Improving Floodplain Management:
Multiplying benefits through Adaptive Learning Networks

- Adaptive learning networks bring together organisations or individuals to share lessons and coordinate innovation to address common problems.
- The benefits are more rapid and systematic learning than individual trial and error, and strength in numbers to face the many challenges to sustaining community management of resources.
- In Bangladesh many community based organizations (CBOs) have been formed, and then left to continue working when projects ended. This policy brief is based on bringing together over 150 existing CBOs involved in managing floodplain natural resources. The CBOs identified lessons and good practices and spread their adoption. They identified gaps and opportunities, and tested new ideas.

"Improving Floodplain Management through Adaptive Learning Networks" is undertaken by Bangladesh Environmental Lawyers Association, Middlesex University Flood Hazard Research Centre, and Banchte Shekha, with support from the Canadian International Development Research Centre. "Integrated Floodplain Management" is undertaken by the same three partners plus Center for Natural Resource Studies and MRAG, with support from the UK Department for International Development's Research Into Use programme. The projects work with about 250 existing Community Based Organisations (CBOs) formed by previous projects for fishery or water management, to facilitate networking and a structured learning process between CBOs. The CBOs have identified and tested a range of measures to improve their management of natural resources, and have also improved governance and participation.

Concepts

What is Learning?

Learning is about systematically documenting the process that was followed and the results that were achieved. Learning is a three stage process of: information generation, sharing and utilization (Arthur and Garaway 2005).

Adaptive Management and Adaptive Learning

Adaptation is about systematically using the results of management and monitoring to test assumptions and thereby improve interventions (Margoluis and Salafsky 1998). Adaptation involves changing the assumptions and the interventions to respond to new information obtained through monitoring. One of the merits of successful common property institutions is the resilience of institutions, resource exploitation and the livelihoods of the users in the face of environmental variability, which is based on feedback systems. Adaptive management is "an approach based on the recognition that the management of natural resources is always experimental, that we can learn from implemented activities, and that natural resource management can be improved on the basis of what has been learned" (Borrini-Feyerabend et al. 2000).

Adaptive learning, therefore, can be described as a structured process of "learning by doing" that emphasises the learning process in management. The existence of uncertainties is not only accepted but made a focus of management efforts which seek to reduce them at the same time as managing the resource. Learning, and reducing uncertainties about the resource system being managed, becomes a vital and integral part of management itself.

Action Research Design

Floodplain Community Based Organizations (CBOs) are people's organisations comprising of 50-400 or more members, mostly poor, coming from the villages that depend on a defined area of floodplain or waterbody. They were formed to manage floodplain natural resources (water and fish) by government projects, and facilitated by NGOs, but are now legally registered as independent entities with formally recognised rights and responsibilities to their resource base.

Each CBO already tried to do the best it could, learned from its experience, and adapted where possible to new information and changing circumstances. But the CBOs did this in isolation. The project investigated how CBOs can improve their management by sharing lessons, good practices and problems, and jointly testing new ideas and practices. This covered resource management practices, information generation and monitoring, CBO governance, and the policy implications of the lessons.

CBOs formed under different projects that had "graduated" from project support, were still active, managed floodplain resources, and were interested to improve their activities were invited to participate. Initially about 150 CBOs were involved with IDRC support. In 2008 this was expanded to about 250 CBOs with support from RIU. This met with great enthusiasm among the CBOs who saw the potential for a forum where they could come together, share their problems and opportunities, learn about innovations, try and adapt innovations in their area, and jointly influence practices and policies in favour of their communities.

CBOs managing floodplain resources and involvement in the adaptive learning network (ALN)

Project	Donor	Ended	CBO formed	ALN CBOs
Aquaculture Development Project	IFAD	2005	9	6
Community Based Fisheries Management projects	Ford Foundation/ UK/DFID/ IFAD	2007	107	58
Fourth Fisheries Project	World Bank and UK DFID	2006	46	31
Management of Aquatic Ecosystems through Community Husbandry project	USAID	2007	16	10
Oxbow Lakes Project phase II	Danida and IFAD.	1997	22	8
Small-Scale Water Resources Development Sector Project	ADB and Dutch govt.	2003	462	41
Total			662	154

Concept of Adaptive Learning Networks

Since each natural resource location is unique, any good management should be adaptive with the managers continually trying to improve management and respond to changing circumstances. But the uniqueness and isolation of each of these locally managed units limits this process. The potential solution is a network among these management units so that lessons can be shared to accelerate adaptive learning. Previously adaptive learning networks have been proposed between individuals (Davidson-Hunt 2006), or involved villages but focused on a more technical aspect of resource management (Arthur and Garaway 2005).

What Works In Adaptive Learning

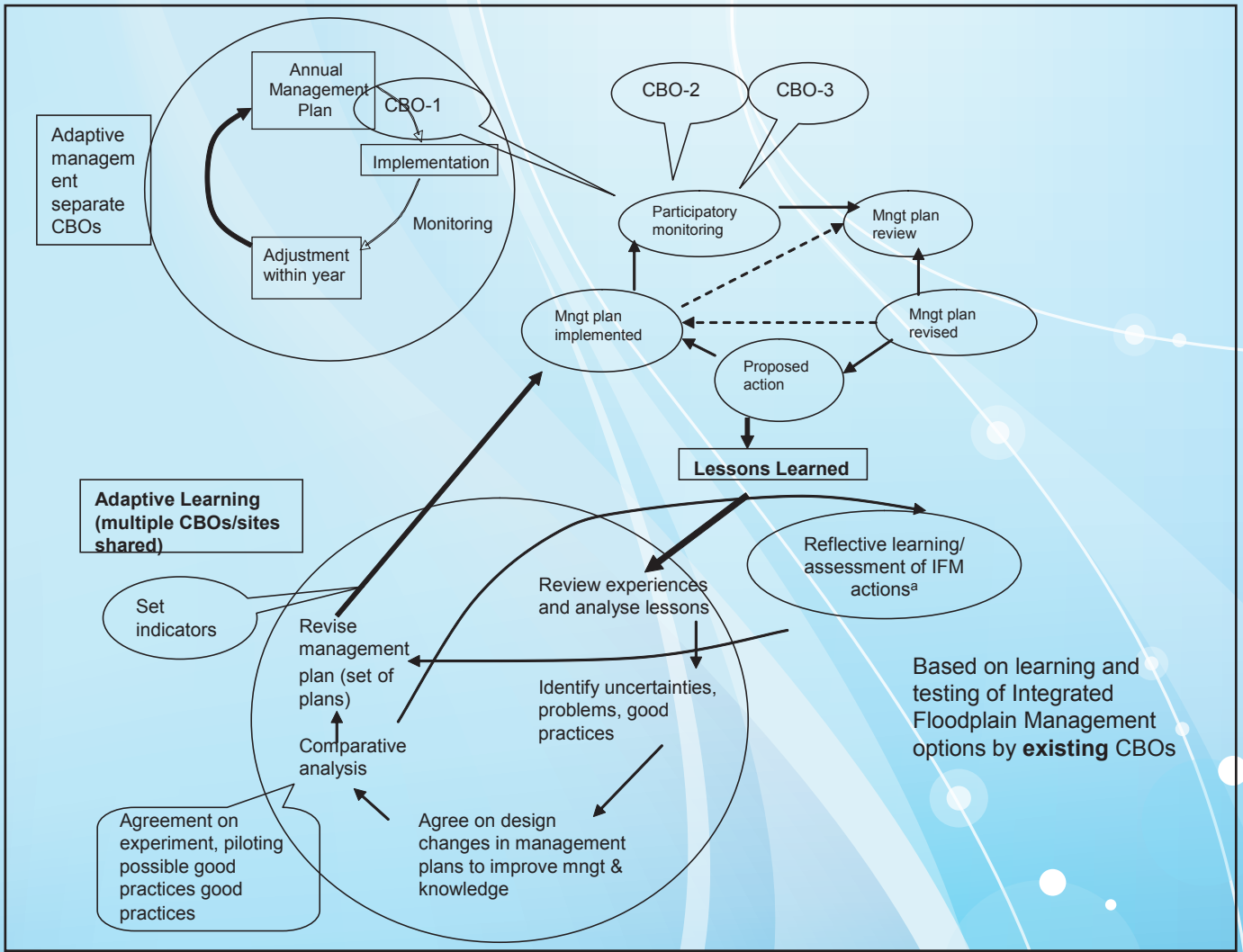
Typically each CBO has an executive committee, and these leaders make a management plan, but this is not necessarily through a well structured process. Before the CBOs updated their management plan most years based on an informal review of their own experiences, sometimes through discussion with the general members or wider community, but there was no sharing between CBOs. The concept of an adaptive learning network was to enhance this practice through the multiplier effect of sharing learning across CBOs. Collectively the CBOs would share experience, identify constraints and gaps in knowledge, coordinate piloting and changes in practice to

address a wide range of interlinked floodplain resource management issues, and monitor and assess these changes.

This adaptive learning network required facilitation and resources to bring scattered CBOs together. Initial workshops with small groups of CBOs from a given environment and region were held to discuss how the process could function and understand how CBOs' management plans have evolved and what expectations CBOs had. These smaller workshops could not share lessons more widely. It is also rather expensive to hold many small workshops. As originally conceived, adaptive learning among a network of CBOs was expected to function through annual workshops among CBOs. But 150 CBOs are too many to hold meaningful sessions in one place. Meeting only once in a year was found to give insufficient impetus to the process – it was too easy for CBOs to be swamped with their own issues and could not give prompt feedback between CBOs.

The adaptive learning network process that evolved is shown in the following diagram. In each of three regions each CBO sends a representative to two larger workshops in a year covering the cycle of activities in the bottom circle. The CBOs identify common issues and uncertainties; solutions already proven by some CBOs; potential changes in their draft management plans; and other aspects of their decision making and operations that they want to improve or experiment with. The individual CBOs started to make more systematic management plans and could see room for changing their decisions on the basis of their own experience and that of the other CBOs trying the same action. Options are fed back by CBO leaders to their members and changes to plans and actions finalised by the executive committees of each individual CBO (top left circle). But these plans were coordinated by the network of CBOs so that alternative views could be tested in the form of experimental designs where appropriate. In the workshops the CBOs also develop a set of common indicators for each initiative they try. This process has allowed the networked CBOs to compare and assess impacts using their own monitoring (right centre).

The adaptive learning process among a network of CBOs



Subsequently the CBOs trying the same types of initiatives wanted to meet and explore why and how options worked or did not worked. This has been added as local reflective learning workshops.

The strength of the adaptive learning network, compared with experiential learning, is that only the experience stage of the learning cycle is isolated within each CBO. The other stages are modified to involve coordinated sharing and planning of responses among the CBOs. This has resulted in improvements in community based floodplain resource management that would not otherwise have happened so fast, and generalization of key findings.

Regional workshop of CBO network

In the first year of the project the CBOs agreed to formalize their network through three regional committees (north-centre, south-west and north-west). In January 2008 all 13 members of each regional networking committee (39 CBO leaders) met and agreed to register a federation of all the CBOs and formed an ad hoc central committee. This central committee finalised a constitution, and succeeded in obtaining registration as a legal entity under the Society Registration Act, 1860 on 29 April 2008. The 154 CBOs active then became members of this federation – the "Society for Water Resources Management" (SWRM). Later in 2008 another 100 CBOs joined the network.

CBOs on exchange visit

Benefits Of Adaptive Learning

Assessments of CBO performance indicate that they have improved their performance during this process. About 70% of CBOs involved the poor more in their activities and also improved natural resource management; and about half of the CBOs enhanced the role of women in their organisation and the organisations' functioning. The capacity of CBOs has also been strengthened by the process of preparing scheme proposals and receiving small grants to test innovations. This results in bottom up planning, enhanced debate and decision making within CBOs, and greater transparency and accountability. The CBOs also now understand how to access government services and funds, and by joining forces are more confident to bargain and demand better services. They are now more organized and are able to stand together against threats that each may face. CBOs within a region help one another resolve local conflicts.

Three regional committees of CBOs

The most significant impact came from bringing together CBOs that previously had different focuses, for example CBOs that before had only concentrated on stocking carps learned about management of wild fish, and CBOs that had just managed water for rice learned about alternative crops and fisheries.

At the CBO level, resource management has consequently changed. Some CBOs had no idea about fish sanctuary. During adaptive learning workshops they learned from other CBOs that establishing sanctuaries can increase the catch of valuable wild fish. The CBO leaders went back and discussed the idea with their members, and then made plans for sanctuaries. Some CBOs who already had sanctuaries established more or larger ones, and some are considering to stock

Case studies

Advocacy: In 2009 a politically backed group tried to grab the well established right of a CBO to manage and use Beel Gawha. The CBO consulted with its federation for advice, and then wrote to the district administration and held a public demonstration against the illegal threat. Subsequently the outside group came back to negotiate with the CBO.

Conflict resolution: In Dhalna Beel, the CBO leaders sold all the fish from the sanctuary and the general members complained about this to two neighbouring CBOs. The neighbouring CBOs and seven other CBOs from the area called and facilitated a meeting where the Dhalna community decided to expel those leaders and form a new committee. The nine other CBOs helped this CBO to reform their committee and start working again.

Sanctuaries: Different CBOs made fish sanctuaries with different materials, some had very good results and some were not so good. After discussion they concluded that Hijal (Barringtonia sp.) and Sheora (Streblus sp.) branches are the best materials for sanctuaries as the barks rots and produces food for the fishes. This leads to an interest among CBOs in replanting these trees around waterbodies.

wild fish. All of the CBOs now have a fair idea of appropriate sanctuary materials and size, and 72% now have fish sanctuaries. Those CBOs that had no sanctuary before reported up to a five-fold increase in their wild fish catch.

Alternative dry season crops (that are less water demanding than rice) have been tested by CBOs and are now well accepted by those communities. The CBOs observed that cultivating new crops can save water for fish in the dry season. Farmers found the crops to be profitable and are increasingly adopting these crops. For example, 21 CBO members from six CBOs tried no-tillage garlic in 2007, and by the start of 2010 this had expanded to 50 members, with the area per farmer also increasing. With dry seasons becoming drier in recent years, possibly linked with climate change, increasing numbers of farmers in floodplains in the southwest region are interested to cultivate crops with low water demand.

Woman farmer inspecting garlic crop

Networking has provided a forum were new problems have been raised and unexpected solutions have been tested. CBOs in the northwest region complained that some seasonal vegetables and fruits were not setting fruit, and some CBOs came up with the idea of bee keeping. Through the network ten CBOs have tried bee keeping. Bee hives are moved from homesteads where fruit trees flower to mustard plots in the winter. These CBOs also planted jujube and mango trees which flower after mustard.

Integration and a system view have been taken up as concepts by the CBOs. Those CBO members who cultivated maize for the first time observed that goats liked to eat the leaves. In some of these areas farmers proposed to the CBOs to raise goats using the crop residue. These farmers are contributing 50% of this income to the CBO.

Challenges For Effective Networking

1. CBOs are widely dispersed so it is hard for them to make the network function and take up issues at higher levels.
2. Close coordination needs frequent interactions for which face-to-face meetings, workshops and visits are more effective. When CBOs are scattered this requires more funds than the CBOs can contribute. Moreover to function effectively the federation should have an annual convention.
3. CBOs within a region can more easily share lessons and cooperate for conflict resolution.
4. Although scattered, CBOs do spend time and resources communicating with each other and with regional committees when facing problems. The rapid expansion and falling costs of mobile phone ownership in rural Bangladesh has facilitated networking.

Voting on lessons in a regional workshop

5. CBOs have a certain idea of their objectives from their parent projects. Taking up new ideas takes time to understand and trust other CBOs' lessons and to then change management plans.
6. There is a gap between the aspirations of the CBO network to raise their problems and views on government policies and practices, and their ability to access policy makers and organise suitable events. The project could address this to some extent by developing a steering committee where CBO regional committee members sit with government officials.

Recommendations

1. Adaptive learning networks are effective and worthwhile, the approach can be adapted to other types of CBO.
2. Adaptive learning networks among scattered CBOs composed mostly of poor people require more resources than the CBOs can themselves mobilise.
3. Networks of CBOs are a cost effective way for government agencies to link with communities with mutual benefits. Agencies can deliver services and messages to many people through CBOs, and should cover the costs of communication and networking among CBOs.
4. To enhance CBO roles in development decisions and practices, the CBO network representatives should be made members of the relevant District Jalmohal Committees (fisheries committees) and be invited to join other existing forums between government and civil society.
5. Networks of CBOs can be used to help communities access science and new technologies (such as alternate jute retting to avoid water pollution and to restore sufficient oxygen level in the water for fishes).
6. The federation could establish a lesson bank to be referred to by the CBOs (and others).
7. Member CBOs need to have access to a pool fund for small one time grants or subsidies to take up innovations.
8. To sustain the network needs some formal organisation, but this also needs an external facilitator to build capacity to manage funds and seek out those funds.

Further Reading

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