Adaptive learning in small waterbody fisheries in Lao PDR 1999-2002.

Aquatic resources management has not always produced the levels of benefits that might be expected. Often this is because advice is not available, is in an inappropriate form or is provided in the form of generalised 'best practice' that does not account for the complexity of individual systems. Because of this, there has been a need to develop alternative processes that can lead to improved and more locally appropriate solutions. In this respect **adaptive learning** is a promising approach with considerable potential.
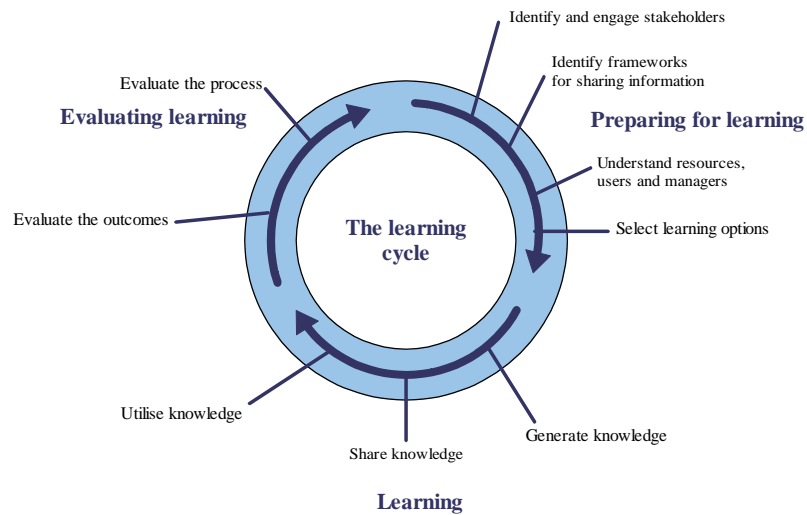
The approach is a structured and iterative process of 'learning by doing'. It involves learning about resource systems at the same time as managing them and continually incorporating this new learning in order to refine and improve management outcomes. This is in contrast to control orientated management approaches that are less capable of reducing management uncertainties. It is more about establishing a learning process rather than identifying, and attempting to implement a single solution. In this process, the existing knowledge and skills of a variety of stakeholders, including resource users, government and external researchers provide a solid foundation for learning and development. Working together, they can manage resources and generate new information for increased benefits in the future at the same time.

Principles of adaptive learning

The adaptive learning approach that was developed in southern Lao PDR, and that is now being tested in further sites in the Mekong Basin and India, was based on a number of key principles, each of which had implications for the implementation of the approach:

- Outcomes are not only about stocking but how people use and interact with the resource. There is therefore a need to find out about both the social and technical aspects of the system.
- Learning is a three-step process involving the generation, sharing and utilisation of information. Understanding how people can best share information is as important as the information itself. Because of this there is a need to focus early in the process on how people can, and do, learn together.
- Learning must be both demand-led and appropriate. This requires a good understanding of stakeholder issues and concerns.
- The process should be asset based, building on strengths rather than identifying gaps and weaknesses. There is a need to recognize the different skills, knowledge and understanding of different stakeholders and build upon these.
- People will only work together if they can see the benefits of doing so. The approach therefore requires true collaboration and a commitment to 'training and explaining'. That is, there must be a commitment to transparency, developing skills, empowerment and explanation at each step. Developing trust and mutual respect, including of different knowledge types, is crucial.
- Information needs to be generated and shared in an appropriate and timely fashion. Facilitating learning in locally appropriate ways and developing mechanisms for people to develop their own understanding and knowledge need to be incorporated.

The adaptive learning approach, incorporating the principles above, was viewed as a three-stage process consisting of: preparing for learning, learning and evaluating learning. This is illustrated in the diagram below.

The learning cycle

- Evaluating learning
  - Evaluate the process
  - Evaluate the outcomes
- Preparing for learning
  - Identify and engage stakeholders
  - Identify frameworks for sharing information
  - Understand resources, users and managers
  - Select learning options
- Learning
  - Generate knowledge
  - Share knowledge
  - Utilise knowledge

In southern Lao PDR, stocking of small waterbodies in an attempt to increase fisheries benefits is widespread. Waterbodies are typically stocked and managed by local villages as 'community fisheries' to obtain benefits for the village as a whole. These fisheries are an important source of communal income that can be used to pursue village development priorities, such as improving the village school. In addition to cash income, management can also produce other material benefits, (e.g. fish for village guests) and non-material benefits (e.g. valuable management experience).

Whilst management of this type has considerable potential, many villages managing community fisheries lack both experience and technical knowledge and, being isolated from each other, their learning is slow. In order to enhance learning, 38 villages managing community fisheries were actively engaged in locally relevant experimental research using the adaptive learning approach. The three stages, and how they were implemented in Lao PDR, are outlined below.

Preparing to learn.

A learning partnership was developed that brought villages together with provincial and district level government and external researchers in a structured way. The first step was to identify the various skills and strengths of the different stakeholders and how they currently generated and shared information and ideas. This helped in the identification of appropriate methodologies for effective information sharing and the determination of the different roles each group would take in the collective learning process.

Initial investigations revealed that there were many issues associated with community fisheries management worthy of investigation, but not knowing which was the 'best' management system or what fish to stock were commonly cited as important uncertainties. These issues were further explored to determine what was already known and just needed to be shared more effectively and when, and whether experimentation, based on scientific principles, could generate information that could lead to significant gains in understanding.

Different strategies were then discussed with the villages in order to agree a learning strategy. On this basis, it was decided that a stocking experiment would be tried across the waterbodies to find out which species grow best in more and less productive waterbodies. Management systems would also be monitored to find out more about the costs and benefits associated with different management systems. Experiments like this involving different treatments in different places means some treatments are likely to be, or at least are perceived to be, better than others. In this case the capacity to

stock was beneficial as it allowed us to develop experimental strategies where no one was likely to be worse off as a result of involvement. Whilst it was still perceived that some might be better off than others, allocation was perceived to be fair and all were getting a share of the benefits. This certainly helped in the planning phases enabling us to reach consensus. Collaboration was crucial and providing a forum for discussion and negotiation with affected stakeholders was a vital part of the planning process.

Learning

Engaging all stakeholders at the earliest possible stage provided ideal conditions for a participatory monitoring system. To ensure transparency, individual 'village action plans' were agreed, that clarified the roles and inputs of government, villages and researchers. Those who would be collecting the data were involved in the design of the data collection system and it used, or built upon, existing recording methods. In this way methods were more practicable and understandable and enhanced the likelihood of good collection and increased understanding.

It was important that the villages were getting information at the same time as the government and researchers so that all were equal in the process. Instead of telling district staff and villagers the conclusions and recommendations, they were involved in analysing the data that they had helped collect and were assisted in reaching some of their own conclusions. This was done at a series of workshops that also provided a valuable opportunity for government staff and villages to share experiences with each other. These workshops were well received and increased both ownership and understanding of the results, crucial if they were to be effectively utilised.

Evaluating the learning

The learning process provided locally appropriate solutions that met user needs. Adjusting stocking strategies based on the results of the experiment could provide increased benefits at existing levels of inputs. The percentage of villages generating community income rose from 59% to 82% and villagers indicated that they felt that their skills and knowledge had both increased as a result of being involved in the process. The information that was generated and shared was synthesised by government staff into a set of extension recommendations that have since been written into a set of community fisheries guidelines.

The process was constantly evaluated and the results of the evaluations used to improve the process so that activities became more effective, monitoring improved, and capacity was increased. As news of the project spread, more villages were identified who wished to start a community fishery and join the process. It became apparent that the approach was useful not only in bringing immediate and future benefits to participating villages, it could also be a means of extending knowledge to other villages and getting them involved.

Further information about this project can be found on the following website:
http://dialspace.dial.pipex.com/town/green/gov67/FTRs/r7335.htm