2002 - 2003 Research Highlights

Natural Resources Systems Programme










Poverty reduction through partnerships in natural resources research

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NRSP Research Highlights

Poverty reduction through partnerships in natural resources research

The Department for International Development (DFID) is the British Government department responsible for promoting development and the reduction of poverty. The central focus is a commitment to the internationally agreed target to halve the proportion of people living in extreme poverty by 2015. To contribute to achieving this objective, DFID funds a group of programmes that cover various aspects of natural resources research. One of these programmes is the Natural Resources Systems Programme (NRSP).

NRSP is a ten-year programme that began in 1995. In response to the Government's White Paper on International Development ('Eliminating World Poverty: A challenge for the 21st Century') in November 1997, NRSP's research strategy was revised to focus more explicitly on the circumstances around poverty and the needs of the poor. Thus, since 1999, NRSP has aimed to deliver new knowledge that can enable poor people, who are largely dependent on natural resources, to improve their livelihoods.

The new knowledge centres on changes in the management of natural resources that can assist the improvement of poor people's assets and enable them to move out of poverty in enduring ways. Assets encompass not only individual and household gains, such as human skills and knowledge, financial capital and other stores of value, but also social capital as a means for poor people, through their own community-based support networks, to have a stronger voice and more assured involvement in the decision-making processes and policies that affect their livelihoods.

To attain NRSP's aim, the programme's research covers three inter-related fields: the natural resource (NR) base itself; the integrated and dynamic nature of poor people's livelihood strategies and how these affect their decision-making and capacity to use and manage the NR-base; and the institutional environment in which NR management strategies are designed and implemented. The inter-relationship of these fields is a reality in poor people's everyday livelihoods and is therefore a major consideration in the design and conduct of NRSP's research.

The current year provides good examples of what such research contains – what it is 'looks' like – which, of itself, is an important product of the programme. Projects demonstrate that achieving pro-poor developmental change is complex requiring multi-faceted, pluralistic research. Importantly, they also show that research can succeed and deliver methods and insights that are highly relevant to pro-poor improvement of livelihoods as well as good management of the NR-base.

NRSP's research is implemented as contracted projects that are undertaken by government, non-government and private institutions with expertise in natural resources management. Often these different types of organisations work in partnership, each contributing their differing expertise and experience towards attaining a project's aim. During the past year, NRSP's portfolio comprised 33 projects.

In-country ownership of projects is of major importance to achieving enduring outcomes for poverty-focused research. In-country organisations were leading 12 of the projects in this year's portfolio and nearly all others have had substantial inputs from in-country teams.

NRSP has aimed to deliver new knowledge that can enable poor people, who are largely dependent on natural resources, to improve their livelihoods

Bearing in mind that the programme has a finite length (to March 2005), this year's work included the development of the NRSP uptake promotion strategy. This work has built upon the attention that NRSP has given to communication and scaling-up in previous years (see, for example, the articles in previous NRSP Highlights). One finding of this work was that overseas ownership of research is a considerable asset to uptake promotion. The extent of partnership and overseas leadership that is in place for our portfolio can provide major support to national and regional promotion of NRSP's findings and knowledge-sharing products.

A complete list of on-going projects is provided at the end of this publication. The articles featured this year as examples of NRSP's research are:

Building social capital (p4) addresses the limited role that local communities currently play in decision-making on natural resources management in Uganda in spite of recent decentralisation. Researchers have found that the presence of social capital is a necessary pre-condition for resource-poor farmers to participate in policy formulation and implementation. Farmers' forums and policy task forces were used to strengthen social capital and create village-level byelaws that improved agricultural production while conserving natural resources. The inclusive social capital mechanisms devised could be extended to areas in the highlands of Tanzania, Ethiopia, Rwanda, and Madagascar, where social capital has been eroded, with potential benefit to some 30 million people.

The Jabarrah story (p8) describes how in the short space of eight years, life for poor and socially marginalised people in the village of Jabarrah in eastern India has markedly changed for the better. Combining Self-Help Groups, aquaculture research and flexible rural credit has improved food security and lowered indebtedness for these villagers. The changes the project achieved have also influenced aquaculture policy and service provision in Jharkhand, Orissa and West Bengal. In addition, others involved with aquaculture services in South Asia have strongly expressed demand for three key products of this research, centred on methods and processes for assessing information service provision to the poor; building social capital among the poor and communicating their needs to policy-makers.

Projects show that research can deliver methods and insights that are highly relevant to pro-poor improvement of livelihoods as well as good management of the NR-base

Can valuable coastal ecosystems be conserved while at the same time accommodating relatively poor and rapidly expanding populations that rely on natural resources for their livelihoods? ***Managing coastal zones*** (p12) examines these issues in the Caribbean where Marine Protection Areas (MPAs) are used to manage and conserve coastal resources. Guidelines have been published that outline ways by which MPA management can explicitly benefit poorer stakeholder groups and promote effective management of MPAs.

Responding to urban opportunity (p16) investigates the challenges of improving the livelihoods of the poorest women living in the peri-urban interface of an Indian city. They are landless with no assets and lack the motivation to succeed. Markets provide an important opportunity for the poor and whereas most NGOs concentrate on production, this new initiative looks at marketing and ways of adding value to products. It aims to open up access to markets for the landless poor and build their human and social capital in ways that will help them to be successful entrepreneurs.

There is a widely held view in development that the management of natural resources can be improved if it is devolved to the resource users themselves. ***Building consensus*** (p20) describes a community-based method for consensus building developed in Bangladesh – Participatory Action Plan Development – and focuses on a communications strategy for scaling-up its use.

One-stop shop (p24) examines the conundrum of farmers in western highlands of Kenya who have good lands and plentiful and reliable rains for successful farming and yet they are among the poorest in the country. Critical to improving their livelihoods is the ability to access a range of coordinated services that link improved cropping strategies and soil fertility management with opportunities to obtain the required inputs and capitalise on market opportunities – a one-stop shop for their needed rural services.

Building social capital

Improving participation in NR management

Farmers in Uganda's highlands face many problems with soil erosion and soil fertility ranking high among them. There is no shortage of technical solutions to these problems but the links between farmers and researchers are not good and local communities struggle with local government structures, byelaws and policies that do not always favour the introduction of new and beneficial ideas.

Recent decentralisation efforts in Uganda have shown promising improvements by enabling more people to participate in policy decision-making. But this is not impacting on natural resources management and on the capacities and decision-making processes of local communities that manage them. In too many cases, local communities play only a limited role. If decentralisation is to be fully effective it must be based on sustainable local institutions capable of engaging local communities directly in the articulation of their needs, and the analysis, design and implementation of natural resources policies and innovations.

Social capital to improve participation

Researchers investigating ways to address this problem have found that the presence of social capital is a necessary pre-condition for resource-poor farmers to participate in policy formulation and implementation. Social capital also improves people's willingness to be involved in research and development activities, and improves the adoption of natural resource management innovations that require collective action and collaboration. Thus initiatives and processes that strengthen social capital can improve the adoption of sustainable natural resource management practices and policies.

Social capital, in its simplest sense, means the more people trust each other, the better off will be the society. It describes the features of social organisations such as social networks and interactions that facilitate coordination and cooperation among people so they can act collectively for mutual benefit. A good example is the traditional rice terraces in SE Asia where high social capital is needed to organise and manage labour-intensive construction and maintenance of the terraces and to synchronise cropping patterns for effective water and pest management. Without strong social capital the system would not survive.

Research setting

Four pilot communities in the highlands of Kabale in southwestern Uganda were chosen to investigate the influence of social capital on natural resources management and to look for ways of strengthening it. Agriculture in the area is rainfed with annual rainfall in excess of 1,000 mm. Farmers cultivate bench terraces on the steep sloping hillsides to grow basic food crops such as sorghum, beans and maize. They practise soil conservation measures introduced in the 1970s by the agricultural service and enforced by local administrators. However, years of political turmoil, breakdown in administrative services, population pressure and poverty, have meant that many of these terraces have seriously deteriorated. Soil fertility has declined and erosion is a serious problem.

The first step was to assess the effectiveness of local natural resources management policy processes. To achieve this researchers worked directly with poor men

Social capital, in its simplest sense, means the more people trust each other, the better off will be the society

and women smallholder farmers using community-based participatory action research methods to analyse existing farmer groups and current organisational capacity. Household case studies of livelihoods were examined and linked with complementary data from other surveys and participatory rural appraisal exercises. As a result, an understanding of the social capital in the pilot communities and how it works in the pursuit of livelihoods was developed. The complexities of social capital are well demonstrated in the box below.

In Habugarama village (about 59 households), there are at least 12 local groups and organisations ranging from labour parties, credit and savings groups, pig rearing, farming groups, swamp association, to 'Determined women', a drumming and singing group. Mrs Betty is a member of all these groups. In one she is the vice-chairperson and in others she is secretary, treasurer and committee member. Similarly, Mr. Fred Bitarabyo is the chairman of the Mugandu/Buramba society. He is also a member of the Uganda seed potatoes producer association, chairman of Rukore primary school PTA, chairman of Barisa-Bahinge livestock keepers and soil conservation, member of Kihira group, Nyamabale farmer field school.

The next step was to strengthen the social capital by building the capacity to develop, implement and enforce local policies and in particular the byelaws that support natural resources management. This meant facilitating regular interactions and discussions between the local communities, local government and other target institutions by integrating participatory approaches into policy decision-making and implementation. Two principal mechanisms were used to achieve this, policy stakeholder workshops and policy task forces.

Policy stakeholder workshops

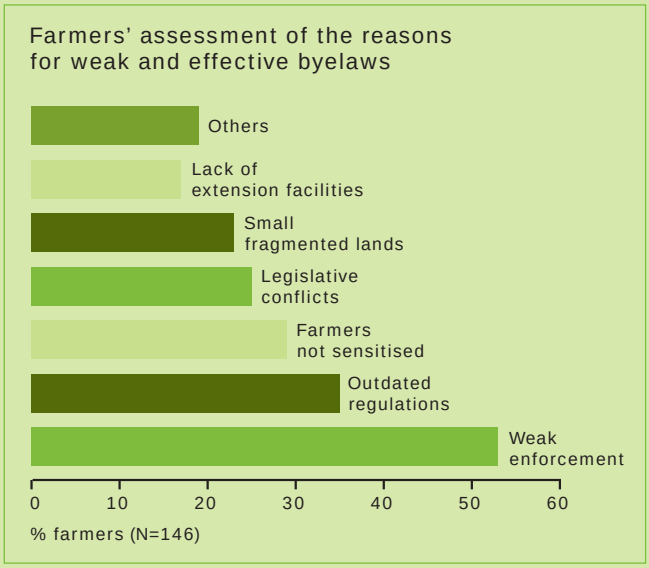
Bi-annual policy stakeholder workshops were organised to bring together all the stakeholders (80-100 participants) from farmers' representatives to members of parliament. Typically presentations were made by farmers, government services and research organisations. These were followed by plenary sessions in which key issues were identified and debated. From this the priority issues for policy and research intervention were identified.

The weakest group at such events was undoubtedly the farmers. So to prepare them to be effective partners a number of meetings were held in the villages and a range of participatory techniques such as mapping, diagramming, role plays, group discussions and visioning techniques were used to develop their community action plans for natural resources management and research and development interventions.

Improving local byelaws

One of the early workshops recommended that a study be undertaken to improve understanding of local natural resources byelaws and to suggest mechanisms for improving their formulation and implementation. Under decentralisation, many local governments are reviewing such byelaws and formulating new ones. But in too many cases, they do not have an adequate understanding of the issues involved and they have no systematic way of discussing them with farmers who are directly affected by them.

Farmers too have little understanding and appreciation of the byelaws. A farmer survey showed that less than half were aware of important byelaws such as *only agro-forestry trees shall be planted at the boundary or terraces of neighbouring plots and persons who own woodlots on hills and want to clear fell should first seek advice from Forest Department, local councils and chiefs.* Some byelaws were found to be more strongly enforced and effective. Common features of these were that local communities had participated in their formulation and implementation and they concerned technologies and practices that increased productivity.



Policy Task Forces

Policy Task Forces (PTFs) were suggested at a policy stakeholder workshop as a means of improving community capacity to implement existing byelaws and develop new ones. These were set up to build and strengthen the links between the local community, local government and research organisations. Policy Task Forces were established for different stakeholder groups; local, district and sub-county. The sub-county level is critical as this is where the administrative powers lie to make byelaws, develop plans and budgets, and allocate resources. Village PTFs provide the main link between farmers and local officials and have the task of reviewing existing byelaws, initiating new ones and monitoring their implementation. They comprise farmers, 50 percent of whom must be women, local councillors and government officials. In this way, officials are embedded in the local social relations and can be under pressure to perform for the community and be responsive to it.

It is at the village level that most support was provided. Village PTFs were exposed to successful experiences of collective action and effective byelaws to build their confidence and capacity to engage in policy dialogue with other stakeholders. They were also mentored to better articulate their presentations and in some cases they proved to be better presenters than the research and development workers.

Village PTFs have proved to be very effective for building support for reviewing and formulating byelaws and for mobilising political, social, human and technical resources. For instance, through their village PTF, farmers in a small village of 59 households have formulated a byelaw on digging trenches to reduce run-off on hillsides. They have established 220 trenches and are now actively engaged in adaptive research to stabilise the bunds with different options of dual-purpose barriers using legumes and shrubs. This byelaw has now been discussed at the sub-county level for its general application in the sub-county.

The outcome

Experience so far suggests that village PTFs are beginning to build their social capital. There is growing evidence of mutually beneficial collective action for managing natural resources, and community engagement and participation in research and development. Village PTFs are also beginning to take a lead in the development process and some are helping to build 'bridging' social capital by linking with other village PTFs and to research and development organisations. Despite considerable progress at the local and district levels, effective links with national institutions and higher level, distant policy makers is still problematic. However the potential for scaling-up is good. It is estimated that about 5 million poor rural people living in this part of Uganda and another 30 million people living under similar conditions in neighbouring Rwanda, eastern Congo and Burundi could benefit from strengthening their social capital.

R7856 Strengthening social capital for improving policies and decision-making in natural resources management

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Participation

A workshop on NRSP's strategic experience of participatory methods and processes

A great deal has been said and written about the importance of participation in development so another workshop on the subject begs the question – What new findings and ideas does NRSP have to offer?

Various completed and on-going NRSP research projects have developed and used participatory methods and processes to identify and test new strategies for natural resources management (NRM) that could enable poorer people to improve their livelihoods. There are interesting contrasts between them in terms of what participation seeks to achieve and in the methods and processes used, but they all have one common feature. The mode of participatory working forms part of what the projects will promote as a research product that could be applied by development practitioners. In this way, the use of participation is an important factor in the development of new strategies which, when scaled-up, could result in wider, sustainable and pro-poor improvement in the management of natural resources.

So what can be learnt from the workshop?

In the projects represented at the workshop, participation was not used solely as a means to another end (e.g. development and/or refinement of a technology – a method commonly referred to as participatory technology development). Rather it was treated as a method of working that needed research in order to test various options, record and analyse the findings on this mode of working, and thereby recommend how it could be more widely applied (scaled-up) in developmental practice. Some projects already had insights on how participation can be used to advantage to achieve sustainable changes in the complex area of poor people and their access to, and use of, natural resources in their livelihood strategies. Importantly, these insights included what participation can and cannot contribute in the development of strategies (inter-related ways and means) for achieving pro-poor changes in NRM.

Although all the projects considered focused on NRM, each had its own context in respect of the livelihood circumstances of the target group (the poor), the natural resource setting and the institutional dimensions. Thus, it was possible to compare and contrast findings and extract both common and dissimilar insights, and the circumstances and reasons for these. Moreover, experiences were shared on the communication of findings and the progress of the wider integration of participation into development planning.

One major discussion point of the workshop concerned reaching and including the poor. It was agreed that use of participation carries no guarantee of inclusion of poor people, nor of them having a voice if they do indeed participate. Given this situation, the use of participation requires the development of pro-poor methods. The NRSP projects had various experiences on this, which were considered very relevant to the use of participation in developmental initiatives that sought to be pro-poor. Linked with this, participants recognised that these experiences needed to be well documented and communicated to policy-makers, including those working at the meso-level in policy implementation e.g. district (rather than national) level planners and service providers.

The proceedings of the workshop are reported more or less as a 'blow-by-blow' account. Participants advised NRSP that they had found the workshop 'useful' and 'worthwhile'. Communication on how participatory methods can help poverty reduction was recognised as an important future challenge.

NRSP's strategic experience of participatory methods and processes for the improvement of natural resources management. Proceedings of an NRSP Workshop held at University of Reading, UK, 7-8 September 2002.

The Jabarrah story

Bringing through the voices of the poor

In the short space of eight years, life for people in the village of Jabarrah, in eastern India, has markedly changed for the better. This has come about through a successful mix of three ingredients – grass roots development work on the formation of Self-Help Groups (SHGs); a research input on aquaculture that helped to improve household food supply and income generation; and a change in rural banking policy that enabled SHGs to obtain loans fairly easily at a reasonable interest rate.

Jabarrah is a village with about 1200 inhabitants in West Bengal, located on the rainfed eastern plateau. A 3 km-long dirt track, which regularly becomes impassable during the five-month wet season, links the village to the nearest metalled road. Eight years ago Jabarrah was just another typically poor village where food insecurity, indebtedness to local moneylenders, seasonal migration for very poorly paid labouring work and social marginalisation (about half the villagers belong to scheduled castes and tribes) were the common features of the majority of the villagers daily lives.

However, a visitor to Jabarrah today, would see that much has changed and the villagers are able to tell – with some pride – how all this has come about.

Ingredient I – Self-Help Groups

In Jabarrah, people with common problems and similar disadvantaged livelihood circumstances were encouraged to form SHGs. The rationale behind the formation of these groups was that the interaction between group members, including joint commitment to an activity from which they all could benefit, would help to build personal and group confidence and skills. Individuals would achieve more than if they had operated in isolation. The grassroots work on the formation of SHGs in Jabarrah dates back to 1995 and was pursued as one component of the Eastern India Rainfed Farming Project that DFID supported. From

three fledgling groups established in the mid-1990s, there are now more than 40 well-organised groups, and similar developments have occurred in more than 20 neighbouring villages, copying Jabarrah's example. Contributing to group saving, no matter how small the amount, is a common activity and such savings can then assist an SHG to finance an agreed enterprise.

Ingredient II – Aquaculture research

A feature of the rainfed lands of the eastern Indian plateau is seasonal ponds and in 1996, it was recognised that these could be used for aquaculture. However, research was needed because both the locally available information on aquaculture, and the preferred fish species were geared to the use of perennial water bodies. As villagers well know, only rich people have access to perennial water bodies. So over the course of three years, the aquaculture technology for the use of seasonal ponds was developed, and Jabarrah was one of the research sites. Importantly, local people participated in this research, for which the SHGs were very useful as they provided a readily available and good way to link with the poorest members of the village community.

Fish production in seasonal ponds found several local outlets. Producers were pleased to have a source of food protein for their own household consumption and as fish was affordable by other non-producers, a local market in fish developed resulting not only in wider improvement of poor people's diets but also cash earnings for the producers.

A feature of this approach to aquaculture is that it does not threaten the 'big guys' with their perennial aquaculture enterprises and, in fact, it can help these larger producers. It was found that fish of a certain size (fingerlings) could be sold on to those running perennial production systems. This is an example of a 'win-win' situation where the farmer with the seasonal pond meets a need of the perennial producer, and both make money from the link-up.

By the end of the three-year research project, spontaneous adoption of seasonal aquaculture had taken place in villages that were not included as target villages of the project, indicating the relevance of the work to the livelihoods of poor people.

Ingredient III – Flexible rural credit

This third ingredient, which really 'caps the story' came in May 2000. The Reserve Bank of India instructed rural development banks to launch financial products that were directly suited to SHGs. This included rapid sanctioning of loans, requiring no collateral, and with a low interest rate and flexible repayment schedules with up to three years to repay. The paperwork required for an SHG to apply for such a loan was a 'Resolution' certificate to prove its existence; details of its savings; and a plan that explained the reasons for the loan. The credit ceiling was not more than four times the value of the SHG's savings.

By May 2000, the Jabarrah SHGs were well-placed to take full advantage of this rural credit, and the credit ceiling highlighted the success of those that had concentrated on seasonal pond aquaculture. Those raising fish had the highest savings amongst the various SHGs and so tended to obtain higher loans. For example, one tribal SHG had assets exceeding Rs 40,000 (about £800) over and above the value of their pond. Another had assets of over Rs 200,000 (about £4,000). Importantly, loans are no longer viewed in the 'old way' – as an act of desperation, necessitated by constant cycles of food shortage and want. Loans are now regarded as assets to utilise and to be repaid. Most SHGs make monthly repayments and, in spite of the often muddy track, since August 2002 the local Bank Manager and Rural Development Officer make monthly visits to receive loan repayments and discuss new loans.

Indicators of change

While policy makers require hard evidence of benefits accruing from research, the comments of those who have had the experience of their livelihoods improving, often better convey the rich dimensions of knowing that their circumstances have improved. So, the last word on the Jabarrah story rightly should be given to the women of the village who have so much drudgery and deprivation to bear. A number of SHGs have only women members, and some engage in aquaculture. During a visit of some aquaculture researchers and development practitioners in September 2003, one woman SHG member commented *"The months of the rainy season were a curse when we would have no money and nothing to eat. We had to pawn our utensils, bicycles or whatever valuables we had to get a loan from the Mahajan (money lender) at exorbitant interest rates. Today, we have no worries of the kind that we faced yesterday".* Another, elderly woman said *"There was a time when we could not dare to talk to the men*

The comments of those who have had the experience of their livelihoods improving, often better convey the rich dimensions of knowing that their circumstances have improved

folk of the village – not to think of strangers! Today, we can go to the Bank and ask for the loan, approach the Panchayat (local government) authorities and put up our grievances and can boldly face the challenges. We are happy that we are listened to and respected."

How many more Jabarrahs?

In 2001, after various consultations, NRSP took the decision that rather than trying to replicate Jabarrah by further downstream collaborative work in other similar situations (e.g. other eastern States such as Jharkhand and/or Orissa), the preferred option was to move into research on policy processes. The aim was that the research would enable policy changes for rural service provision in ways that could better support livelihood improvement of people who are poor, marginalised and have diverse and complex livelihoods. The under-lying argument is that rather than trying to 'clone' Jabarrah, in a non-supportive policy environment, the 'Jabarrah experience' should be used to inform policy for pro-poor aquaculture service provision. To do this required a policy process that would bridge discourse gaps and bring through the voices of the poor to policy makers at national and state levels. By mid-2003, after one shorter-term project, significant progress was achieved.

Rather than trying to 'clone' Jabarrah, in a non-supportive policy environment, the experience should be used to inform policy for pro-poor aquaculture service provision

Through an inclusive process that facilitated the input of diverse voices, including those of poor farmers and fishers, an understanding was developed amongst certain key policy-relevant stakeholders in aquaculture of the major requirements for pro-poor services. Current work is now focused on moving these requirements into aquaculture service policy and service provision in three States – Jharkhand, Orissa and West Bengal. From a target group of 1200 persons in Jabarrah, the focus is now on some 30 million people of scheduled castes and tribes in West Bengal, Orissa and Jharkhand for whom this work is highly relevant. Moreover, the policy process of the project – how to bring through the voices of the poor – is relevant to South Asia as a whole, and communication work is already underway that aims for its wider uptake.

R6759 Aquaculture in eastern India

R8100 Investigating improved policy on aquaculture service provision to poor people

R8334 Promoting the pro-poor policy lessons of R8100 with key policy actors in India

R8363 Enhancing development impact of process tools piloted in eastern India

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For more details of this and other similar aquaculture research projects see website: www.streaminitiative.org/Library/system-journal/streamjournal.html

Meeting partners' requirements

Spanish and English publications

NRSP is pleased to announce that it has now produced three of its flagship publications in Spanish as well as English.

During 1999-2001, natural resources research scientists who were involved in NRSP projects in Bolivia participated in the development of the original English versions of two of the publications. These partners emphasised to NRSP that while the publications were of use to them in their work, Spanish versions were essential for accessibility and the potential wider uptake of their findings in Latin America.

The topics of the publications are:

Farmer-centred land degradation assessment

The handbook explains simple soil and land-related indicators that can help professionals to communicate with farmers on both the impact of land degradation and the benefits to be gained from reversing the process.

Handbook for the Field Assessment of Land Degradation. Stocking MA and Murnaghan N 2001. Earthscan Publications Ltd ISBN 1 85383 831 4

Manual para la Evaluación de Campo de la Degradación de la Tierra. Stocking MA y Murnaghan N 2001. Mundi-Prensa. ISBN 84-8476-114-2

Scaling-up

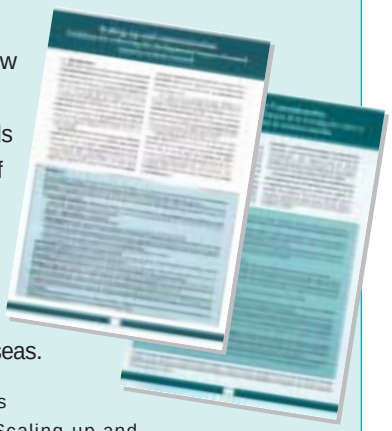
Despite innovative thinking on scaling-up, there is very little information to guide natural resources researchers in taking up these ideas. The review addresses this gap. Based on a comparative review of various case studies, a framework is proposed to guide the integration of scaling-up strategies into the design of research on natural resources management.

Bolivian NR scientists participated in the development of the framework and a subsequent project in Bolivia piloted improved scaling-up strategies.

Scaling-up strategies for research in natural resources management: A comparative review. Gündel S, Hancock J and Anderson S 2001. Natural Resources Institute Chatham, UK. 68 pp

Estategias de 'Ampliación' para Investigación en el Manejo de Rescursos Naturales. Un estudio Comparativo. Gündel S, Hancock J and Anderson S 2001. University of Greenwich. ISBN 0 85954 538 5

Enhancing the developmental impact of natural resources systems research



In addition to the scaling-up review described above, NRSP commissioned an in-depth review of the reach, use and impact of NRSP's communication methods and media products. A digest of the main findings was produced in order to make these two substantial reports more readily accessible to NR researchers in the UK and overseas.

DFID-Natural Resources Systems Programme (DFID-NRSP) 2002, Scaling-up and communication: Guidelines for enhancing the developmental impact of natural resources systems research, 8 pp

Programa de Sistemas de Recursos Naturales (DFID-NRSP) 2002, Ampliación y comunicación: Directrices para aumentar el impacto de la investigación sobre el desarrollo en sistemas de recursos naturales, 8 pp

These three publications were distributed to research partners and to other relevant target organisations (individual professionals, departmental heads and libraries) around the world. They are available on request from NRSP free of charge.

Managing coastal zones

Conserving valuable coastal ecosystems while accommodating relatively poor and rapidly expanding populations

Coastal zones have always held a fascination for people as areas of great natural beauty. But they are also important sources of livelihood for many people in the developing world. They are among the most valuable ecosystems on the Earth and yet constitute only 8 percent of the world's surface area. The lives of more than one billion people are dependent on the integrity of coastal ecosystems and they provide 25 percent of global primary productivity.

Coastal zones are fragile, yet dynamic and restless entities and are a complex mixture of human, physical and biological endeavours that all affect each other in different ways. The mixture is continually changing and this inevitably brings conflict. Can valuable ecosystems be conserved while at the same time accommodate relatively poor and rapidly expanding populations that rely on natural resources for their livelihoods? Can coral reefs, mangroves and seagrass beds be protected alongside rapid increases in fishing and tourism and the pollution and degradation these can bring?

Separating people and natural resources?

In the Caribbean, Marine Protection Areas (MPAs) are used to manage and conserve coastal resources. These are areas with legally established boundaries that are set aside to prevent the over-exploitation of natural resources. Evidence from research suggests that they do improve biodiversity and fisheries management.

However, they are rarely set up by, or explicitly for, the general populace living in and around them despite the fact that MPAs can have a profound effect on such people's livelihoods, affecting their sources of income, nutrition and recreation. Equally, the activities of local people impact on natural resources within an MPA and can have a significant effect, both positive and negative on any management initiatives.

Those who advocate MPAs have often extolled their potential value in socio-economic terms. But in reality MPAs have more often generated deep resentment in communities that find themselves excluded from resources to which they have traditionally had access. This lack of consideration can result in actions that prevent an MPA achieving its objectives and undermine the viability of the protected areas. This suggests that it is in the interests of both MPA authorities and those interested in poverty alleviation to identify opportunities and constraints to implementing MPAs, and doing so in a way that is sensitive to the needs of poorer groups living in and around them.

Need for information

There is a wealth of information on the ecological performance of MPAs but there was a paucity of understanding about institutional and social performance, particularly in relation to livelihoods of the poorest in the region. This need for more information led to a research project in the Caribbean to identify current institutional constraints to, and development options for, successfully implementing MPAs in a way that would both conserve coastal resources and lead to a sustained improvement in the livelihoods of poor people.

Marine Protection Areas often generate deep resentment among traditional users undermining the viability of protected areas

A review was undertaken of the institutional and ecosystem characteristics of 80 MPAs in the Central and Antillean bio-geographic zones. This was followed by more detailed studies at selected sites that included legal and policy reviews, ecological impact studies and participatory appraisals of the effect of MPA management on the livelihoods of poor people and current institutional constraints and opportunities for improving them.

Help or hinder?

The characterisation review, one of the first of its kind in the Caribbean, confirmed that many MPAs border areas of significant poverty and so the potential for MPAs to benefit the poor and equally for poorer groups to impact on MPAs existed.

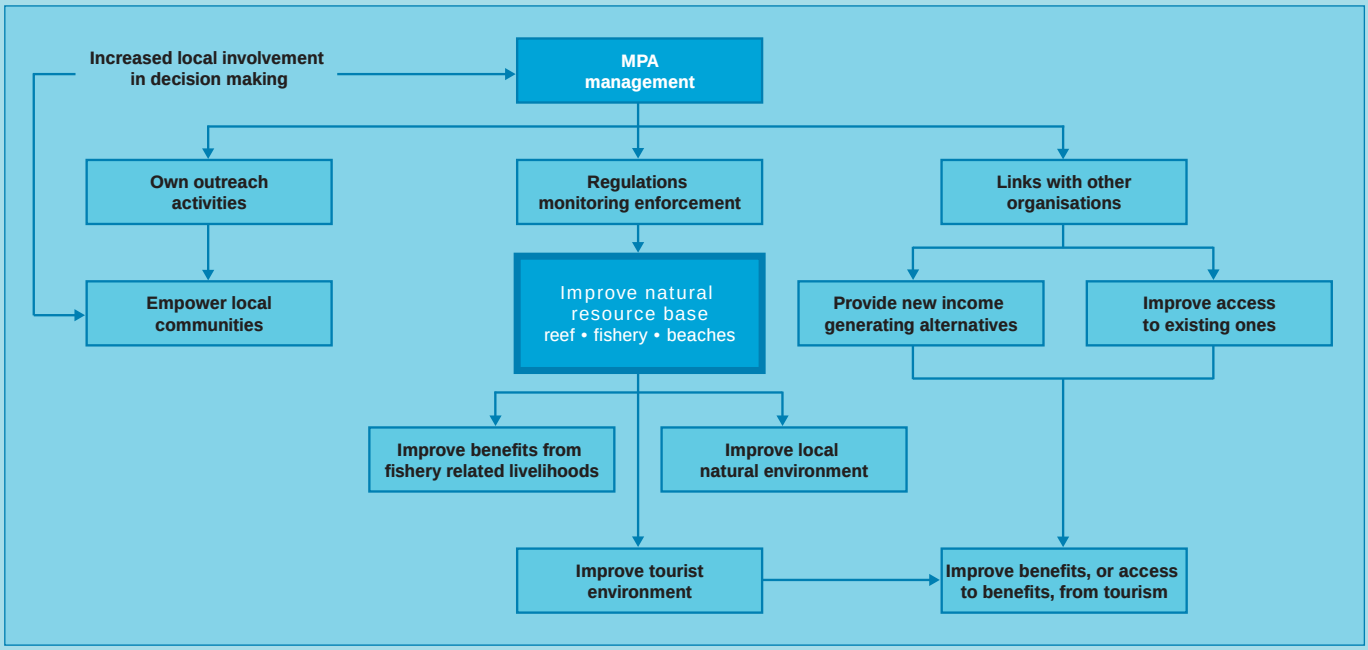
The review confirmed that the viability of protected areas is often undermined by non-compliance, bad practice or a lack of co-operation by local people that fuels resentment and conflict and this is widespread in the Caribbean. In many cases MPAs include a poverty dimension but research suggests that poorer groups are not only 'invisible' and less able to articulate their views but they are also less likely to comply with MPA measures because of their short-term perspectives and limited access to alternatives. Such activities can only hinder progress by reducing the effectiveness of MPA management and adding to the costs.

Beach cleaning programme, Statia Marine Park, St Eustatius

The Atlantic coast provides a nesting beach for four species of endangered turtle and islanders are involved in monthly cleaning to prevent entrapment of hatchlings. Removal of plastics, rope, clothing and other land and sea debris takes place on a weekend afternoon. Clean-ups are advertised via schools and local radio and transport to the beach is provided by the Marine Park Managers with support from school, church groups and dive operators. Results of clean-up are provided in the local newspaper.

They will help you if you help them

The principal aim of an MPA is to improve the natural resource base and the main method of achieving this is through regulations, monitoring and enforcement. But this does not automatically lead to improvements in local people's livelihoods. This will depend on the type of regulations in place and the other activities of the MPA management agency (see diagram). For example, better regulation of local fishing activities that are sensitive to fishers' needs, or the provision of alternatives when total restrictions are necessary, can maintain or even improve fishers' livelihoods in the shorter term whilst waiting for the longer-term spillover effects or resource improvement to occur.



Improvements in the natural environment are likely to be a boost to the local tourist industry and an MPA working with other relevant agencies could advocate and promote local involvement in this. This could be through improving access to existing opportunities or by providing new ones. Local benefits of this might include improved infrastructure or recreational areas or improved health and safety.

The research highlights many good practical examples where MPAs have involved local people to the benefit of both. Local knowledge and skills are harnessed, rules are better adapted to local socio-economic conditions, monitoring and enforcement costs are reduced and management responsibilities shared. Examples include employing fishers as researchers, a fishing gear exchange programme to improve catches, helping fishers to gain access to Irish Moss farming, the water sports industry, tourist guiding and setting up water taxis.

The way an MPA works could serve to empower local communities. Education is one aspect of this, others include capacity building and organisational strengthening. Specific outreach activities, or an inclusive participatory style of management generally, could have the additional benefit of increasing local communities' ability and desire to be involved in MPA management, thereby improving its effectiveness.

A demand for guidelines

The participatory approach combined with a series of facilitated workshops brought researchers and stakeholders together to address key issues and explore solutions. The highlight of this was the hosting of a session at an international fisheries conference where the link between poverty and MPA management was made explicit and discussed. A strong request from key environmental agencies in the Caribbean for the collaborative development of guidelines for MPA management was received, which was then followed up as part of the project.

Guidelines were produced with sections on:

- *Local communities and how they can help or hinder.* This concentrates on the impacts that local people can have on MPA management and vice-versa and suggests areas in which local people can become more actively and positively involved.
- *They will help you if you help them* looks at the benefits that an MPA can provide to local people, particularly poorer groups, and the factors that constrain or facilitate the realisation of these benefits.
- *Creating an environment for effective collaboration* focuses on how local individuals and groups can be engaged and encouraged to become more actively involved in MPA management.
- *Resource and reference guide* fully references the case study material, the literature available and other sources of information.

The guidelines also include a wealth of practical case studies, some successful and some less so, describing the issues, challenges and solutions that MPAs have developed from which others can learn.

It is hoped that this will lead to good regional ownership and ultimately their adoption, particularly the pro-poor elements.

The outcome

The project increased understanding among regional stakeholders of the key institutional, social and biophysical characteristics of MPAs in the Caribbean. The impacts of successfully implemented MPAs on poor people's livelihoods were determined and the structures and processes leading to either beneficial or harmful outcomes appreciated.

Guidelines have been published and are available from NRSP and from website www.mragltd.com They outline ways by which MPA management can explicitly benefit poorer stakeholder groups and promote effective management of MPAs. There are plans for these to be adopted by the International Union for the Conservation of Nature and Natural Resources (IUCN) and the United Nations Environment Programme (UNEP).

R7976 Institutional evaluation of Caribbean marine protected areas (MPAs)

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Making choices

Which pressing NR problem to tackle with limited funding

Should funding for natural resources research be spent on the challenges at the peri-urban interface where rural and urban activities meet or should priority be given to solving the problems in semi-arid regions where droughts dominate the lives of the poor?

How do you choose which of the many pressing problems to tackle with limited funding and how do you determine which should have priority? What criteria should be used for selection? Is it best to spend money helping poor farmers in areas with the greatest potential for improving productivity or should it be devoted to helping those in marginal arid areas where the poorest are most prevalent and arguably the most in need?

The Natural Resources Systems Programme (NRSP) faces these choices as it allocates research funding to six production systems: areas with high potential; hillsides farming; semi-arid lands; forested areas partly converted to agricultural use; the land water interface of coastal zones and floodplains; and the peri-urban interface. It also focuses on two or three target countries for each system covering Sub-Saharan Africa, South Asia, and Latin America and the Caribbean.

At the beginning of the programme in 1995 budget allocation evolved on a somewhat *ad hoc* basis reflecting both historical precedent and the interests and activities of particular research institutions and scientists. But this focus shifted significantly following the publication of the UK Government's 1997 White Paper 'Eliminating World Poverty: A Challenge for the 21st Century' which changed DFID's developmental policy focus to poverty reduction and livelihoods improvement. It prompted NRSP to undertake this Systems Characterisation Study to provide, in terms of the donor's policy, a basis for identifying priorities between the six production systems and their target countries. As a first step definitions were devised for each production system in its respective target countries and used to set the boundaries. Production systems were then characterised on the basis of twelve variables which nested into six Characterisation Criteria. All criteria either directly or through proxy variables were measures of the donor's policy priorities and enabled an assessment of 'need' for research. The criteria covered: land area, human population, market feasibility (infrastructure and market demand), land productivity and export potential (national and international market demand), poverty status (GDP; literacy rate; child nutritional status), and national natural resources management knowledge base (national support to NR research and national numbers of NR scientists). The production systems were mapped and data were assembled and used to assign values for the variables of the criteria. A ranking method was used to compare the values across the production systems. Also an index was used to weight the criteria so that some contributed more to the assessment than others. For example, the weighting for poverty status was higher than all others.

The outcome of the process showed the semi-arid production system had the highest priority, followed by areas with high potential, forest agriculture, land and water, hillsides and the peri-urban interface. In terms of proportional need (and therefore priority), the semi-arid system and the high potential formed a distinct pair with high priority; forest agriculture and land and water were a closely middle ranked pair; and hillsides and the peri-urban interface were a similar lowest ranking pair. Overall, there was a close correspondence between assessed need and actual planned budget allocations. The main difference was that whilst semi-arid had the greatest fund allocation, it was not as high as the ranking indicated while forest agriculture, land and water and peri-urban had slightly more than the ranking indicated.

The study results were used as an information source and served as a guide to research planning for the second term of the programme (2000-05).

DFID-Natural Resources Systems Programme (DFID-NRSP) 2003. The characterisation of six natural resources production systems.
Taylor J, Tang M, Beddows C, Quin FM, Stocking MA.

Responding to urban opportunity

Can the very poor be part of this?

Markets in peri-urban areas provide an important opportunity for improving livelihoods of poor people but access is really difficult for the poorest women who are landless with no assets and who do not have the motivation to succeed. Many governments and NGOs have developed strategies to help the poor but they usually only succeed with those who have land and some assets. They often seem at a loss as to how to help those without. As one poor woman suggested "*where would I tie goats or cows – to my legs?*" She had no space or resources to raise animals.

Can research help such people by developing innovative ways of achieving sustainable change in their livelihood strategies through the management of natural resources? This is one of the challenges that faced researchers working in the peri-urban interface in the twin cities of Hubli-Dharwad in India.

Rapid changes

The past 30 years have seen a relentless urban drift in many developing countries and Hubli-Dharwad is typical of a rapidly growing city facing the challenges of absorbing more and more people. Traditionally, poverty has always been thought of as a rural phenomenon but now it is an urban one as well. As the activities of urban areas come into contact with those of their rural surroundings, an interface is created with distinct features that affect natural resources and the livelihoods of those who depend on them. This is the peri-urban interface. Change is its predominant feature and livelihoods become a mixture of rural activities and the opportunities that urban life brings.

Markets may well be a key to improving the livelihoods of the poor but in the peri-urban interface they change fast as the demand for high quality produce increases, competition drives prices down and local commercial businesses enter the market with their economies of scale.

Traditionally NGOs would help poor communities by assessing their resources and skills base to see what they could produce. But even when this led to marketable products they were rapidly overtaken by competitors. There were some successes but this tended to be among those with small landholdings who could generate income from producing vegetables and agro-forestry products, or milk sales from dairy cows. Unfortunately those without land, in particular women, had no such opportunities.

In such circumstances the landless poor, and even the organisations that support them, are losing direction and are finding the forces of the market insurmountable. Government agencies and NGOs are trying help by organising women into Self-Help Groups (SHGs). This has rescued many from debt by showing them how to collectively harness their savings for immediate consumption needs but it has not provided them with financial instruments for new enterprises. In particular, it is not clear how such groups can help individuals to improve their livelihoods in the peri-urban setting.

To meet this challenge researchers set out to rethink earlier approaches and to find new ways that would

"Where would I tie goats or cows – to my legs?" She had no space or resources to raise animals

avoid the very poor again slipping through the cracks. Meeting after meeting revealed that poor women did not know what to do and neither did the NGOs. From this they developed an initiative called Market Oriented Value Enhancement (MOVE) designed specifically for the landless poor.

Marketing not production

Whereas most NGOs concentrate on production, the MOVE initiative looked at marketing and ways of adding value to products. It was designed to open up access to markets for the landless poor by building entrepreneurial capabilities. The skills of marketing management experts were brought together with those of traditional business management colleges and the community-based organisations to train groups of women in the basics of setting up and running micro-enterprises.

From the outset there were no illusions about the complexity of the task involved. For the women and NGOs alike, the market was a mystery. Not only had the women no assets but they also were generally without motivation. They had become reliant on government handouts and had very little time to devote to training (less than one day a week). It was expected that the conversion rate would be slow and small.

The strategy was first to increase the women's motivation and then provide them with the skills to understand the market. Motivating poor women is different from motivating traditional entrepreneurs. Researchers requested help from local NGOs because this is a role that they traditionally do well. However, motivation oriented to the market was needed and this was a new focus, even for NGOs. Initially the women were asked simply to go to the markets and to bring back their observations. Most just brought goods and negotiated a little on price. However, on subsequent visits they were asked to look more closely at various commodities and to compare brands and prices to increase their sensitivity to the products and prices available. From this a training strategy evolved that included:

- Exposure to different markets, rural, city and peri-urban. How to distinguish between them and to identify the best market for their products.
- Skills to identify a niche within the market. Should they look at high quality-high price products or the low quality-large quantity end of the market?
- The value chain. Adding value to products such as selling bread at Rs40/kg rather than selling flour at only Rs8/kg. The women understood this well.
- Changing attitudes. Many women saw production as the end task and did not realise that losing control over marketing could mean losing money. They visited various retail outlets where they could see that people were making money by retailing goods and not necessarily by producing them.
- Negotiating with retailers to understand the role of middlemen and agents.
- The difference between pricing and costing to understand that the price is what the market will bear and not the cost of production plus 10 percent.

Initial results

MOVE is in its early stages but the results of a focus group discussion with the women and the NGOs were encouraging. Women were beginning to appreciate the difference between production and marketing and they felt that without an understanding of the market, production on its own was a real risk. They understood the principle of adding value to a product but most had not yet reached the stage of coming up with new ideas. They became more conscious of price and the benefits of negotiating (see box overleaf).

What next

Whilst researchers recognise that good progress is being made they also realise that much more training is needed for poor women to compete effectively in the market place. They need to develop skills to handle fresh perishable produce and maintain hygienic conditions; stock and grade produce in terms of quality

Through training, very poor women began to recognise that *"...being near to the city is advantageous to us. This training has showed us how to utilise the situation"*

and size; price products properly including discounting for bulk supplies and market gluts; learn about the vagaries of individual customers and the administrative needs of larger businesses such as hotels and government offices.

There are many market niches that can be explored, both rural and urban, but rapid change means that these will soon disappear once private capital recognises them. For example, there is a growing niche market in buffalo milk and there is a need to develop aggregation centres for milk to supply the increasing demand from urban hostels, canteens and hotels. Similarly centres are needed for vegetables so that businesses can have an assured supply. The ideal location for these is just outside the city and they provide a clear market niche that women can occupy.

Building the capacities of poor landless women, who live in peri-urban areas, must focus on helping them to take best advantage of this opportunity. There are several key requirements: understanding markets, mobilising women to form groups, facilitating the federation of these groups so women can more effectively deal with other actors in the market, creating new innovative financial instruments, and providing marketing infrastructure.

Credit is still a challenge

The challenge of credit provision for the poor remains. Government rural credit provision schemes often come to a grinding halt in peri-urban areas, the very place where credit is needed most. Access to formal banks and other financial institutions for the poor is declining in the face of the fast retreat of government programmes as urbanisation spreads and urban municipalities expand. NGOs too must face this challenge by promoting credit instruments within community-based organisations that do more than address immediate consumption and emergency needs.

Bibi Jan Mulla is 55 years old, poor and landless. She lives close to Dharwad city in a village were many traditional rural attitudes prevail. She has seen many changes brought about by urbanisation but she could not see how to take advantage of them.

She joined a group of women who were trained to develop marketing skills. She visited different types of markets and observed "*The difference is clear, in rural markets items are sold at a low price while in peri-urban markets they are higher than in urban markets. Before I started this training I hadn't thought about the different aspects of marketing, which I do now. Taking up income generating activities like making rotis (flat loaves of bread) is now possible.*"

Her friends, Bashira and Bibi Jan Narthi add "*Being near to the city is advantageous to us. This training has showed us how to utilise the situation. We should first analyse the market needs and only then start an activity. Being near to the city saves costs and time of travel. We also have easy access to opportunities in the city. Profit making is easy compared to being tied to the village because we can exploit competition and a wider network of customers.*"

R8084 Enhancing livelihoods and natural resources management in peri-urban villages near Hubli-Dharwad

The project builds on:

R7959 Natural resource management action plan development for Hubli-Dharwad peri-urban interface

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Changing frontiers of town and country

The peri-urban interface of Hubli-Dharwad, India

Here are facts and figures, analyses and conclusions, and even educated guesses about an event that has long been taking place around us that we have taken for granted.

India is a vast land area where rural livelihoods variously are based on arable farming, livestock production, and use of forest and water resources. Into this, cities and towns have steadily expanded their activities of production and daily human existence. From seven years of study of the twin city region of Hubli-Dharwad in Karnataka State we learn that it is a mistake to overlook the special nature of this meeting of urban and rural activities that can be called the peri-urban interface. It sometimes exposes both urban and rural people to new opportunities and satisfactions. More often than not, it is a continuing clash that destroys livelihoods, maintained for generations, leaving people who are already poor even more vulnerable and changing forever their physical surroundings. Unable to adjust fast enough, institutions of the state and society cannot deal with the result. There are wastes and blunders where there could be support and progress.

Understanding this meeting of rural and urban activities is of major importance to government policy planning in India where every day nearly 4,000 large and small urban areas are profoundly altering peoples lives and the lands and other natural resources that they know. Furthermore, it is a significant consideration for the abilities of NGOs to help people make the most of the change that is happening to their livelihood circumstances. This applies whether the NGO is national in scope like the Bharatiya Agro-Industnies Foundation (BAIF) or local, as in the case of the India Development Service (IDS) and the Best Practices Foundation (BPF), all of whom took part in this pioneering research.

The University of Agricultural Sciences, Dharwad and the School of Agricultural and Forest Sciences, University of Wales, Bangor, UK, who are partners in the research with the NGOs, have learned that teaching institutions need this knowledge to open the eyes of students. Graduates must be able to recognise the peri-urban interface and understand its intertwined systems of technology, natural processes, and human and institutional relationships, if lives are to successfully adjust to the impacts of urbanisation.

The research has generated new knowledge with which to change the management of natural resources. Not just any change will do, but specifically change that can benefit those who are poor. Changes in the use of natural resources because of urban growth were investigated and, in turn, changes in the ways that households support themselves for better or worse. The latter led to the implementation of new livelihood strategies through pilot projects and also the exploration of ways by which villagers, living at the peri-urban interface, can formulate such strategies for themselves.

Changing frontiers. The Peri-Urban Interface Hubli-Dharwad, India. Edited by Robert Brook, Sangeetha Purushothaman and Chandrashekar Hunshal 2003. Published by Books for Change, Bangalore, India

This publication is a product of project R7867 *Hubli-Dharwad knowledge gap filling*

Building consensus

Devolving management of natural resources to users

There is a widely held view in development that the management of natural resources can be improved if it is devolved to the resource users themselves. Whether there is equitable distribution of benefits from community-based management is uncertain because of the social systems entwined in the use of these resources. But there is a demand for tools to support community-based management of natural resources and particularly common pool resources.

In Bangladesh, a community-based method for consensus building – Participatory Action Plan Development (PAPD) – was developed, tested and promoted. Its success and further development across a number of different natural resources management systems has led to plans to scale-up its use. To assist its wider promotion, suitable communication materials that would enable others to learn about PAPD and to put it into practice were needed.

Participatory Action Plan Development

Participatory Action Plan Development (PAPD) helps people to plan and manage their natural resources and especially those that are commonly owned. It is specifically for use with multiple stakeholder groups and it uses different participatory tools to reach consensus on the actions that are needed.

Many stakeholders are involved in the management and use of natural resources and PAPD is designed to represent all their views and not just the most vocal or socio-politically powerful. It actively encourages participation by the poorer members of a community and encourages community participants to respect others' concerns. The end result of a PAPD is a community action plan, with roles, responsibilities and a budget for managing natural resources.

PAPD has been used in Bangladesh since 1996. It was developed by the Centre for Natural Resources Studies (CNRS), a local NGO, to build consensus among natural resources users for taking initiatives to protect and restore fresh water swamp and wetlands of rich aquatic biodiversity that also provide the communities with their livelihoods. Since then CNRS has continued to use and develop it across a number of different natural resources management systems.

Wetlands management

Bangladesh has the highest population density in the world and consequently land value is high and there are many disputes over its ownership. Large areas are owned by the Government but much is illegally occupied. Wetlands and other valuable natural resources are damaged and lost due to illegal occupation and conversion to agricultural land, or other products.

The Haor basin is a vast seasonally flooded area of swamp forests and reed lands that make up a diverse and productive aquatic environment with a rich biodiversity of aquatic flora, bird and fish habitats, water bodies, canals, swamps and forests. This is gradually being degraded and destroyed by natural processes and by the local population and this threatens both the livelihoods of the people who depend on the Haor and the biodiversity of the region. A survey in 1999 estimated that more than 90 percent of the swamp forests have been cleared and more than 50 percent of perennial wetlands are either converted or encroached by the local population.

A communications needs assessment was conducted to identify stakeholders who could potentially benefit from using PAPD in their programmes

PAPD was used in a number of Haors communities to build consensus among the resources users and in many cases this led to the communities developing an action plan including solutions to the problems of managing and restoring the natural resources on which they depend.

Scaling-up

Since the development of PAPD there has been considerable interest shown by other international and national organisations such as the WorldFish Centre, IUCN, ITDG-Bangladesh, two national NGOs (Caritas and Proshika), and the Bangladesh Department of Fisheries (DoF). But promotional material and training in its use was not widely available beyond CNRS. Such interest led researchers to consider ways of scaling-up the use of PAPD by clearly identifying those who would benefit from its use, regionally and nationally, promoting it to them and developing an appropriate resource package for users. A mechanism was also tested to monitor and evaluate the effectiveness of PAPD and how lessons learnt from its use can feed back into its further development or adaptation.

A communications needs assessment was conducted to identify stakeholders who could potentially benefit from using PAPD in their programmes and to find out how they prefer to receive and exchange information. More than 150 organisations indicated an interest and a small sample was selected for more in-depth analysis on their use of participatory planning processes, their knowledge of PAPD and their information needs (see table).

The results indicated that among senior management there was preference for receiving information through short, targeted meetings. They were interested to find out how the method could be used in their programmes, what impact or benefits could be expected and what resources were needed. Large one-day workshops, or meetings were found to be unsuitable for reaching these people as was email and the Internet. One of the key stakeholders, the Department of Fisheries, has only limited access to computer-based information services.

Communications plan for PAPD

Clients to communicate with	Communications media	Timing	Intended result
Meso-level decision makers in Dept of Fisheries	Sensitisation visits to PAPD sites	Biannual	Raise awareness, Visual evidence of PAPD process in action
International Research Organisations – researchers and managers	Short, targeted presentations on PAPD process	Continuous	Use of PAPD as a method for consensus building and improved management of NRs
	Glossy colour brochure 'what is PAPD'	Widely distributed in Bangladesh (1500+ copies) Available as PDF on web	Wider awareness
International audience – research, International NGOs	Web-pages 'what is PAPD' Download version of resource pack and video clips	Continuous	Wider awareness and use outside Bangladesh. Limited use in Bangladesh
Practitioners in local, national and international NGOs working in NR sector	On-the-job training – use of facilitation materials	Continuous	Wider awareness
Government officials at middle management level and below Training organisations	Classroom training – a resource manual and video clips	Continuous	Wider awareness

A range of media

A comprehensive communications 'package' was developed from this assessment that recognised that one medium such as a workshop, newsletter or video would not achieve a desired change. A range of media was needed with different communications objectives. The final 'package' comprised a short glossy brochure that could be handed out to key stakeholders combined with short (1-2 hour) direct presentations. A comprehensive resource pack was developed for facilitators who work directly with the communities. This was to teach them about the method and to guide them through the process. Visits to sites where PAPD was already being used was also seen as an important promotional tool as was providing access to material on the Internet particularly for international organisations, national NGOs and donor supported projects.

The resource pack contains instruction manuals and video clips and is designed as a 'stand-alone' package, though CNRS believes that facilitators need training if they are to use the materials competently. They also specify a number of pre-conditions for those conducting a PAPD. These include a very good understanding and rapport with the target communities, good facilitation skills and being in a position to follow-up and monitor with the communities.

"I think PAPD is an effective way of involving beneficiaries in planning and implementation activities. They can be involved in discussions on what they think is right. They can monitor their activity as well as analyse the impact. I am very much impressed when I see the government administration and related departments, local elite persons and NGO personnel socially involved with this process and committed to play an active role."

DoF employee on an exposure visit to a PAPD site.

The outcome

While the brochure was useful for raising awareness about PAPD so far there have been very few enquiries from this medium or from the Internet.

Word of mouth from those with practical knowledge of PAPD has proved to be the most successful medium.

Most of the interest concerned the Resource Pack and the supporting video materials and the need now is to make these more widely available throughout the country.

CNRS suggest that facilitators need to be trained to use the Pack. They need to have a good understanding and rapport with the target communities, good facilitation skills and are able to follow-up and monitor the communities.

PAPD Resource pack can be obtained from CNRS via www.itad.com

R8223 A learning and communications programme for Participatory Action Plan Development methodology

This project builds on

R7562 Consensus building in Common Pool Resources

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Gender sensitivity in NRM research

Simply including women is not enough

Some researchers are still interpreting gender to simply mean the inclusion of women or the collection of data on women. This is one of the key findings of a review on gender and gender analysis in a selection of NRSP research projects.

Over the past two decades gender and gender relations have found their way into development policy and practice. The language of gender has been widely adopted but it is common to find that gender analysis has been equated with attention to women. Ironically this is a return to an older and rather discredited approach that the more inclusive gender analysis was meant to replace. Thus, despite wide acknowledgement of the importance of gender, in practice it often remains a marginal concern. It is added on, rather than integrated into, mainstream development policy and practice.

NRSP recognises the importance of gender sensitivity and requires all research teams to consider gender in the design and implementation of their projects and to report on the gender dimensions of the research findings. This is based on an awareness of the roles of men and women and gender relations in natural resources management, and the bearing these considerations have on the methods and processes of research and its possible outcomes and impact.

Following an internal assessment of NRSP's portfolio there were concerns that gender sensitivity was rather weak.

So a selection of projects was examined in detail to answer two questions – what are the strengths and weaknesses of the gender dimension in the projects and what are the key considerations for its improvement in the future?

Although the study involved only a small number of research projects there were some encouraging findings. Some projects had a good record for including women and addressing the needs that they articulate. However, going beyond this, gender sensitive research design and the inclusion of gender analysis in assessing the progress, outcomes and impact of the research was much weaker or absent.

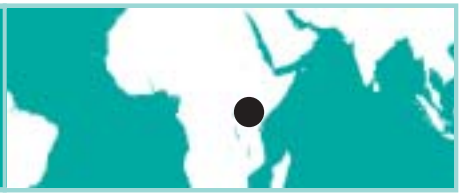
Whilst there was an appreciation that gender issues can significantly influence project outcomes, researchers incorporated and understood gender analysis in a variety of different ways. Projects where social scientists and women played prominent roles in research design and implementation paid more attention to gender analysis than more male or biophysical science dominated projects. Also research teams where all team members were committed to gender gave more attention to gender analysis than those where it was just the responsibility of certain individuals.

The study's main conclusions emphasised the challenges for the future. Although the importance of gender is recognised, NRSP must strengthen its attention to the possible tensions between poverty alleviation goals and gender equality. Researchers must appreciate that simply including women is not enough. They must ensure that gender analysis is not lost, oversimplified or misconstrued when it is perceived only as part of a wider focus on poverty reduction. The key is for researchers to go beyond their appreciation of the importance of gender and operationalise attention to it in their research. Without this, it will continue to be treated in a superficial way without real teeth.

DFID-Natural Resources Systems Programme (DFID-NRSP) 2003.
Gender Analysis in NRSP. 23 pp

One-stop shop

Coordinating agricultureal services, technical information, input supplies, credit and marketing



Would better coordination of agricultural service provision – technical information, input supplies, credit and marketing services – help to improve the livelihoods of poor, semi-literate farmers? Researchers in the highlands of western Kenya are evaluating ways to provide such a coordinated service – a one-stop shop – to help farmers make better use of their resources and build their livelihoods.

The highlands cover some 85,000 km^2 and support 12 million people, almost half of the country's population. The climate is ideal for agriculture with plentiful and reliable rains (1200-1800 mm), spread across two cropping seasons. So in theory the region should have a food surplus. Yet the rural population is among the poorest in the country and is heavily dependent on food imports. While high population densities and small land holdings (0.5-2 ha per household) are the root of this problem, lack of investment in soil management also is a significant factor because it limits people's potential to make best use of the natural resources of their farmlands.

The maize trap

Farming for home consumption is a priority for most poor farmers. Over 90 percent of the available land is committed to the continuous cropping of basic food crops centred on maize but yields are low and declining. The acid soils of the region generally have good physical structure but lack important plant nutrients. Phosphorus (P) availability in particular is limited and low levels of nitrogen (N) and potassium (K) add to the problem. Chemical fertilisers can correct this situation but their cost puts them beyond the reach of most farmers. The parasitic plant, *Striga hermonthica* also is endemic and this further depresses cereal crop yields. The result is that most households are unable to feed themselves for several months of the year.

Research has demonstrated the benefits of using improved mixed species fallows to improve soil fertility. This involves leaving the land without a crop for 9 to 15 months under a cover of beneficial plants (e.g., certain legumes) so that it can 'recover'. Such a practice helps to restore nitrogen in the soil but unfortunately has little effect on phosphorus and potassium levels. Without these valuable nutrients the benefits of improved nitrogen cannot be fully realised and so adding chemical fertilisers is currently the only viable option. The present recommendation for a maize crop is 20 kgP/ha and 60 kgN/ha.

To improve their farm production and income generation, farmers need to invest in soil management and also diversify into crops with a higher value than maize. However, the combination of small land holdings and existing food deficits mean that they will only do this if they can simultaneously raise their maize yields. Several factors need to be in place for this to happen. Firstly, farmers need to understand how the market works so they can identify higher value cropping opportunities. Most producers are only familiar with local markets where opportunities are limited. They can only supply small quantities of produce and this reduces their attractiveness to potential buyers.

Secondly, they need technical knowledge on the best crop choices, cultural practices and ways of managing their natural resources so as to increase their yields of both maize and the new crops. Thirdly, they need good quality seeds and finally most will need credit to buy other agricultural inputs.

Critically, all these need to be in place before poor households can hope to shift from growing only maize to a farming system that delivers more food and cash, whilst simultaneously maintaining soil fertility on which future sustained higher production depends.

In such circumstances how can poor farmers take the necessary steps to expand their options for resource and crop management and enhance their capacity to make the relevant management decisions for their farming activities?

Coordinating services

Critical to success is the ability to access a range of coordinated services that link improved cropping strategies and soil fertility management with opportunities to obtain the required inputs and capitalise on market opportunities – a one-stop shop for the needed rural services.

As a central service of the shop, researchers have introduced a community-based credit scheme. This enables poor farmers to buy inputs that could raise farm productivity. At the same time services are provided that make them aware of the options available for crop choice, soil management and plant nutrient supply, and assist them to access markets for their produce.

Prior to this project farmer credit was only available from a committee-based structure set up originally by International Centre for Agroforestry (ICRAF) to promote agro-forestry technologies. But the committees did not undertake credit screening and loan recovery functions well. The approach now being pursued is group-based, similar to that initiated by the Grameen Bank (in Bangladesh), This will be adapted to allow for seasonality and the risks of rainfed smallholder farming. WEDCO (western Kenya's biggest micro-finance organisation) is monitoring progress and has expressed interest in taking the scheme over as its own pilot for agricultural lending, provided its size and the repayment rate can be brought up to satisfactory levels.

WEDCO has provided financial training for farmers as project staff realised the importance of building the capacity of poor, semi-literate borrowers to manage financial resources.

Advice on credit is combined with biophysical technical advice. This stresses the importance of using a combination of organic and inorganic fertilisers to enhance soil fertility rather than just advocating the use of imported chemicals. This not only reduces the cost of production but it also reduces the debt risk for farmers.

To encourage better understanding of the market farmers were taken to see the Kisumu markets and this opened their eyes to the possibilities beyond their usual local marketing activities. It emphasised the need for greater organisation in produce marketing. Workshops were held to teach basic crop budgeting so that producers could begin to assess the viability of producing different crops.

"I have been planting maize as a tradition since I was young because I found my parents doing so, but after filling this crop budget form, I realised I was making losses since the price of maize in the market is very low and its expenses are high. I have to think about other high valued crops that will pay for their expenses and make a profit."

Jerim Otieno, a farmer from Nyamninia

A survey of traders in the main Kisumu markets is in progress and there are plans to contact larger buyers of specific commodities such as soyabean and sunflower to explore the potential for using local smallholders as suppliers.

"By visiting the market, I have learnt how I can avoid low prices due to poor market timing. In future I will grow a wide variety of crops so that in case of emergencies, I will only sell the crop that will be selling at a higher price at that time since I will have several high value crops to choose from instead of relying on maize which you have to sell whether prices are poor or not."

Mr Nicodemus Onyino, a farmer from Ebukhaya

Having identified promising crops and varieties that preferably contribute to both soil fertility and income-generating objectives, the challenge now is to make quality seeds available to producers in adequate quantities.

Decision support

The project has built on previous research on improved mixed species fallows and the findings of socio-economic studies. It also has linked with the community-based organisations established as part of the research and extension work undertaken in recent years by the KEFRI-ICRAF Maseno Regional Research Centre. Participatory research was undertaken to test existing research findings in five communities and sensitise them to the technologies and crop varieties available. Based on this, the researchers have developed a range of decision support tools that present knowledge in farmer-friendly ways. Farmers helped to refine materials on nutrient deficiency diagnosis and corrective measures, *Striga hermonthica* infestation and control, and better land management for improved returns. These were translated into three local languages – Kiswahili, Luhya and Luo. Certain farmers and extension workers are being trained as resource persons to guide others in their use. Similar support tools on credit and produce marketing are planned.

Encouraging signs

The project still has some way to go but already farmer-managed maize trials surprised researchers with yields of 4.5-6.2 t/ha on plots previously under improved fallows. This compares with 1.5-2.8 t/ha with recommended chemical fertiliser or a more usual 1 t/ha with no inputs. The farmer-managed trial results indicate that a 0.25 ha plot could feed a family of seven for the year and provide even those with the smallest farms with spare land and an opportunity to benefit from planting higher value crops.

Diversifying beyond maize

The coming year will show whether the group-based approach to borrowing will generate adequate incentives for loan repayment. Research on market opportunities will turn from providing information to action research designed to see what happens when producers actually respond to the opportunities available. There will also be attempts to establish linkages between producers and specific produce buyers.

Seed supply will become even more critical as producers respond to market opportunities. Several of the seed varieties identified as promising from the point of view of production, soil fertility and marketability are not yet registered for commercial distribution in Kenya. Seed multiplication by communities is a possibility but it will take time to generate the desired quantities.

The outcome

This research project has found that enabling poor farmers to move off their subsistence base and improve their livelihoods through their farming activities requires diverse and coordinated support services. These include not only improving access to a wide range of information, but also exposure to opportunities and training (capacity building) in a range of areas (e.g., financial, economic, technical). Whilst this finding is not new, the important contribution is that a service provision model is being developed and tested.

The project works in close collaboration with a local NGO consortium (COSOFAP) devoted to exchanging information on development activities in the region and encouraging collaboration to assist poor households to tackle their development challenges. Plans are in hand to work with them to develop and implement a scaling-up strategy once a working model for coordinated service provision is confidently established.

R7962 Linking soil fertility and improved cropping strategies to development interventions

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Livelihood forestry

30 years of community forestry experience in Nepal

Since the 1980s Nepal has been promoted as the country where community forestry has spread most widely and this has led to its intense scrutiny and refinement to address concerns of livelihoods, equity and resource sustainability.

A growing number of countries around the world are now implementing community forestry and many are adopting Nepal's Forest User Group (FUG) approach. With nearly 30 years of experience of various forms of community forestry, accompanied by reflections on its constraints and opportunities, this publication of seven papers is timely in presenting the Nepali experience.

Protecting the forests was traditionally the responsibility of local feudal tenure-holders but in 1957 the Government nationalised the forests and set up central control and management. In practice it had little capacity to do this. Relations between local people who use the forest for their livelihood and Forest Department officials became strained and the forests deteriorated due to a lack of effective regulation.

Nepali foresters recognised that the only realistic way of solving these problems was to allow forest users themselves to take over the management responsibility for their local forests. This was the beginning of the concept of community forestry. Gradually legalisation followed and this precipitated the handover of forest management to Forest User Groups (FUGs) on a wide scale across the mid-hills region. But this was not without its difficulties. Initially approaches were to traditional village leaders, rather than to the entire community of forest users and the result in many cases was not community forestry but rather elitist 'committee-forestry'. This produced poor and undemocratic decision-making, bias in benefit sharing, neglect of the needs of poorer sections of the community and in some cases the exclusion of genuine forest users who were often obliged to break the FUG rules in order to continue their livelihoods.

The papers in this publication provide critical insights into the process, impact and challenges of community forestry in Nepal today. They examine the history and current status of community forestry in Nepal; the impact of community forestry on vegetative resources; the importance of individual hamlets that make up FUGs in the planning process; and the levels of participation in understanding community forestry and the benefits that can come from it.

To highlight just a few of the practical findings:

- Production from the forests could be further increased if FUGs were shown how to shift from protecting the forests to more active production-oriented management.
- The problem of 'committee' forestry can be overcome by micro-level action planning to ensure more inclusive and equitable livelihood and community development initiatives.
- There is now a clear shift away from increasing product flows to broader livelihood activities.

As the authors argue perhaps the time has come to move from calling it 'community' forestry to 'livelihood' forestry.

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