working and living conditions.

To study the livelihoods, a number of PRA exercises were completed, including: a trade inventory, preference ranking, key problem analysis, seasonal, case and time use analysis, semi-structured interviewing, focal group discussions and causal diagram. The findings from some of these exercises are discussed below.

### • PRA findings

#### Trade inventory and risk ranking

During preliminary discussion with Trade Union Officials and the fishers, it became clear that there are many trades in the fisheries sector and that each has its own problems. Thus, the PRA team decided to start by taking stock of the various trades in which fishers are involved. A trade inventory, an adapted form of a resource inventory, was used.

The 25 fishers were divided into two groups to develop inventories of fishing trades. Each group was given cards and pens and was asked to list the various trades in which fishing communities are involved. When both groups had finished their lists, they were presented in a plenary session. Comparison of the lists showed the nineteen sea-related trades in which the fishing community are engaged.

Split into two groups again, the participants ranked the trades according to the severity of problems faced by each. High risk trades are those that face the most challenges with regard

to the labour involved and threats to the survival of fishers.

There was heated debate at the beginning of this exercise as everyone present argued that his/her trade was in the high risk category. Finally, however, the groups completed their ranking and presented them in a plenary. Their lists were similar, with only two trades in varying positions. In the plenary session, consensus was reached and the final ranking of trades prepared in the plenary session is presented in Box 1.

**BOX 1**  
**RISK RANKING OF FISHING TRADES**

- Deep-sea divers: fishers who dive (down to 30 metres) to collect shells;
- Trap fishing using locally made traps to catch expensive and deep dwelling fish;
- Hook fishers who catch fish on a line/fishing rod travelling on a catamaran;
- Country boat (Vallam) fishers who catch fish using nets thrown from a country boat;
- Shore trawling: fishers who catch fish with nets by standing on rocks in the sea;
- Mechanised fishing fleet employees: salaried workers who work off-shore;
- Deep-sea trawler fishing employees;
- Loaders who load sand onto ships;
- Hand net-makers;
- Carpenters (wood cutters) who cut the right size and quality wood for making catamarans;
- Country boat carpenters
- Carpenters who build boats;
- Head load fish monger;
- Cycle load fish monger;
- Lorry load fish monger;
- Ice-plant fish processing workers;
- Fish processing workers (salting).
- Fish processing workers (making fish pickles); and,
- Auctioneers.

Boxes 2 - 4 highlight in more detail the risks faced by three of the 19 trades. They show the real physical and economic hardships that are suffered in some trades, particularly in diving which requires physical fitness, lots of luck and learned skills in reading the currents to find a good harvest.

**BOX 2**  
**RISK ANALYSIS OF FISHING TRADES:  
DEEP SEA DIVING**

'When we plunge into the sea, we have to go very deep. We dive with two flat plates tied to the soles of our feet. We wear goggles but do not have an oxygen cylinder or fins that would enable us to swim faster. The maximum time we can normally be under to harvest lobsters, oysters, scallops and clams is two minutes. Timing is very important. Any disturbance or distraction might cost our life. We get back after spending nine to ten hours in the sea. We go to the private traders for selling the catch. The income is not stable. It is nothing but a gamble and depends on luck.'

**BOX 3**  
**RISK ANALYSIS OF FISHING TRADES:  
HEAD LOAD VENDING**

Head load fish mongers buy fish from auctioneers in the morning. The fish can be paid for immediately, or in the evening when the fish cost 5 per cent more. The auctioneers prefer instant payment, but most head load fish mongers buy fish on credit and accept the 5 per cent interest for the twelve hour loan. Whether the fish is sold or not during the day, the price has to be paid in the same evening or the monger will not be allowed to buy fish the next day.

The mongers carry the heavy fish on their heads. The dirty water seeps from the fish basket and makes their bodies stink. The mongers become 'untouchables' in buses. When they wait for the bus with their fish-baskets, the buses pass through at high speed without stopping.

**BOX 4**  
**RISK ANALYSIS OF FISHING TRADES:  
ICE-PLANT WORKERS**

Girls are mostly employed for cleaning, cutting and packaging fish in ice-plants. They work every day in the month and have money deducted from their salaries if they are absent. The working hours are long, 11 - 12 hours per day. Ice plant workers are given special clothing to wear but many develop skin diseases. They risk electrocution in the plant and have to carry heavy fish (25 to 28 kg) through a cutting machine. Some workers get hurt while cutting the fish in the machine.

The risk analysis enabled the fishers in each trade to explore their key problems. In the course of the discussion, one of the participants commented that he had never thought of his work with so much seriousness in the past. A fisherwoman in the group stated that the discussions enabled fisherfolk to collectively share their experiences and the problems involved in their trades.

### Seasonality analysis

Fishing is subject to weather conditions and is highly seasonal. It was therefore decided to study the season-wise activities and problems of the fishing trades. The participants were divided into four groups of six members each, based on their trades: Group 1 - Communities involved in fishing, Group 2 - Community involved in occupations relating to fishing,

Group 3 - Community involved in fish vending and Group 4 - Community involved in fish processing.

Each group was asked to draw a seasonal calendar and identified the activities occurring in each month. Extracts from the calendars drawn by Groups 1 and 4 are shown in Tables 1 and 2. The exercise confirmed that fishing, and all the related occupations, are highly seasonal. Fishers have surplus money during the peak season. They borrow money during the slack season but have to deal with the high interest rates charged by local money lenders. Many fishing trades are inter-related, a poor catch affects the fish processors who preserve the fish (compare Tables 1 and 2). Much work is intermittent, such as that of carpenters and net makers.

**Table 1. An extract from a seasonal trade calendar as produced by fishers**

| Month      | Diving  | Trap Fishing  | Hook Fishing   | Fishing on Country Boat             | Shore Trawling                                    | Mechanised Boat Employees                              | Deep-sea Trawler Employees                             |
|------------|---|---|--|-------------------------------------|---|--|--|
| <b>Jan</b> | Harvest scallops, shells  | Fishing season, low catch, low income                                 | Fishing season, fairly good income, savings possible | Fishing season; savings possible    | Fishing season; income just to meet the expenses  | Fishing season; fairly good income                     | Off-season; expenses more                              |
| <b>Mar</b> | Employment is at peak. Earn fairly well. No need to borrow, pay back debts. | Fishing season, low catch, low income                                 | recession  | almost no work                      | good catch possible. debt redemption plus savings | moderate catch, not enough to meet expenses, borrowing | Off-season; expenses more                              |
| <b>May</b> | the advent of mid-May - sea faring stops                                    | off-season, no occupation   | off-season, no occupation, borrowing                 | moderate catch, expenses more       | off season, borrow                                | good catch, good income, savings possible              | fishing possible on all days - good income and savings |
| <b>Nov</b> | start sea faring after 15th   | season begins - fairly good income, investment required for equipment | good catch, good income, pay back debts, savings     | fishing possible, problem free life | moderate catch                                    | off-season, expenses more, borrow                      | fishing possible on all days - good income and savings |

**Table 2. An extract from a seasonal trade calendar as produced by fish processing**

| Month | Ice-plant fish processing                       | Fish processing by salting  | Fish processing by making fish pickles                                    |
|-------|---|---|---|
| Jan   | Employment available every day but fixed salary | Fish available in plenty; fish salting possible; work is there; poor income | fish-pickle making in full swing; good income - equal expenses            |
| Aug   | full employment, over-time, savings possible    | fish available in plenty, salting possible, savings possible                | employment for a few days, inadequate income, problems with money lenders |
| Oct   | full employment, over-time, savings possible    | Fish salting possible, sometimes loss occurs due to rain                    | full employment, good income, high expenses, redemption of debt           |
| Dec   | not very active business, fixed salary          | no business, borrow   | no work, borrow   |

## Fisherwomen

A focus group discussion employing semi-structured interviewing was conducted among fisherwomen to understand the specific problems they face. All the women participated in the discussion.

Women are mainly involved head load fish mongering and the fish processing industries. These are poorly paid positions and are usually temporary assignments. Women may also experience discrimination in wage payments: even if the work done by male and female workers is of the same quantity and quality, women will usually be paid less. Yet the income women generate is key in almost all families, ensuring that children are fed and the luckier ones can attend school.

Women fish mongers who head load fish suffer from the little income that this business generates. If men also get a meagre wage when catches are low, there can be much tension in the household. To bring up the family, wives and husbands often have to borrow money, but do not usually tell each other about their credit arrangements. When money is short, young daughters start work processing fish in the ice-plants. Workers in most of these factories are prone to occupational diseases and these affect their marriage prospects.

## • Planning

The workshop aimed to learn the views of the participating fisherfolk on how to improve their working and living conditions. Given the wealth of information shared during the workshop, this was not completed. However, the participants made thirteen recommendations for improving their livelihoods. Examples of these are listed below:

- Deep-sea divers have the highest risk profession. The government may consider supplying oxygen cylinders and other protective equipment for deep-sea divers at a subsidised rate.
- The fishers who go deep-sea diving or trap fishing encounter many accidents and sometimes die at sea. With a view to helping the family of the deceased fishers, the government has introduced an accident insurance scheme, by which the premium is paid by the government. There is often much delay in the payment of these claims and this needs to be investigated and rectified.
- Head load fish mongers need to organise a credit co-operative society exclusively for women. This would help them to negotiate more successfully with money lenders.
- Boat owners only give 35 per cent of the catch to the workers who have toiled on their boats. The Tri-Sea Fishermen Union should try and negotiate better terms for the workers.

- The Tri-Sea Fishermen Union needs to work more closely with fishers to impart greater financial skills in budgeting and calculating interest rates with money lenders.
- The Tri-Sea Fishermen Union can play an important role in negotiating with the ice-plant owners to fix a fair wage and reasonable working hours for the girls working in ice-plants. The plant owners should arrange for regular medical check-ups for the ice-plant workers.
- With a view to eradicating the merchant intermediaries' domination of fish markets and unfair price fixation for fish catches, there is need for government regulation of fish markets.

Three years have passed since this workshop was conducted. Since then, a group of women have organised themselves into a self-help group. Some have started a fish pickling business, others have used their organisation to negotiate with ice plant workers for better wages and conditions. But there are severe local, political threats to improving the conditions of the fishers. They are not off the hook, but they are on the way to being released.

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| <ul style="list-style-type: none"><li>• <b>R. Ramesh, N. Narayanasamy and M. P. Boraian</b>, Participatory Rural Appraisal Unit, Gandhigram Rural Institute, (Deemed University), Gandhigram -624 302, Tamil Nadu, India.</li></ul> |
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| <h4>NOTES</h4> |
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| <p>The PRA Unit acknowledges with gratitude the unsparing support offered by the Reverend Father Alexander Norbert, General Secretary of the Tri-Sea Fishermen Union and the Co-ordinators of the Union, Mr M. Joseph and Ms N. Maheshwari in successfully conducting the workshop.</p> |
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## 14

## Participatory group planning of a fish preservation project

### Nembo Nkwentie

#### • Introduction

There are many fishing villages along the shores of Douala, the port city of Cameroon. Youpwe is the principal fishing village, close to Douala. In Youpwe, men, women and youths are employed as fishers, fishsmokers and fish traders. Fishing is an important industry because Youpwe is the main trading point for fresh and dry fish, and the major supplier of fish to the large towns in Cameroon, such as Douala, Yaounde, Nkongsamba, Bamenda and Baroussam.

Fishers go out to fish in dug-out or custom-built canoes. They carry crude boxes, filled with sawdust and iceblocks, to keep their catch fresh for longer periods. Fishsmokers may also go out to sea in canoes to catch or buy fresh fish and store it temporarily in ice or sawdust. The fishers, fishsmokers and traders can stay in the creeks, or out at sea, for days or weeks on end, depending on the catches they make. During this time, they need to keep their catch as fresh as possible, which is quite a challenge in the tropical heat.

Fishing, fish trading and fishsmoking are inter-related professions and they are faced with a common problem. How can their income be sustained when they face large losses, most commonly through the deterioration of their catch or the capsizing of their canoes? These problems brought the principle actors together in a common forum, a weekly self-help fund. They have grouped themselves in what is locally called a *Njangi*. This is a forum where members contribute small savings to a communal fund, which is then paid out to any member in the event of a heavy loss of fish.

During one of their weekly meetings, one of the members of the Njangi informed the others about FRANKLINK. FRANKLINK is a local, development oriented non-governmental organisation, concentrating on operational research for rural development. The Njangi decided to invite people from FRANKLINK to help them examine their operations, assist them in the structuring of their activities, and guide them through the conceptualisation and planning of a project.

#### • Methodology

In response, FRANKLINK planned a participatory problem identification and project concept strategy workshop. This was phased over three sessions on different meeting days as follows:

- First session - round table group discussion and problem identification;
- Second session - problem analysis with proposed solutions; and,
- Third session - visual presentation and conclusions.

During a planned visit to their regular weekend meetings, animators from FRANKLINK engaged the principle actors (fishers, fishsmokers, wholesalers, bulk and retail fish traders) in an open round table discussion. This encouraged all sectors of the fishing trades to contribute. First, the fishers were asked to describe both a successful and an unsuccessful fishing trip. Then the fishsmokers were asked to highlight and identify the problems they face. They made distinctions between the problems faced by different categories of fishsmoker, for example those who catch fish and smoke it, and those who buy fresh fish and smoke it.

Next, the wholesale fish traders outlined the problems caused by handling fish in bulk, particularly if the catch is not very well smoked. This was confirmed by the retail fish traders who discussed the reactions and preferences of consumers and the prices they are prepared to pay.

After listening to the Njangi members, the facilitators listed all the problems that had been mentioned. In a second session, the group concentrated on analysing the problems that had been identified and developing solutions for them. Taking each group in turn, the fisher was asked to propose solutions to both the buyer/smoker and the buyer/wholesaler; the fishsmoker made suggestions for the fishers and bulk buyers; the bulk buyer contributed ideas to the smoker, the fisher and the retailer. Finally, the retailer proposed how to keep the final consumer satisfied, whilst also keeping the fisher, the smoker and the wholesaler in business.

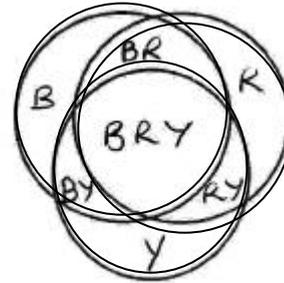
The facilitators listed all the problems which had been identified and their suggested solutions. They made three separate boards and listed the problems and the proposed solutions on each of them. The boards were placed in separate corners of the hall so that the groups could not hear each others' discussions. The facilitators allocated one corner to the fishers, who were given red cards, one to the smokers who were given black cards and the last corner to the traders who used yellow cards.

For each group, one person read out loud the problems and proposed solutions. This ensured that those who could not read were involved in the process. For each problem and proposed solution, the groups had to reflect on whether it was relevant to them and allocate cards against the problems that affected them the most.

At the end of this session, the boards were brought together and the results were amalgamated. All the cards were put on to one board. The participants were now able to see with which problems and proposed solutions they had identified themselves. They could also see which problems affected only one group of them, two groups or all of them. The problems/solutions were clustered according to

which group, or number of groups, they affected and were transferred to a diagram, which has been copied in Box 1. This formed the focus of the third session.

**BOX 1**  
**DIAGRAM SHOWING RESULTS OF PROBLEMS/SOLUTIONS EXERCISE**



B = black cards (smokers)  
R = red cards (fishers)  
Y = yellow cards (traders)

The diagram reflects how many problems were identified as affecting only fishers (R only), only smokers (B only) and only traders (Y only). The diagram enables the problems that affect different combinations of fishers, smokers and traders to be calculated. For example, the area BR represents problems/solutions that affect only fishers and smokers, while the central area (BRY) reflects problems that are common to all three groups.

### Analysis of the results

The diagram showed that about 70 per cent of the problems identified were of communal concern to all the groups represented. These problems centred on issues of preservation and fish conditioning. On the basis of this exercise, the participants came to realise that the fishers, smokers and traders each face the problem of fish conditioning and preservation, but from different angles:

- If the fisher can preserve the catch for longer periods of time, the fish will be of higher quality and will command higher prices. This can reduce the frequency with which s/he makes fishing trips out to sea and might also reduce the amount of occupational risk involved.

- If the fish smoker can condition large quantities of fish well, and also reduce fuel consumption, large losses from deterioration can be prevented and profits will increase.
- If the trader can be assured of a steady supply of well conditioned fish, even during periods when fishing activities are normally low, the consumer will be satisfied and prepared to pay higher prices for the better quality fish.

## • Outcomes

This exercise showed that a main area of concern for the fisherfolk was the problem of preserving the catch and maintaining its quality through each step of the trade, from the harvesting, and the processing to the eventual marketing. The fisher, smoker and trader groups represented in the exercise were thus able to identify areas of communal concern.

It was agreed that a preservation and conditioning facility would be central to all sections of the trade. An outcome of the exercise was the formation of a Fish Preservation and Marketing Cooperative, comprising the fishers, fishsmokers and bulk buyers. Their objective was to procure their own canoe with an out-board engine, construct deep freezing facilities, build a fish smoking house and purchase a truck for transportation. This would ensure that fresh fish can be maintained for longer while at sea and that good quality smoked fish is available at all times.

To date, and after six months of self funded contributions, the Njangi have bought their own canoe with an outboard engine of 15 horse power. This ensures that fish reach the mainland more quickly and are of therefore of better quality. FRANKLINK helped the Njangi by drawing up a project proposal document. This outlined the participatory process, the situation as it was with no intervention, the desired situation and options for resolution of the problems. The proposal gained support and the Njangi were able to combine their self generated funds with help from local government and grant assistance from the Canada Fund for Local Initiatives, in Yaounde, Cameroon.

The Canada Fund is monitoring the project and, if it develops favourably, will assist in the provision of materials for the smokehouse, a shop and will provide deep freezing equipment. In addition, the Douala II Urban Council, the local authority controlling the area, have provided a free piece of land for the smoke house and sales shop. They consider the project to support the interests of the community, and would like to encourage similar group activities in other domains.

The new canoe has been named 'My Wife' and is the 'talk of the creeks' among the many fish dealers in the Youpwe fishing port. The possible intervention of the Canada Fund for Local Initiatives, with the provision of materials and equipment, along with the free land donated by the local council serve to increase the validity of this project. Many who were previously sceptical about it are regretting their reticence to get involved. However, one thing is certain, everyone will ultimately benefit: the provision of regularly supplied, good quality fish will have indirect benefits for the entire locality.

- **Nembo Nkwentie**, Co-ordinator, FRANKLINK Operational Research Rural Development, B.P.1241, Douala, Cameroon.

## 15

## From invisible work to collective action: research and participation with women from the fishing communities of the Amazonian coast

**Maria-Luzia Miranda Alvares and Maria-Cristina Maneschky**

### • Introduction

This article describes a project, which started in November 1995, at the Philosophy and Human Sciences Centre the Federal University of Pará (UFPA-Brazil). The project aimed to characterise the roles of women in the families of local fishers, in the fishing productive system and in the fishing communities. Usually these roles are not visible, as women undertake multiple activities and, especially in the rural areas, many of their tasks are undertaken outside the commercial sphere and are geared towards producing goods for the family.

The objective of connecting research and development action was made possible through a project 'Status and Roles of Women in Fishing in the State of Pará (Brazilian Amazon): studies and participation'<sup>1</sup>. In 1995, this project was submitted to the Women in Fishing (WIF) programme of the International Collective in Support of Fish Workers (an NGO based in India) for funding and advice. This programme was active during 1993-1996 and included: a study of the history of the role of women in fishing, a record of their struggle against exclusion from society and an examination of how fishing organisations can integrate gender perspectives into their struggle for survival.

Since we joined WIF, we have encouraged the organisation and political participation of women. The methodology includes:

- the provision of useful information and opportunities for discussing the problems of families who depend on fishing;
- the dissemination of research data in the localities; and,
- the promotion of technical and political training courses.

### • The coast of Pará

On the coast of the State of Pará, fishing is an important activity. It is estimated that 55% of the nearly 100,000 fishers in the State live on the coast. The fishing fleet is large: 3,697 vessels, according to a recent survey. The fleet consists of small boats: 57% of the vessels are either rowing boats or small sailing boats and 28% are motor boats less than 12 m long.

Although fishers are a major contributor to the economy of Pará, their socio-economic situation is difficult: 75% of fishers earn less than three times the minimum wage. They have no control over the resale of their produce. They depend on merchant intermediaries for fish distribution and for access to credit. We also have to consider the effects of industrial fishing which has operated in the Amazon river system since 1969. Industrial fishing uses 20 ton vessels with mechanised non-selective trawl-nets and has greatly increased the pressure on resources.

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<sup>1</sup> This project was originally set up by Lourdes Furtado, anthropologist and co-ordinator of RENAS Project and by Maria Cristina Maneschky.

## Target communities

Fishing is the main source of income for the communities, Baía do Sol, Vigia and Pereru where the project operates. Baía do Sol, on Mosqueiro Island, is an old fishing village. The local people estimate that it has around 4,000 inhabitants. In Baía do Sol there are 'pure' fishers, as they refer to themselves, and fishers who undertake other activities. The increase in tourism and industrial fishing has encouraged jobs in the building industry and in the public sector. Women have found jobs, primarily as domestic servants, 'housekeepers' and in schools and health clinics. Women need these forms of employment and complain about the small catches of fish which their husbands bring from the sea.

In an attempt to characterise the women's activities on land, we started by examining activities that are not usually considered to be associated with fishing. The women from Baía do Sol fish using lines and small nets. They also usually clean and salt fish, make and mend nets, and sew small sails. These activities are done for the family. A few sell the fish caught by their relatives.

Vigia is a city of nearly 30,000 inhabitants. It is the main coastal port where fish is landed. Around 3,000 fishers are registered in the fishing headquarters. Of these, only 12 are women.

Women and children have few options for employment in Vigia. Construction of fishing nets is an important activity and as most women come from fishing communities, they know how to make nets. Boat owners and shops that sell fishing implements learned a long time ago to utilise women's cheap labour. Women work from home, fitting the net making in between domestic chores. Women are paid according to the lengths of net made. The price varies from one contractor to another.

There is little mention of this work in the local associations, yet it involves hundreds of women. As making nets is not considered a fishing activity, the women do not have any of the social security rights of the professional fishers.

In Pereru there are 500 people whose survival depends on fishing, farming and catching crabs in the mangroves. As in the other areas, the gender division of labour is well defined: the men go fishing at sea and catch crabs. The women work in the fields but rely on men to help with the 'heavy jobs' (clearing and burning the forest). Some women fish in the rivers and mangroves. Because of the limited and uncertain income generated by sea fishing, their contribution through agriculture and small scale fishing is essential for the upkeep of families.

Apart from some problems specific to the locality, fishers in these three places face similar problems: a lack of means of keeping and processing their produce; a lack of access to commercial credit to keep or increase their productive units; the high cost of the inputs compared with the low price they get for their fish; the theft of fishing nets in widely used fishing areas; and competition with motorised trawl-nets boats.

In this context, the WIF project aimed to bring the women fishers together and provide them with ways of expressing their opinions and problems. These actions were seen as a way of strengthening the fishing profession, by increasing the fishers' information and awareness about their rights as citizens.

### **Building channels of participation**

#### **Vigia**

Activities were planned to build or strengthen channels for political participation by women in fishing communities. The first of these activities was a large meeting of women in the city of Vigia. The follow-up activities sought to put into practice the ideas and proposals raised in this meeting in February 1996. The 'Meeting of Women in Fishing' was promoted by two researchers, C. Escalier and M.C. Manesch, together with local organisations.

The main theme, 'social security rights of workers in fishing', was crucial. Many professionals were unaware of the subject and about the important changes taking place in the

social security system in Brazil. A group of youths from the local parish prepared a play portraying a critical reflection of daily life in a fisher's house. Women of some standing in the community were also invited to speak. We provided transport, food and a nursery to allow mothers with small children to attend.

The presence of 107 women and six men from different localities made the meeting a great success. We were aware however, that it was important to mobilise women to attend. Many who had shown a strong interest in attending the meeting did not come. They claimed excuses such as 'my husband arrived from a fishing trip'; 'I have a lot of clothes to wash'; 'I have to prepare the children's breakfast'. In other words, they put forward social and moral restrictions that reinforced their silence and isolation.

At the meeting it was decided to create a women's association. To advance the proposal, a committee of 11 women was established. This indicated the desire of the participants to get the process moving. The tendency to hurry the process caused difficulties for the organisation later on.

It became clear that many women had come to the meeting looking for job opportunities. Although they valued new knowledge, contacts and the excitement of a 'different day', we cannot deny that the lack of direct benefits had certainly disappointed many women. Some who joined the committee later abandoned the group, although others joined to take their places. Pressed by domestic duties, lack of money, everyday problems or resistance from their husbands, it was difficult to maintain their motivation to fight against the many exclusions that affect them.

In summary, despite the interest in the meeting and its follow-up, the obstacles against its continuation were considerable. The project's subsequent actions were thus geared towards maintaining the fragile beginnings of the women's organisation. Smaller meetings, exchanges between this organisation and others from further afield, training courses, writing of manifestos and the proposal of a constitution, were all introduced to sustain the enthusiasm.

Amongst the impediments to maintaining women's participation, we can highlight some key factors: their poverty, the difficulties they have in going out, the lack of a support team for the project, loss of contact with communities further afield, and the weakness of the associations involved in the organisation of the meetings. The lack of commitment of the local elite was noticeable. They provided little support for a movement of poor women. By trying to build a political representation channel, we upset certain practices which are prevalent in political relations in the interior of Brazil, where votes are exchanged for personal favours.

The lack of knowledge regarding basic rights in jobs, health and education helps perpetuate the inequalities and social, economic and political dependence of the fishing communities of the region. The women also have the problems of gender discrimination, although their potential to react to such conditions was considerable, as we witnessed on several occasions, during meetings and field work.

The process of building a collective women's organisation in fishing communities stimulated the emergence of critical reflections about their life conditions. It also created opportunities for them to analyse their specific contribution to fishing, as well as to examine their relationships with their husbands.

### **Baía do Sol**

The experiences in Baía do Sol are more recent. At the beginning of the research in January 1997, the team centred their actions in the local fishers' colony. One of the first questions raised by the president of the organisation, and by the women present, regarded the tangible changes we would bring. The talks we had in further meetings were mainly regarding complaints about the decline of the community due to the impact of industrial fishing. Indeed, of 40 boats, only 8 were in use. The merchant intermediaries were not seen as 'monsters', but as 'saviours'.

Since this research started, we received requests for training courses in boat-building to help women repair damaged boats. This showed the urgency of the fishers' situation

and how women were involved with this concern. We also noted that there were great expectations of what the WIF programme would contribute to projects, in terms of boats and nets. In further contacts with the women, we discovered their interest in crafts, such as embroidery, dressmaking and sweet making.

During the field work, we also became aware of a Mother's Club, which at the time was not active. The women remembered that when it had been active, there were many group activities. The team of researchers opted, therefore, to bring this club together periodically, to find out their needs, desires and to revive their association. In the first meeting with a 'motivator' (a sociologist employed by the project), several subjects that they wanted to discuss came to light. The subject of 'women's health' aroused the most interest.

#### • **Challenges for the women in fishing programme**

The major objective for the women is to gain a better standard of living for their families. We are starting to guide discussions with the local groups in this direction, thinking about preparing projects to help generate work and income. As a first step, the WIF programme is acting as an intermediary between training organisations in the public sector and local women. Courses that the women requested are being organised, such as fish processing, small business management, dressmaking, alternative food and home vegetable gardens. Discussions are also arranged on specific themes, such as women's health.

As the experience of how an organisation works is quite new for the women, it has been a delicate task to reconcile their desire for immediate results with the necessity to strengthen the organisation. On the other hand, to highlight the 'economic' aspect of collective organisation brings the risk of de-politicising the process and attracting people with more individual interests.

In the communities, the groups involved in building a women's association are isolated from professional organisations of fishers and the municipal administration. But where

should we start? With the activities by which they intend to improve their subsistence or with the discussions of their problems and the cause of them?

We believe that both approaches are important to start building participatory actions in the community. This finding is reflected in the aim of the team, which is to get closer to the women's groups and strengthen the existing groups, such as the 'Mother's Clubs'. This should facilitate an effective partnership which could improve the local standard of living, something to which the women greatly aspire.

It is important to highlight that contributing to the groups is a two-way process for us as researchers. We gain a richer perception of the social reality. The interaction we are searching for is very new to us. Taking into consideration the limited resources available for the research, there is a risk of creating more expectations than is possible to deliver within the limits of the project. Another great difficulty is our status as 'strangers' who in a certain way 'are invading' culturally-established spaces and practices in the communities. We hope to be able to reduce these distances through a dynamic process of familiarisation in the communities.

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#### NOTE

This article was translated from Portuguese by Teresinha Roberts.

## 16

## Participatory and integrated policy processes in small-scale fisheries

Jock Campbell and Philip Townsley

### • Introduction

The implementation of policies in small-scale fisheries has not, in the main, achieved balanced, sustainable use of fisheries resources and the aquatic environment. Our research has indicated ways in which the policy formulation and implementation process can be made more effective and thus can potentially reduce many of the problems facing the sub-sector. This involves a more participatory approach to policy formulation and implementation which integrates activities within fisheries, and between fisheries and other sectors. This approach is referred to as the *participatory and integrated policy* (PIP) process<sup>1</sup>.

### The effectiveness of small-scale fisheries policies

In the 1980s many of the international development agencies carried out reviews of their efforts to address the needs of the fisheries sector and found them to fall short of expectations. The reasons for this were, *inter alia*, attributed to a widespread poor understanding of the social and economic needs of the small-scale sub-sector. The FAO World Conference on Fisheries Management and Development was convened in 1984 to address this and other issues. The resultant *Strategy for Fisheries Management and Development* reflected the need for an improved focus on social and micro-economic issues, particularly in the small-scale sub-sector. However, a

review of the FAO Strategy in 1993 indicated that progress had been slower, and/or less complete, than anticipated and desired. It emphasised:

- The need to place fisheries resource conservation in the wider sphere of the sustainable use of the aquatic environment;
- For greater participation by fisherfolk in resource management; and,
- For greater integration between sectors.

### Evolution of policies

Initially fisheries policies were concerned with the development of industrial fisheries, often dominated by non-local vessels. These policies later slowly changed towards greater emphasis on domestic small-scale fisheries and social issues. The imbalance between the social, economic and environmental aspects of policies in small-scale fisheries and the lack of skills to fully appreciate the complex interactions between policies in these different areas, has led to conflict within the sector. This has greatly reduced the effectiveness of the efforts of different development agencies (government departments, external funding agencies, or NGOs).

### • Policy research response

A concern for the consequences of this conflict led to research into the ways in which different policy areas could conflict and how this might be overcome. The focus of the research was on three key policy areas which arise from the following development themes:

- Bringing about economic development through the growth of commerce (private sector development);

<sup>1</sup> This research was funded by the DFID. For more information and documentation relating to PIP, please contact the authors.

- Redistributing both the opportunities to participate in that development, and access to the benefits from it, towards the poor (poverty alleviation); and,
- Ensuring that equitable development is environmentally sustainable and will be accessible to future generations (concern for the environment).

Our research focused on small-scale fisheries and was carried out in two phases: the first in the UK and the second in the field. The field work was implemented mainly in Malawi and Ghana but drew on practical field experience from many other countries world-wide. The results of the research can be broadly summarised as follows:

- That conflicts do exist in the policy formulation and implementation process;
- Conflicts very often exist between the strategies employed by development agents and the coping strategies of the fisherfolk;
- Conflicts can exist between fisheries strategies and strategies in other sectors;
- Conflicts can also occur between fisheries policies and policies formulated at the international, national and sub-national levels;
- That these conflicts can waste considerable amounts of scarce development resources;
- That the conflicts can cause friction between development agents and the people they aim to assist; and,
- It is possible to reduce these conflicts by modifying the ways policies are formulated and implemented so that policies complement each other rather than conflict.

The research resulted in the development of the PIP as a different approach to policy development. The PIP process is a structured approach to research, dialogue, decision making, institutional reform and development-resource allocation, which promotes greater involvement of all stakeholders in the policy process and harmonises their conflicting objectives, strategies and capacities.

This approach is a formal and structured way of providing:

- A more balanced approach to the social, economic and environmental aspects of fisheries sector, and increased harmonisation between policies in the three areas of private sector development, poverty alleviation and concern for the environment;
- Greater involvement of the fisherfolk in the decision making processes of policy formulation and implementation;
- Increased vertical integration of policy formulation and policy implementation between different administrative levels, and between fisheries development agencies and different geographical administrative levels;
- Increased horizontal integration of policy formulation and policy implementation between the fisheries sector and other sectors; and,
- Increased harmonisation between the policies of the fisheries sector, and those of the national government and of other countries.

Such an approach requires that a much more participatory and integrated approach to the *whole* policy process is adopted, not just to the implementation of policy. While much work has been done in the past on how development workers can facilitate and catalyse participation in development planning at the local level, less attention has been paid to how those local-level plans can link-up with, and inform, sectoral and national-level policy processes or how conflicts can be resolved. As a result, participatory development approaches have tended to be limited to localised interventions.

To be effective, however, participation in local-level planning must be an extension of, and not separate from, the policy process. Without a participatory policy process acting as the foundation of planning, and as a link between the different planning levels, it is likely that even participatory planning techniques will fail to incorporate the needs, capacities and aspirations of all participants. Participation should not be merely the right to participate in someone else's policy, it should be the opportunity to define the policies in the first place.

Practical ways in which the PIP approach can encourage the harmonisation of policy objectives and strategies are outlined below.

### **Harmonising policies with fisherfolk coping strategies**

Involving fisherfolk in the process of policy formulation is a vital part of the PIP process. The strategies of the development agency need to be closely linked to those of the fisherfolk, especially the poor. In many cases it was found that fisherfolk already have well developed coping strategies to overcome at least some of the adverse effects of the problems they face and PRA has been an important tool with which to identify these. For example, to achieve a balance of strategies, a cyclone relief project in Andhra Pradesh State in India recently formed a planning committee consisting of fisherfolk, community-based organisations, NGOs and Government staff. These formed the core decision making body in the planning and implementation of the project.

### **Harmonising policies in different areas**

Harmonisation of strategies across policy areas is another important component. Policies aimed at *private sector* development, *poverty alleviation* and concern for the *environment* were often found to be in conflict with each other but the strategies in the three policy areas can be modified so that they begin to work together.

All strategies aimed at preserving the aquatic environment, will, in the long-term, provide increased opportunities for resource use by both the poor and the private sector. Where aquatic habitats are degraded, employing the poor to participate in environmental rehabilitation can provide benefits for the environment and for poverty alleviation.

Often the poor degrade the environment out of necessity when they are marginalised by other resource users. Improving support to the poor can, in time, lead to reduced pressure on the environment. Targeting private sector development strategies at the poorer end of the private sector spectrum can encourage a

greater number of the poor to establish or expand micro-enterprises.

Specific economic measures to protect the environment, such as taxes and regulations, can support graduation from poverty and micro-enterprise growth if appropriately targeted. Encouraging economic development through the use of labour intensive and environmentally benign technologies can also enhance sustainability.

### **Harmonising policies across different sectors**

Where several ministries are implementing policies in the same area, such as in the coastal zone or on lakes and rivers, the potential for conflict is high. It is thus important to ensure that all of the objectives and strategies in these different sectors are harmonised with each other. This can be achieved by ensuring that the different broad sectoral policies are harmonised through improved policy research, planning, and inter-sectoral communications and co-ordination through both formal and informal mechanisms.

This not only requires more effective co-ordination at the ministerial policy level but also at the operational level through a breaking down of the strict sectoral boundaries which exist. Involving fisherfolk through appropriate fora can be a very effective mechanism for this. In Bangladesh NGOs operating across a range of sectors in the coast have recently formed an umbrella organisation to harmonise their development strategies.

At the project-level, inter-sectoral co-ordination can be increased through improved environmental impact assessment. A more integrated approach to community development can also be adopted but within a planning framework which has evolved with the full participation of the community concerned. Achieving a greater understanding of the complexities and inter-sectoral nature of the activities of resource-users can also improve the way support is provided at the community level.

## Harmonising fisheries sector strategies with international agreements

National and international policies and agreements which conflict with what is happening at the village level need to be translated into terms which are easily understood in the local context of the village. Improved communications with local communities can also form the basis of discussion on the most appropriate methods of implementing such policies and agreements.

participatory methodologies and takes them to a next stage in the development process.

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### • Implementation of PIP

The PIP process is designed to systematically address conflicts and to identify ways of harmonising policies and strategies. It uses, builds on and complements existing participatory approaches. But whereas participatory research and survey techniques have developed to address problems at the local level, the mechanisms for linking the results of such tools to national development processes can be weak.

The PIP process aims to form a bridge between those broader national-level development policies and the different needs, aspirations and capacities of the different people making up the rural poor. The proper functioning of this bridge and the availability of systematic but flexible procedures for allowing stakeholders to channel their priorities and aspirations into the policy-making process is obviously crucial to the formulation of 'appropriate' policies.

PRA techniques used at the field level facilitate the interaction between local stakeholders and those more formally involved in the policy process. The results of this interaction form the basic inputs and working material for the PIP process. Viewed from the other end, PIP can be regarded as a framework which enables the extension of PRA results from local-level action to broader planning and policy initiatives at higher administrative levels. The PIP process can thus provide a systematic approach to policy formulation and implementation which strengthens other

## The lasting elements of PRA port profiles in Conakry, Guinea: lessons for sustainability

Jan Peter Johnson and Seny Camara

### • Introduction

In late 1991, the Guinean Fisheries Department and the Conakry-based staff of an FAO regional artisanal fisheries project started training national fisheries officers in using PRA methods with fisherfolk at twelve artisanal landing sites. This experience was reported in RRA Notes 21<sup>1</sup>, and is summarised below. This paper examines the progress of the landing site development committees which were initiated from the port profiling process.

### PRA port profiles from 1991-1993

Five fisheries officers were each assigned to twelve landing sites. Working together with canoe owners, women fish smokers, gillnet fishers, handline fishers, fish retailers, boatbuilders, and other established user groups, they developed a 'PRA Port Profile', a participatory analysis of the landing site, its problems, and potential opportunities.

It was clear from the Port Profiles that for most artisanal ports, no-one had clear responsibility for its development and management. Landing site user groups were offered assistance in forming their own Landing Site Development Committee (LSDC), to be composed of representatives from all the landing-site user groups. Nine of the twelve landing sites which developed PRA Port Profiles decided to establish their own LSDCs.

The PRA Port Profiles reports aided follow-up action for the LSDCs. They provided an embryonic development plan, a clear description of the landing site's situation for higher government authorities, and acted as a background document when discussing possible assistance on specific micro-projects with potential 'outside' partners. Outside partners were essential since the FAO project had funds for the initial PRA training, but not for supporting any of the micro-project proposals which came out of the PRA process. Follow-up activities therefore had to rely either on the landing site's own resources or those of 'outside' partners.

By early 1994, the more active of the LSDCs had already started some activities, mostly with their own resources. These included: the construction of small breakwaters to protect anchored canoes, constructing shelters for smoking fish and repairing nets, repairing the heavy rock shields protecting their shore against erosion, connecting to the city drinking-water system, removing huge amounts of city garbage from the fishing beach (with assistance from a USAID project), and securing legal and political protection from encroachments on the landing sites by housing developers.

When the FAO project closed down its Conakry operations in April 1994, the committee co-ordinating the LSDCs received a transitional continuation of its operating budget for one year from the FAO project, office space from the government, and continued access to the former FAO fisheries project's office equipment. The remainder of this paper examines what has happened to the landing site development committees, and the

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<sup>1</sup> R.Reusen and J.Johnson, 'Linking Government Agents and Local Users: Participatory Urban Appraisal for Artisanal Fishing Port Development', RRA Notes No. 21, pp 57-69, November 1994.

national fisheries department's PRA Co-ordinating Committee since April 1994.

**PRA co-ordinating committee**

In 1995, the fisheries department gave the PRA Co-ordinating Committee official status as a national 'Project' headed by a PRA-trained service chief. No operating budget was arranged by the fisheries department, however, so that when the FAO transitional funding for 1994 was used up, there were no further funds to visit landing sites, prepare partnership proposals, or follow-up on the LSDC's requests for legal recognition. Although individual fisheries field officers and port authority officers have continued serious work

with individual LSDCs, the PRA Co-ordinating Committee itself, without operating funds, became virtually inactive.

It did spring back to life for a period during 1995-1996, when a large Canadian-sponsored project for functional literacy training of women belonging to fish-smoking co-operatives in Conakry became active. The Canadian project manager sub-contracted the PRA Co-ordinating Committee, with 20 of its PRA trained fisheries officers, to be the project's functional literacy trainers. When the Canadian project finished, however, the PRA Co-ordinating Committee, again without operating funds, lapsed back into inactivity.

**Figure 1. Status of landing site development committees 1997**

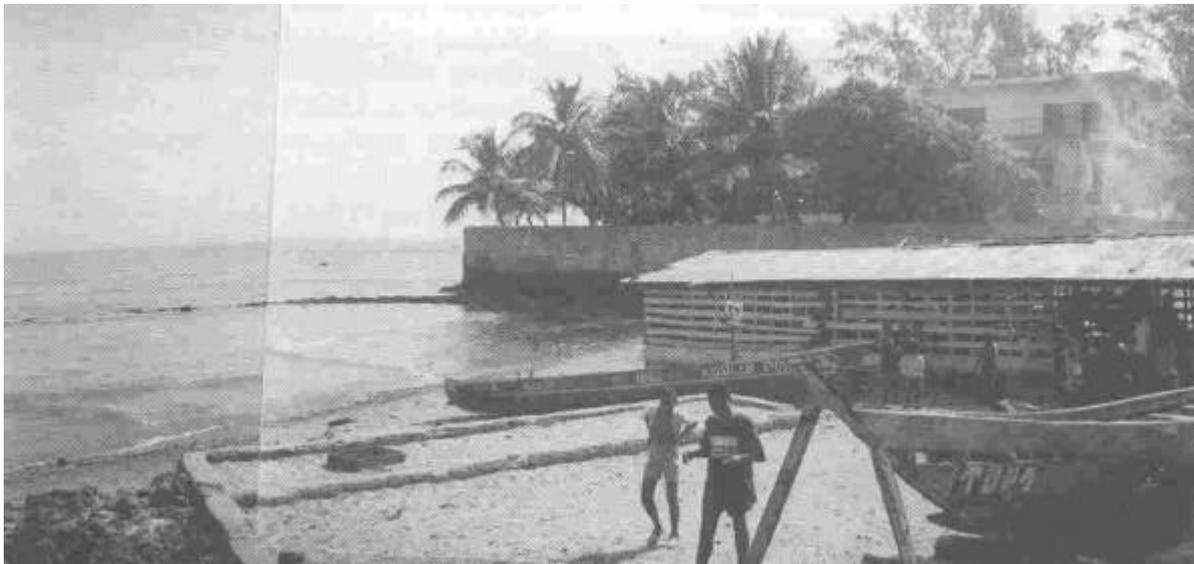
| Landing Site >  | Boussoum | Coiteh | Mavre                    | Bonfi | Boubinet   | Témirikay | Kaporo     | Nongo                           | Dixinn | Landitah | Dabondy | Féban      |
|---|----------|--------|--------------------------|-------|------------|-----------|------------|---------------------------------|--------|----------|---------|------------|
| RELATIVE IMPORTANCE OF PORT (1993)                          | ○        | ○      | ○                        | ○     | ○          | ○         | ○          | ○                               | ○      | ○        | ○       | ○          |
| RELATIVE THREAT TO PORT'S EXISTENCE (1993)                  | ⊗        | ⊗      | ⊗                        | ○     | ○          | ○         | ⊗          | ⊗                               | ○      | ○        | ⊗       | ○          |
| RELATIVE ACTIVITY LANDING SITE DEVELOPMENT COMMITTEE (1997) | ●        | ●      | Port Virtually Abandoned | ○     | ●          | ○         | ●          | Fishers sold their shore rights | ○      | ○        | ●       | ●          |
| LEGAL STATUS IN JUNE 1997                                   | OK!      | OK!    |                          |       | On Request |           | On Request |                                 |        |          |         | On Request |

## Elements contributing to an effective and sustainable LSDC

Only two landing sites (Boussoura and Coleah) continue in June 1997 to have very active and effective LSDCs (Figure 1). A number of factors have contributed to their success. They were the very first sites involved, and thus benefited from the longest period of technical support from the FAO project and the PRA Co-ordinating Committee. They were faced by serious threats of physical extinction by outside forces: wave erosion to the front and building construction to the back for Boussoura, and attempted 'outside' housing construction right on the landing beach for Coleah (see Figure 2).

At Coleah, the respected chief fisherman combined technical advice from the FAO project with the opportunity of the PRA exercise to turn the fortunes of his port around. They received outside assistance from part of a USAID project to remove a 1500 ton mountain of city waste from their beach. They also contributed their own labour to build their own breakwaters, rock walls against erosion, and large-roofed working sheds. In the recent past, the port had only five fishing canoes, but now it has over twenty.

**Figure 2. Coleah Landing:** Note the home-made breakwater in far left background, nearly covered by the rising tide and home-made shelter for net repair on the right, behind which is hidden the equally large home-made shelter which protects the women's fish smoking operations. Parallel dark lines along the beach are the remains from an unsuccessful attempt by non-fishers to appropriate the landing site area for urban housing construction (see text for details).



Three other landing sites faced similar threats of extinction, but did not develop such strong LSDCs, each for a different reason.

- The fishers of **Nongo** had already 'sold' their shoreside rights to a housing developer before the PRA Port Profile exercise started. This left them tenuous access to the landing site they had been using for many years.
- The fishers of **Mayore** had already lost the most protected part of their canoe anchorage to landfill for housing construction before the PRA Port Profiles began. They had just enough beach left to pull up their three canoes, and no space at all for fish processing. There were probably too few to be able to get strong backing from the local authorities against the housing interests.
- **Kaporo**, equally threatened by housing development but still possessing twenty canoes and a protected anchorage, responded to the PRA Port Profile process by establishing a strong LSDC,

constructing their own large covered landing site shelter (in 1995), and getting firm legal recognition of the fishers' rights to their landing site. Kaporo's LSDC, however, had one less year of active technical support from the PRA Coordinating Committee than Boussoura and Coleah, and never had direct intervention from the FAO project. The Kaporo LSDC has still not received formal legal status, and is now less active than the legally-recognised LSDCs of Boussoura and Coleah..

Based on these experiences, Box 1 shows the factors that appear to improve the sustainability of LSDCs.

BOX 1

**KEY ELEMENTS FOR LSDC SUSTAINABILITY INCLUDE:  
(NOT IN ORDER OF IMPORTANCE)**

- **Attention focus through the PRA Port Profile process:** No development action was being undertaken at the artisanal ports before the PRA port profiles were undertaken. The port profiles provided the opportunities to focus fishers to a task.
- **Focus on important and potentially solvable problems, which are common to all users of the landing site.**
- **The absence of competing marine sector interests.**
- **Local level political support.**
- **Character and effectiveness of local landing site leaders:** social and political necessity often required that users ask existing local port leaders to head the LSDCs, leading to good results with good leaders and poor results with leaders who were not trusted by port users.
- **Character of the fisheries officers involved:** a good LSDC and a good fisheries officer appear to reinforce each other's work.
- **Integration with existing port institutions:** all LSDCs officially have the same structure, but the more successful have adapted theirs to the local context. For example, at Coleah, the chief fisher became LSDC president and his traditional advisors the representatives of port user groups. At Boussoura, the strong boat-owners' guild and government agent group accepted the new LSDC as a third co-equal partner with responsibility for the port's physical infrastructure.
- **Command of autonomous resources:** successful LSDCs generate and control substantial resources of their own. The LSDC at Boussoura levies a landing contribution on each arriving canoe which goes towards construction and maintenance of port infrastructure. Coleah can count on large and periodic labour contributions for its harbour works.
- **Duration of technical support:** those LSDCs which were started earliest and had the longest period of technical support have ended up the strongest.
- **Active field presence of (FAO) technical advisors.**
- **Provision of 'outside' assistance with preparation of requests to potential donors:** all successful LSDC requests for assistance from donors and NGOs were prepared with help from the PRA Co-ordinating Committee, sometimes assisted by the FAO Project.
- **Official legal status for the development committee:** it gave them the necessary legal standing to be accepted as partners with donors and NGOs.

## Reflections for future work

LSDCs in urban Conakry turned out to be most effective, and most readily accepted, when the landing sites were threatened with extinction. They can also be of considerable assistance in less dramatic situations. Since they include all important stakeholder groups at the landing site, they can act as the local partner with central government in co-management schemes for management of the fish resources.

Those reflecting on how to improve the situation for LSDCs in Conakry, or considering a similar experiment elsewhere, might wish to consider the key elements of LSDC sustainability described above, especially:

- The critical importance of strong support from local elected officials which was not recognised at the beginning of this initiative.
- Full legal status is essential when the LSDC seeks outside partners for its more ambitious activities.
- Regular follow-up to the PRA Port Profiles and the LSDCs is essential, preferably by PRA-trained field officers reporting to some kind of co-ordinating committee. This requires a small but flexibly administered budget for actual field expenses.
- LSDCs are not themselves very good at preparing well-planned, and attractive proposals, to potential partners. These skills may also be lacking amongst PRA-trained fisheries officers. It would be useful to have an NGO experienced with the preparation of small project proposals to work with the LSDC and Co-ordinating Committee. Their role would be to contact potential partners, and prepare written

proposals which meet the needs of both the LSDC and potential outside partners.

- Many priority activities involve physical port infrastructure. This often requires a high level of technical support to the LSDC. While this technical support and advice is essential, it can often be hard to find. The national harbour authority should be included as an active member of the PRA Port Profile from the start of the project, and a harbour authority engineer included as a member of the PRA Port Profile team whenever possible.

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## NOTES

FAO is preparing a Distance Learning Course for national fisheries officers entitled 'Participatory Port Profiles: Description, Problem Identification and Follow-up Using PRA Methods at the Artisanal Landing Site'. Presently being field tested, it will be available for distribution in 1998.

Already published:

J.A. Sciortino, 'Construction and Maintenance of Artisanal Fishing Harbours and Village Landings', FAO Training Series Manual 25, 137 pages, Rome, 1995. Available from FAO, address as above.

An expanded version of this landing-site infrastructure manual is being prepared as a Distance Learning Course for national Fisheries Officers and will be field tested in 1997. It should be available for distribution in 1998.

## 18

### Developing participation

by Anil C Shah

with a response from Kudakwashe Murwira

#### • Introduction

Participatory approaches can be put to many uses: to appraise a situation, to gather facts and perceptions, for planning and for monitoring and evaluation. As a development practitioner I have been concerned with negotiating terms of collaboration with village communities, establishing the common ground between the agenda of a local community and that of a development agency.

Early development programmes claiming the use of 'participatory approaches' often had a fixed agenda and pre-determined targets. The development agencies desired that 'beneficiaries' participated in their programmes and appreciated the agency's efforts. Generally, these one-sided approaches have failed. Development agencies have had to evolve to understand the diversity in and within communities. This requires consensus building between the development agency and the community.

I have been employing participatory approaches and technique for the last decade, to learn about local communities' perceptions and knowledge about issues, to understand their priorities and to find a meeting ground to negotiate terms of collaboration. This is only possible if the development agency is flexible, not in its basic objectives which may be non-negotiable, but in its systems and procedures. It should not be under pressure of time-bound targets. The following experience will illustrate and

substantiate the application of participatory approaches in furthering development programmes.

#### • Check dams for ground water recharge

In 1993, the Aga Khan Rural Support Programme India, AKRSP(I), faced a problem about farmers' readiness to participate in, and contribute to, AKRSP's check dam scheme. The water table in the wells was going down. The solution that was demanded by farmers was the construction of rain water harvesting structures, such as check dams, that would recharge the wells. This objective was supported by AKRSP.

However, the government had previously constructed such structures for free. Under the AKRSP scheme, the farmers had to contribute themselves and there was uncertainty about which farmers would benefit and by how much. AKRSP field staff complained that they spent too much time trying to persuade farmers to contribute to the scheme.

In response, AKRSP set out to conduct a participatory learning exercise in Chandavana village to develop a method of dialogue and negotiation that would bring the AKRSP and the farmers closer together. The intended outcome was to:

- understand the importance of well irrigation on the economy of the village and the impact of falling ground water levels on agriculture;
- to examine farmers' views about the links between check dams and water tables;

**Feedback.... Feedback.... Feedback....**

- to work with farmers to assess the performance of check dams constructed previously and examine how the quality of new structures could be improved.

**Water resources: location and history**

The first exercise was to gather a common picture of the water resources of the village. The villagers were able to quickly draw a map indicating the flow of water in the village and the location of wells. This included the location of existing check dams on the streams.

The second exercise was to bring out the knowledge of the farmers about the history of well development in the village. Table 1 indicates the number of wells constructed, the depth where water was found, the cost of sinking a well and the certainty of striking water over a 40 year time period. The table shows the rapid increase in the number of wells constructed from a mere 7 in 1950 to 400 in 1990. Over the same time period, the water level has fallen from about 30 feet to more than 100 feet and the cost of irrigation wells has risen significantly. On the other hand the certainty of striking water, which was almost 100% till 1970, has decreased to 50%. This means that even after investing in a well, there is an equal chance that water may not be found and the money is wasted.

**Ground water scenario**

The time series analysis revealed the need for ground water to be recharged through the construction of check dams. However, there were already 4 check dams in the area. These had been constructed by government agencies and only one of them served the purpose of storing water and contributing to groundwater recharge. The remaining 3 were poorly constructed and water flowed through the foundation and even through the walls. The farmers wanted these check dams, which were on good sites, to be reconstructed. Regarding new check dams, the farmers wanted these to be constructed by AKRSP as they had already constructed several check dams of good quality in the area. After long discussion, however, the farmers agreed that they had the *real* long term stake in ensuring quality in the construction of check dams. That took us to the next exercise.

What makes for good quality in construction? The farmers discussed and noted on a chart the following essential features of a good quality check dam:

- Storing of water without seepage;
- Sturdy construction which should last at least 25 years;
- Arrangements for de-silting and repairs; and,
- Prohibition of pumping of stored water.

**Table 1. Time series on analysis of the experiences in Chandavana village, Junagadh District, Gujarat, India**

| Year  | 1950 | 1960 | 1970  | 1980  | 1990                                     |
|---|------|------|-------|-------|--|
| Number of wells                             | 7    | 100  | 150   | 200   | 400                                      |
| Depth of well where water will be available | 30'  | 30'  | 45'   | 100'  | 150'                                     |
| Expenditure per well (Rupees)               | 3000 | 5000 | 10000 | 12000 | 1,30,000<br>(including submersible pump) |
| Certainty of striking water                 | 100% | 100% | 100%  | 80%   | 50%                                      |

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## *Feedback.... Feedback.... Feedback....*

The last phase of discussion, after these exercises were conducted, established a consensus. AKRSP and the farmers agreed that even though AKRSP had technical staff, unless the farmers were involved in ensuring quality during construction, the structures may not be as good as the farmers desired. It was then agreed that the farmers could select members among themselves who would constitute a construction committee. AKRSP would train them in the technical aspects of construction, thereby ensuring quality construction. The farmers also agreed that they would raise funds and contribute to the construction to convince AKRSP of their commitment to the project. The fund would be available to the farmers for meeting the repairs required after the check dam was completed.

Since this first experience, AKRSP is following this participatory approach in other areas. It has helped to conduct dialogues and arrive at negotiated agreement about farmers' participation in and contribution to the construction of other check dams. The number of check dams constructed over recent years has increased, from seven in 1993 when this exercise was developed, to 13 in 1994, 16 in 1995 and 40 in 1996. According to the feedback I have got, the success rate of the exercise is high. An indicator of success is that there is hardly any need for such exercises now. Village communities approach AKRSP with proposals for check dams, with readiness to participate, in terms of their responsibility and contribution.

### **From top down to developing participation**

What has this exercise achieved? Certainly not true empowerment where villagers decide and prioritise development proposals with minimal external support and facilitation. Only a few development programmes are sufficiently flexible to accommodate local priorities and extend unrestricted financial support to them. Many development agencies may not even be equipped to handle the diverse portfolio of projects that may arise when communities plan for themselves. Rural development programmes mostly have some focus, almost preconditions, for extending support. The challenge before a development agency is to work out the terms of

collaboration that give villagers a sense of project ownership and commitment.

This means that the village community is helped, step by step, through a sequence using their own experiences to reach a vision of development which has inspired the programme and motivated the development agency. As David Mosse points out in *'People's Knowledge In Project Planning'*<sup>1</sup> even 'participatory planning often conspires to produce consensus, concealing underlying differences of interest and motivation'. If participatory approaches are conducted mechanically, without sensitivity to local variations, there is a possibility that 'it may not be grounded socially in a coherent set of social ties and common interest, and PLA may revert to RRA.'

But what is suggested here is a process of bringing people's knowledge of the local situation to the surface and leading them to appreciate the movement from their short-term, individually-focused perspective to long-term community based goals and action. As Mosse would like, this may develop the 'villagers' own awareness, skills and confidence in problem analysis, and planning.' Such participatory approaches would take an agency far from the usual agency-planned targets, in which people are coaxed or lured to participate with very unsatisfactory results in terms of post project care, management and impact.

Literature on participation highlights the discovery of the hidden capacities of villagers to map, make diagrams, score and rank. While a development practitioner is interested in discovering villagers' talents and creating a relaxed rapport that increases the quality of information, participation should not be an abstract concept. Participation should help negotiate a match between the community's agenda and that of a development agency. The experience described here is about developing participation which is based on the following premises:

- that a development agency has developed a programme, usually after studies and

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<sup>1</sup> ODI Agricultural Research and Extension Network Paper No. 58, July 1995

## *Feedback.... Feedback.... Feedback....*

experiments, which it considers to be good for an area or certain groups;

- that the local community would largely be in agreement with the goals of the programme;
- that there is need to help the local community/groups to analyse their problems and past experiences and work out the implications of various options for resolution; and,
- that an agreement is reached with the development agency about the adoption of the programme and modalities of collaboration.

This may not be full empowerment, but is an improvement on a top down approach, which requires that local community/groups to 'take it or leave it'. 'Developmental' participation is hopefully a long stride along the way to community-led development.

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### **Developing participation: a response from Kudakwashe Murwira**

Anil C. Shah makes a lot of valid points in terms of what is needed to enhance participation. Anil points out the need for flexibility by development agencies in terms of systems, procedures and time bound targets. I would also like to add that development agencies should also be flexible in their roles and it is this point that I address below.

Development agencies usually take the lead in selecting communities which are underprivileged, disadvantaged and poor. Thus whatever alternatives have been found to work in this community are assumed to be appropriate for other communities. In terms of projects, development agencies usually select projects based on their values and competencies. Communities are rarely provided with opportunities for deciding what sort of projects they would like to initiate. Instead development agencies expect communities to participate in their own agenda.

For me, the only process of participation which leads to empowerment begins with the development agent analysing the local community situation and building an understanding of the interactions between existing local institutions and other service providing institutions. Strengths and weaknesses of these institutions in performing their roles and responsibilities should also be analysed. Community values of wealth should also be established and assessed against individual households in the community. This information should inform the development agent of the distribution of wealth in a community and can be used to target the priority needs of the community.

Once the needs of the community have been identified, then these needs should be brought to a forum where various institutions, and both men and women, are represented. The development agency should assume the role of a facilitator in this forum. The communities should be provided with the opportunity to make informed decisions and prioritise their needs.

Once the community has identified its needs, the facilitator should be able to assist the community in reflecting on their traditional and current practices in addressing these priority needs. This reflection process helps to instil confidence in the community in their own knowledge and skills, and enables them to explore new solutions. In the process of developing solutions, ideas should flow from both the community and the development agency, but in the end, it should be the community making the decisions. However, the community is not homogenous and there is a real need to ensure the involvement of all sectors of the community at every stage of the process.

The major strength of this process is that the development agency is only a facilitator. The agency facilitates a process of:

- building the capacity of the community to identify their own problems, to search for solutions and to manage technical change;
- building the community's confidence in their own knowledge and skills;
- enabling the community to identify their own weaknesses and find ways of

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***Feedback.... Feedback.... Feedback....***

strengthening their ability to overcome these weaknesses; and,

- providing technical options which the community can evaluate for their appropriateness (affordability, acceptability and availability).

both sides to see the vision translated into reality.

- **Kudakwashe Murwira**, Intermediate Technology Zimbabwe, 2 End Avenue, PO Box 1637, Mutare, Zimbabwe.

There is a danger that if the development agency takes the role of an 'expert', then the community depends too greatly on the agency and expects it to provide solutions. There is a need to balance how much a development agency can share with communities without restricting their ability to cast their eyes much wider in search of solutions or reflect on how much they can improve upon what they have learned.

Elements which contribute to the success of this process include:

- the ability of the NGO/development agency to make its vision of the community into a shared vision with that community;
- the ability of the agency to win trust of the community over a short period of time;
- the ability of the agency to adapt itself to work with the priorities of the community;
- the use of PRA tools which are relevant to community specific situations;
- the ability of the agency to lead from behind; and,
- the attitudes and behaviour of agency staff.

Many communities are not willing to participate in programmes initiated by development agencies because of the ways these agencies present themselves to communities. It is important that agencies start the process by learning from the community before they can share their experiences. Learning, listening and sharing help to improve the relationship between communities and agents of change by building mutual trust and confidence.

Nobody has learnt to drive by watching from a passenger's seat. If communities are to take charge of their own development, a process has to be put in place to ensure their full participation. They have to own and control the process through practice. However, this is not an easy process. It requires time, transparency, flexibility, dialogue, reflection into the past, patience, shared vision and total commitment on

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## Extracts

### • Getting your head above the water

An article in the Extracts section of *PLA Notes* 28 looked at how props can be used in research. We received an interesting response to this article, which follows the short summary of the original article below.

In *PLA Notes* 28, Bourai et. al. described how the rural population in Garhwal, India, where they worked, often had difficulty in understanding questionnaire surveys. They used props to help people understand the meaning of questions. By props, they meant tools that enable local people to visualise the theme of questions and debates. A ladder proved a useful prop to help people express their level of satisfaction. The ladder was made of sticks and each rung of the ladder represented higher levels of satisfaction.

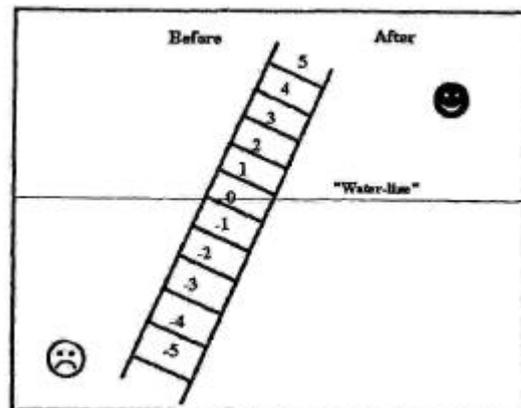
Respondents were asked to choose a step that best represented their level of satisfaction. For example, to the question, 'How much are you satisfied with your level of education?', respondents could point a step on the ladder representing: Very dissatisfied (Step 1), Dissatisfied (Step 2), OK (Step 3), Satisfied (Step 4) and Very satisfied (Step 5).

In response to this article, Lepcha and Virgo working in India described their use of ladders in participatory research. The following is an extract from their letter:

"We were interested to read the *PLA Notes* article by on the use of 'Props for Research'. We have found the ladder technique to be useful in assessing villagers' perceptions of their location in the development process, such as confidence, decision-making skills and awareness of environmental conditions.

However, a problem in the conventional ladder approach is that one assumes that villagers start at 'Step 1'. Some villages are starting from well below the norm; their primary task is to 'get their heads above water' before they can start thinking about development. To reflect this, perhaps the imaginary ladder should be half-submerged (see Figure 1). Moreover, the rungs should be wider-spaced below the water-line, because these are the most difficult steps.

**Figure 1. Getting your head above the water**



Another approach is to visualise development in terms of milestones. To get to the 10 mile goal, some villagers may be starting from '0 miles', but others, those who have not yet even reached the starting line, may be at '-10 miles'.

- **S.T.S. Lepcha** and **K.J. Virgo**,  
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Nagar Forest Colony, Dehradun 248006,  
India.

## 20

## A brief guide to using exercises and games to enhance group dynamics

This section of the *Notes* provides training materials for participatory learning, exploring a different theme in each issue. This issue explores how games and exercises can be used to enhance learning in a workshop setting. The principal emphasis is on creating an environment in which individuals and groups feel free to *experience, reflect* and *change*. Games and exercises are invaluable for:

- relaxing participants;
- stimulating the flow of communication between strangers;
- bringing private expectations and group reality closer;
- encouraging everyone to participate and learn;
- rounding off or introducing a new session;
- developing new skills; and,
- exposing participants to new ways of judging and reflecting on their own actions.

The enjoyment that can be created by games and exercises acts as a basis for group cohesion and openness. Each activity emphasises a particular message, sometimes only to be revealed to participants as the exercise ends.

### • Using games and exercises

Games and exercises are known to be useful in a range of workshop situations and institutional and cultural contexts, but some words of caution are necessary. First, the activities must be explained carefully. Trainees see workshop exercises in quite a different way to the trainer. They do not know what to expect or what is the purpose of the particular exercise.

To offset nervousness, panic or plain suspicion, remain informal and relaxed.

Explain the objectives clearly, and where required, draw attention to the relevance to their work or the goals of the workshop. If necessary, start the exercise yourself by giving the first example or presentation. Some participants may think that exercises are ‘silly’ or ‘only for kids’, until they realise the deeper learning points. Sometimes those who are reluctant to take part gain enthusiasm and confidence by watching others participating and enjoying themselves.

However, training should not be seen as non-stop entertainment. Exercises should be balanced with sufficient time for reflection and discussion. Too little reflection and too much action leaves participants confused and frustrated. Remember, it is not the quantity of activities but their quality that counts. If you have limited time, it is often better to carry out one exercise completely than do three quickly.

You must be well organised when you are using exercises. In particular you need to consider how they will link with other parts of your training programme. You can use a game for a smooth transition to shift the group to the next phase of training. When energy levels are low, participants are getting frustrated or bored, or there is tension in the air, an energising game can work well.

### • Debriefing after the exercise

Effective training follows a pattern of reflection, action and reflection. Therefore, at the conclusion of an exercise, be sure that you leave sufficient time to debrief with the participants. During this reflective stage, the most important lessons are learned. As a trainer, it is tempting to take over, but give participants the chance to draw their own conclusion. Ask: *How do you think it went?*

*What did you think of the way you handled....? How did this compare with the way you deal with issues in real life?* etc.. Many exercises require debriefing in groups. It is important that you allow sufficient time for groups to prepare and present their findings to plenary.

As participants wind down after an exercise, make a smooth transition into general discussion about underlying themes. This is particularly important when the exercise has involved role play. Questions can be prepared in advance:

- Has the exercise revealed general difficulties which are similar to problems in the real world?
- Has it revealed new insights?
- What has this exercise shown about obstacles to ideal solutions?

Never feel disappointed if an exercise does not work to plan, or when participants appear to make mistakes. As a trainer, you can never predict completely the outcome of an exercise. Most importantly, do not let the fear of failure stop you trying something new next time.

### • Types of games and exercises

There are six main categories of group process exercises and games which are effective in participatory training:

- introductions;
- energisers and group formation exercises;
- group dynamics exercises;
- listening exercises;
- analytical exercises; and,
- evaluation exercises.

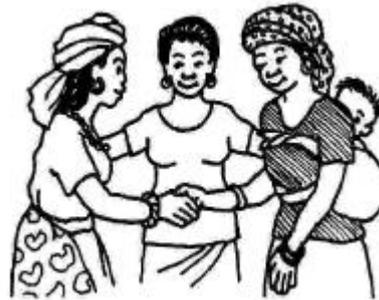
Some exercises have multiple learning points. For example, the 'Buses' game in *Tips for Trainers*, this issue, describes a game that can be used for introductions and group forming.



### Getting started

When people come together to take part in a workshop, it is important to make them feel welcome and part of a group. Introductions are important to get everyone, especially the shy people, involved and talking to one another at the beginning of the training.

Conventional introductions involve stating name, past history and current status. This means barriers and hierarchies are established right away. To avoid this, it is better that participants are introduced in ways which encourage a greater sense of equality between them. Exercises should help create an open and trusting atmosphere that gains participants' commitment early in the workshop.



When people meet for the first time there is often a degree of nervousness. They may be uncertain about what to do after they have said hello. Initial conversation is likely to be guarded and superficial. Any attempt to relax the group and break the ice must offer the group members the following:

- a safe, clear and acceptable structure;
- conversation subjects which are both interesting and non-threatening;
- enough scope for making and receiving distinct impressions of each other (but preventing competition);
- some action, where possible, to relieve the tension; and,
- the possibility of laughter, for the same reason.

Some of the most effective exercises for breaking the ice and getting the training started include paired interviewing, grouping exercises (see *Tips for Trainers*, this issue) and those which involve drawing. Portrait drawing

is particularly good as an icebreaker as it can cause great amusement and is a good leveller.

### Picking up the tempo

*Energisers* are games that energise the group. They can be vital in maintaining the momentum of training. During the first session or in the session immediately after lunch, participants can be distracted and tired. Energisers are quick amusing games that get everyone moving (see *Tips for Trainers, RRA Notes 15*, May 1992).

*Group formation* is necessary in training workshops on participatory methods as they should involve a lot of intensive group work. There is a constant need to form groups of different sizes and compositions. Games can be an extremely useful way of forming groups in an entertaining and non-threatening manner. They can be used for random mixing or for purposive formation of groups, such as by gender, age, profession, origin etc. (see also *Tips for Trainers*, this issue and *RRA Notes 19*, Special Issue on Training, February 1994).

### Keeping it together

Games and exercises can be valuable in helping people through the various stages in group development (see *A brief guide to group dynamics and team building, PLA Notes 29*, June 1997). The aims are to demonstrate the power of working in groups, to encourage individuals to respond openly to others and to abandon preconceived ideas. Exercises can bring difficult issues of conflict and dominance out into the open in a non-threatening way (see *Tips for Trainers, PLA Notes 23*, June 1995 and *PLA Notes 26*, June 1996).

### Learning to listen

Adopting a listening and learning attitude is central to training for participatory learning and action, particularly when it comes to fieldwork and direct contact with local people. Games and exercises can help to shift people's views, allowing participants the chance to reflect on how they behaved during the exercise (see *Tips for Trainers PLA Notes 22*, February 1995 and *PLA Notes 27*, October 1996).

### Learning to reflect

Good participatory training should permit and encourage reflection on how we learn and observe, including realisation of how our personal experiences and our personality influence what we see. These games and exercises focus on how we observe and remember, what we ignore, how we assimilate new information, and how difficult it is to be objective. Games and exercises that highlight the biases and complications of the learning and analysis process can generate important insights during the workshop (see *Tips for Trainers, RRA Notes 17*).

### Summing it up

As a trainer, it is important continually to evaluate how the workshop is developing and how to adjust your programme to meet these changing conditions. Formal evaluations are usually less appropriate in such cases, and so quicker, more participatory alternatives are necessary (see *Tips for Trainers, PLA Notes 25*).

#### TRAINERS' CHECKLIST

- Have you carefully selected exercises to complement your other training methods?
- How will you explain the purpose of the game or exercise to the participants?
- How will you debrief after each exercise?
- Is the room the right size and shape for the exercises you selected?
- Can the chairs and tables be arranged to suit your purposes?
- Have you thought carefully about where you will stand or sit yourself during the exercises?

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*Next issue: Principles of Participatory Learning and Action.*

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## Tips for trainers: the buses game

### • Introduction

I first came across the Buses Game in 1994 in a book called 'Educating for a Change' and have used it in a wide range of training situations and with a varied group of people - from aloof professionals to workers, peasant farmers and children who are not used to being acknowledged for who they are. It's an excellent way to start a workshop, both as an icebreaker and as a means of addressing important issues related to group composition (e.g. class, gender, ethnic background, first language).

### • Objectives

- to get to know some things about each other;
- to have fun and relax; and,
- to get a social x-ray of all of us as a group;

### • Preparation and time

- a large space, clear of furniture;
- 15 - 30 minutes, depending on the size of the group and the number of buses you identify; and,
- work with group size of between 10 and 500 people.

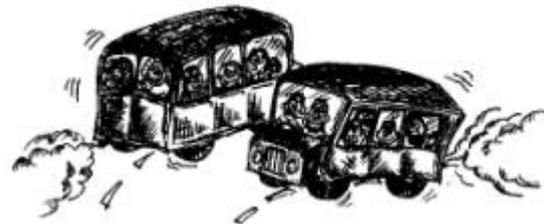
### • Procedure

Ask everyone to come into a large space and explain the objectives of the game. Ask them to imagine what it's like getting on a public bus, crowded, noisy and confused. Tell them that they are going to form buses based on who they are and where they come from. Name the buses according to important features of the group that you want to highlight. I usually start with gender buses, a men's bus and a women's bus. This gives a visual representation of the gender balance of the

group and is also an easy way to get people to understand the game. Other buses can be: where you live, where you were born, work, first language (an important issue in Africa where the official workshop language is seldom the first language of participants), why they came to this workshop, hobbies, etc.

Each time the group is in a new set of buses, ask them to say something about themselves related to that bus. You can comment when necessary. Find a balance between eliciting interesting information from the group but prevent the game from going on too long. Don't forget to include yourself in the game - it's important that participants get to know you as well.

At the end of the game, summarise what you've learnt about the group and note any specific issues raised.



- **Barbara Kaim**, PRA Network of Zimbabwe, 10 Lawson Ave, Milton Park, Harare, Zimbabwe.

#### NOTE

'Educating for a Change' by Rick Arnold et al. Doris Marshall Institute for Education and Action, Canada, 1991

# RCPLA Network

In this section we aim to update readers on the Resource Centres for Participatory Learning and Action Network (RCPLA) by profiling different member resource centres (see below).

For more information on the activities of the RCPLA Network contact:

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<http://www.iied.org/resource/>

## La Dirección de Investigación y Desarrollo (DPID) - Bolivia

### • Summary (English)

DPID is based in Santa Cruz, Bolivia and is currently the secretariat for the Bolivian Working Group for Participatory Methodologies (GNTMP). DPID specialises in capacity-building as well as providing information on participatory approaches (in Spanish and English) through its Resource Centre. It is also pioneering and experimenting with the use of the internet for disseminating information through full text retrieval via its 'virtual' resource centre website.

### • En las arenas movedizas de la participación

La Dirección de Investigación y Desarrollo, 'popularmente' conocida como DPID, desde 1992 viene lidiando con el desarrollo de 'procesos participativos', famosa palabra muy expuesta en las vitrinas teóricas, pero que deja mucho que desear en las calles polvorientas de nuestras comunidades rurales.

En ese difícil camino, creemos que avanzamos, y esperamos no estar perdidos en los laberintos burocráticos tratando de nadar en el mar de sueños de los ciudadanos y campesinos que buscan mejores días.

La importancia del uso de metodologías participativas dirigidas a consolidar los procesos de desarrollo de las comunidades rurales, es un tema que recién empieza a ser manejado de manera responsable por un mayor número de instituciones y sujetos involucrados en el desarrollo. Ya en 1994, con la colaboración de varias instituciones locales realizamos una capacitación a nivel latinoamericano en Diagnóstico Rural Participativo, y es precisamente con algunas instituciones que participaron en el mencionado taller que un 19 de diciembre de 1994 se crea el GRUPO NACIONAL DE TRABAJO EN METODOLOGÍAS PARTICIPATIVAS (GNTMP). Se quiso utilizar el nombre de 'Grupo de trabajo' y no de 'Red' principalmente porque el término red en el contexto latinoamericano esta siendo sobre utilizado y además pretendíamos ir más allá del mero hecho de estar conectados, queríamos trabajar, coordinar, reflexionar e impulsar la difusión de Metodologías Participativas.

Los Objetivos del Grupo Nacional de Trabajo son:

- Sistematizar y difundir las distintas experiencias relacionadas al uso del Metodologías Participativas a nivel nacional e internacional.
- Analizar limitaciones, logros y aplicaciones de la metodología.
- Coordinar acciones y constituir un Sistema de Información de Metodologías Participativas con instituciones comprometidas en el desarrollo sostenible a nivel nacional e internacional.
- Impulsar la discusión y reflexión de la población, organismos políticos y administrativos para la toma de conciencia y generación de propuestas en cuanto al uso, manejo y conservación del medio ambiente y los recursos naturales.

- Buscar financiamiento y apoyo por parte de donantes o agencias de cooperación para la consolidación y desarrollo de actividades del GNTMP.

## • Sueños y desafíos del DPID

Actualmente estamos empeñados, de manera entusiasta y a ojo cerrado en la cristalización de La Central de Recursos en metodologías Participativas, cuyos componentes centrales serían: una red contactos oficiales e informales de practicantes de metodologías participativas, una biblioteca física y virtual, producción y recepción de material bibliográfico, capacitación y difusión, entre otros servicios.

## • ¿Qué entendemos por una central de recursos?

Nuestro concepto de una central recursos no solamente se reduce a ser un lugar donde de establecen materiales bibliográficos (base de datos, libros, documentos, revista, etc.), va más allá del mero hecho de disponer de bibliográfica, facilitar, sino también de que cierta audiencia o clientes no solamente accedan a la información/ experiencias de la forma más fácil, transparente y barata, sino también puedan aportar con sus propias experiencias mediante Discusiones por email (List Group discussion), conexiones con otros CR en otros idiomas y tópicos, auspiciar eventos de intercambio, distribución de textos, y lo más importante la posibilidad de fortalecer instituciones y organizaciones.

Ustedes dirán, que tratamos de hacer varias cosas y que soñamos alcanzar varios objetivos, lo cierto es que no es una tarea de unos cuantos sino de todo un equipo. Pese a estos tres años de trabajo continuo seguimos encontrándonos con frustraciones, errores, malentendido, sin embargo es importante mencionar que también nos sentimos complacidos de seguir avanzando aunque lentamente pero con la seguridad de que el aprendizaje es el motor y guía de nuestro entusiasmo.

En cuanto a la Central de Recursos, ¿qué estamos haciendo?

- Producción de: informes y sistematización de experiencias, pequeños manuales y guías donde

tratamos de contextualizar/adecuar la capacitación en metodologías participativas, traducción de materiales del inglés al castellano. Recopilación de experiencias y material bibliográfico de otras instituciones.

- Búsqueda y adquisición de materiales relacionados: Estamos visitando algunos WebSites (sitios en Internet), capturando todo lo que pueda ser útil.
- En relación a Internet: Queremos sacarle el mayor provecho al océano de información existente. Este poderoso medio a la vez que nos ayuda a interactuar con otras personas de otras partes del mundo en forma barata y efectiva.
- Scaneo y transcripción de documentos: Estamos terminando de escanear mil páginas de material relevante, esto incluye artículos, partes de libros, documentos e informes de experiencias (éxitos y fracasos) del uso de métodos participativos.

## • Caminar juntos

Ahora, entendemos que nos es tiempo de los esfuerzos aislados, es tiempo de alianzas y esfuerzos que se complementen no solamente a un nivel regional, sino escalar hasta un nivel latinoamericano. En este sentido es interés nuestro seguir trabajando hasta que podamos ayudar a consolidar un Grupo o Red latinoamericano, aunque lentamente estamos en los primeros pasos para lograr ello.

Finalmente es importante mencionar que nos acompañamos y nos acompañan una variedad de instituciones quienes no solamente nos inyectan entusiasmo, sino también con sus experiencias y recursos. Si nos pusieramos a escribir sus nombres o siglas seguramente cometeríamos la injusticia de olvidarnos de algunas de ellas, pero permítannos agradecerles, y decirles que seguiremos tocando puertas, para seguir caminando juntos.

### NOTE

Estamos para servirles/For more information about DPID or GNTMP contact:  
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