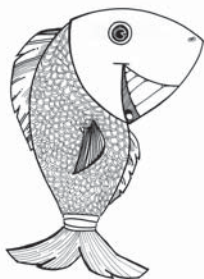


Learning in Action:

A Case from Small Waterbody Fisheries in Lao PDR



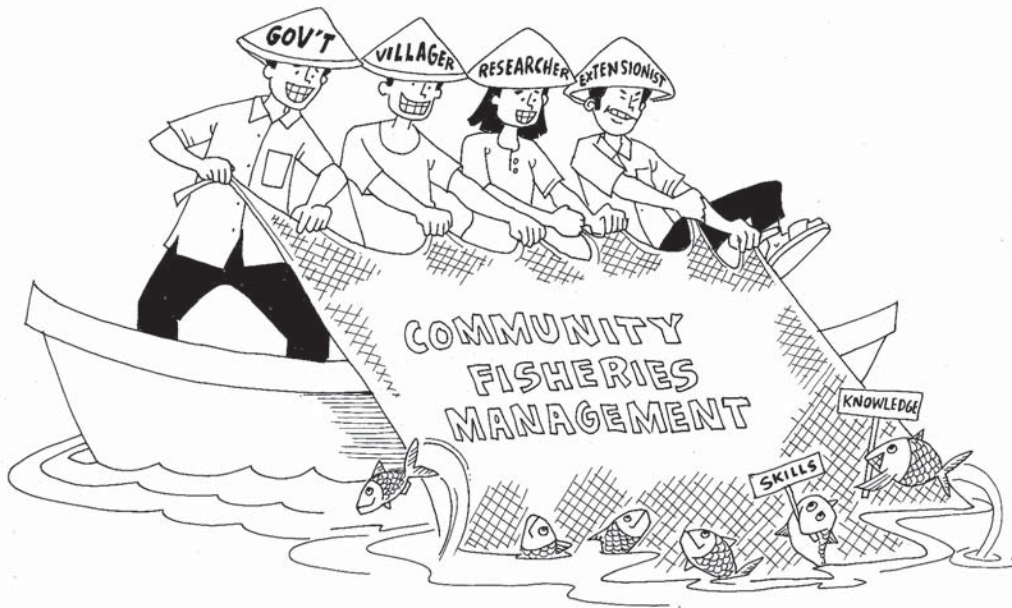
In southern Lao PDR, stocking of small waterbodies (typically 1-20 ha) by releasing small, hatchery-produced fish, has been actively promoted by the government to increase benefits from the local fishery. Many of these waterbodies are collectively managed by local communities to obtain benefits for the whole village. These so-called “community fisheries” are often seen as one of the principal, if not only, ways that villages can generate communal income to improve livelihoods and pursue village development priorities. It is for this reason that an effort has been undertaken to learn about community management systems and how they can be further developed.



Benefits Derived from Community Fisheries Management System

Material	Non-Material
<ul style="list-style-type: none"> ❑ household level: provision of cash income, availability of fish for poorer households ❑ village level: improvement of the village school, contribution in the cost of bringing electricity to the village 	<ul style="list-style-type: none"> ❑ increasing village managerial capacity ❑ creating awareness on the importance of aquatic resource management

Experiences have shown that while stocking is potentially beneficial, the actual outcomes (in terms of production, distribution of benefits, institutional sustainability, etc.) are often different from those initially expected. Many villages involved in stocking and managing lack experience and technical knowledge and, being isolated from each other, their learning is slow. In collaboration with local government staff, the project addressed these needs by actively engaging 38 villages managing community fisheries, in locally-relevant experimental research. This process enabled them to share their skills and knowledge with each other and with researchers and government extension staff, at the same time as generating new information and understanding.



Principles of Adaptive Learning

Building on experiences with community fisheries, a form of participatory research and development termed by the project as “adaptive learning” was devised to generate new information and, at the same time, manage the resources. This adaptive learning approach was based on a number of key principles that, in turn, had implications on the execution of the approach.

- ❑ Outcomes are not only about stocking, but also about how people use and interact with the resource. There is therefore a need to find out about the social, technical and human aspects of the system.
- ❑ Learning is a three-step process involving the generation, sharing and utilization of information. Understanding how people can best share information is as important as the information itself. Hence, there is a need to focus on preparing for learning early on in the process.

- ❑ Learning must be both demand-led and appropriate. Learning activities have to be acceptable in terms of risk and hence require 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 participating stakeholders and build upon these.
- ❑ People will only work together if they can see the benefits of doing so. The approach, therefore, requires collaboration, time and a commitment to 'training and explaining'. Commitment to transparency, developing skills, empowerment and explanation are of utmost importance. 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 Cycle

The adaptive learning approach was viewed as a three-stage process consisting of: preparing for learning, learning and evaluating learning (Figure 1).

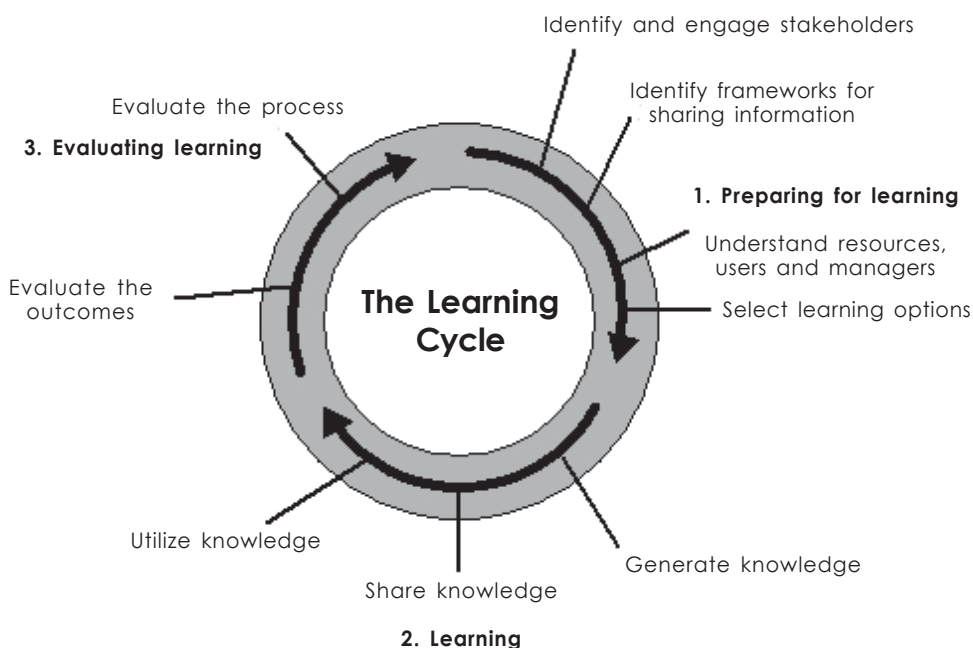


Figure 1. The Adaptive Learning Cycle

Preparing for Learning

The approach sought to bring villages together in a structured way with the assistance of the Lao government, at both the provincial and district level, and external researchers.

The first step was to identify and engage the various stakeholders and determine their various skills and strengths. Doing this early on in the process enabled the proper identification of possible roles and methodologies for each group in generating and sharing information that would complement each other and in increase the learning potential of all (Table 1). It became clear that the government staff, particularly at the district level, were a crucial link between villages and the provincial staff and they subsequently played a central role in the process.

Table 1. Relative Strengths that Stakeholders Bring to the Process

Strengths in Small Waterbody Management, Lao PDR	Local Communities	Government	External Researchers
Capacity to make management regulations	☑☑☑	☑☑	
Capacity to monitor and enforce regulations	☑☑		
Knowledge of local resources and needs	☑☑☑	☑☑	☑
Technical knowledge	☑	☑☑	☑☑☑
Formal research skills		☑	☑☑☑
Access to experience of others' financial resources	☑	☑☑	☑☑☑
Financial resources	☑	☑	☑☑
Capacity to bring stakeholders together to share experiences		☑☑	

A survey, including interviews and a sampling program, was conducted together with the government staff to identify appropriate waterbodies and interested villages. This was also an opportunity to consolidate information relating to the waterbodies and their management, current practices and future directions. Levels of stocking differed between villages and three management systems were identified:

- group fishing by a team selected by the village administration
- leasehold of the waterbody on an annual basis
- an annual fishing day

In over 50% of the villages, raising community income was the primary objective of management. Other objectives included increasing village solidarity and providing fish for those engaged in community work.

There was a diverse range of uncertainties associated with community fisheries management but knowing which was the 'best' management system or what fish to stock were common questions. By analyzing the information that had been collected it was possible to identify what information was needed; whether this information existed and simply needed to be shared effectively; or whether experimentation based on scientific principles could provide the required information and lead to significant gains in understanding.

These concerns were all discussed with those villages that had expressed interest in being involved in the learning process in order to agree a learning strategy. It was decided that, given the interest in species mixes, a stocking experiment with tilapia and carp species mixes as treatments would be tried 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 benefits from each and which were best suited to which circumstance.

Experiments involving different treatments in different places mean some treatments are likely to be, or at least perceived to be, better than others. Allocating treatments therefore requires great care. In this case, differences were only acceptable if they were perceived by the whole group to be fair, and/or were allocated in a fair manner. Collaboration was crucial and providing a forum for discussion and negotiation of affected stakeholders was vital in the planning process. Apart from anything else, successful implementation required this cooperation and coordination.

Learning

The preparation for learning created interest in the process and this provided ideal conditions for a participatory monitoring system. To make the whole process transparent, individual contracts, in the form of 'village action plans', were agreed upon. These contracts outlined and clarified the roles of government, villages and researchers in terms of what each would do and provide. Through planning and training workshops, a monitoring system was established that was designed to use, or build on, existing recording methods. Where this was not possible, those who would be collecting the data were involved in the design of the methods. This helped them understand why information was being collected and made the methods more practical and

The learning strategy and experiment involved 38 villages and over 40 waterbodies, hence, it was both necessary and desirable to share the responsibility for the stocking, monitoring and data collection among them.



understandable. The monitoring system included village interviews and fish sampling to be conducted by the district staff and individual record books to record fishing activity, catches and sales that were completed by each village.

Data analysis was done scientifically and the results from the stocking experiment were consistent overall with the hypothesis that there are advantages in stocking low productivity waterbodies with carp and more productive waterbodies with tilapia. In addition, comparing benefits from management indicated that the total benefit, distribution of benefits, level of community income, and effort required to manage the fishery varied between systems. These results could be used to formulate management advice to bring more benefits both to the villages managing community fisheries as well as to the government that is keen in promoting community fisheries.

An aim of the learning part was that the information should be generated and shared evenly and simultaneously by the stakeholders so that they all had an equal standing and involvement in the process.

Instead of telling district staff and villagers the conclusions and recommendations from analysis or presenting the results, we ensured that they were involved in analyzing the data that they had helped collect and assisted them in reaching some of their own conclusions. Sharing the results in this way was done at a series of workshops that also provided a valuable opportunity for government staff and villages to discuss experiences with their peers and with each other. These workshops were well received and appreciated and increased both ownership and understanding of the results, crucial if they were to be effectively utilized.



Evaluating the Learning

The immediate result of the project has been increased material benefits, such as fish yields and community income, and an increase in non-material benefits, such as the skills and technical and socio-economic understanding of all involved. The percentage of villages generating community income rose from 59% to 82%. The villagers also felt an improvement in their skills and knowledge as a result of being involved in the process (Figure 2). The information generated and shared was synthesized by government staff into a set of extension recommendations that have since been written into a set of community fisheries guidelines.

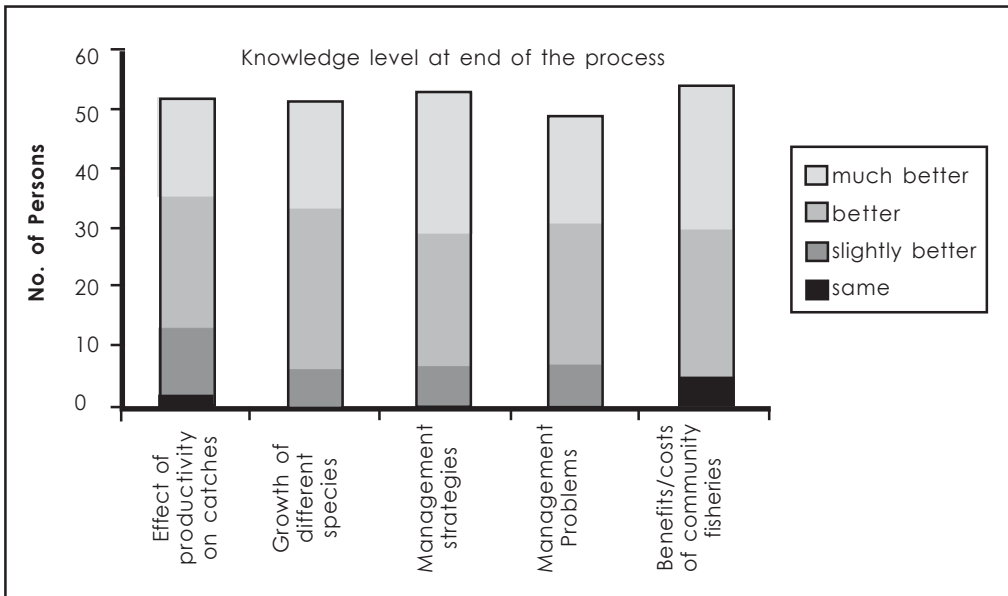


Figure 2. Villagers' Perception of Change in Knowledge

The learning process had provided locally-appropriate solutions that met user needs. Adjusting stocking strategies could provide increased benefits at existing levels of inputs, crucial in these systems where maximizing production (often requiring increased inputs) was not always desired. Initial analysis revealed that if the villages involved in the project utilized the results, leading to changes in their stocking policy at existing levels of inputs, yields with a value equivalent to the local project costs could potentially be produced within five years.

All activities were evaluated and the results of the evaluations were used to improve the process. Workshops for sharing information became more effective, improved monitoring and increased people's capacity. The lessons learned from implementing the approach have been synthesized into a set of adaptive learning guidelines (for more information, see Garaway and Arthur, 2002b).

Over the period that the approach was implemented, news spread and more villages were identified that wished to start a community fishery and join the process. It became apparent that the approach was useful not only in bringing real benefits to participating villages and increasing knowledge that would enable increased future benefits, it could also be a means of extending knowledge to other villages and getting them involved.



While the project was very successful, a potential constraint of an approach that involves large-scale experimentation in a development context is the allocation of treatments. Given frequently high discount rates and levels of vulnerability, local communities may not be in a position to incur even small short-term costs and this can drastically reduce learning options. Evaluations of strategies should consider not only total costs against benefits but also who bears the costs and whether they can afford it. The capacity to stock in this case allowed us to develop experimental strategies where no-one was likely to be worse off as a result of involvement and certainly helped in the planning phases, enabling us to reach consensus more easily than might otherwise have been the case (and even then this was a non-trivial matter).

References

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