

A project overview

by Marc Verdegem, Wageningen University, Netherlands

PONDLIVE project is now in its middle age, but not suffering from any mid-life crisis, so we thought we would take the chance to tell you our progress and our plans.

Having officially started in November 2001 and due to end by April 2005, the project is looking at the interaction between aquaculture ponds and crops that are grown on the pond dikes and how that has an impact in people's livelihoods. The research is an INCO-DEV project funded by the European Commission and aims to provide improved technical and social understanding of the value of aquaculture in integrated production systems in Asia to enable informed policy decisions.

In each of the target countries the project teams have spent a few months understanding the situation on the ground. Utilising development tools such as Participatory Community Assessment (PCA) and State Of the System reporting (SOS) a full understanding of the importance of these systems in the livelihoods of sample communities has been developed. Interestingly, the project has not only focused on the traditional rural producer. As land prices increase closer to urban centres, farmers need to obtain greater production from their land more efficiently and therefore nutrient and



pesticide use and the overall integration of the systems made the comparison between rural and peri-urban producers a critical issue.

From the broader community level studies we focused on interested, representative households for a one-year detailed livelihoods study looking at key interactions within the household and with the farming system through the seasons. With a smaller selection of these households, researchers in each country also conducted a detailed nutrient analysis to understand in more detail the intricate nature of these interactions. At the end of this one-year of monitoring the information collected was discussed and analysed with the communities involved and together ideas for improvements to the system were suggested.

The second field-year of the project will be concentrating on testing these improvements to ensure that they have measurable benefits to production and also to assess their overall acceptability and practicality in the diverse livelihoods of the households continuing to test them. The farmers involved in these trials are taking part for their own interest, the project does not pay them anything, but they are reassured by the promise of

learning. All the findings will be reported back to the communities involved to ensure that everyone who wants to know about the results can.

This research is linked to other projects running at the Asian Institute of Technology (AIT), Thailand and with the WorldFish Center in Abassa, Egypt, looking in detail at how different types of fish and different nutrient extraction processes

Project partners

Institute of Aquaculture,
University of Stirling,
Scotland

Department of Animal Science,
Wageningen University,
Netherlands

University of Cantho,
Vietnam

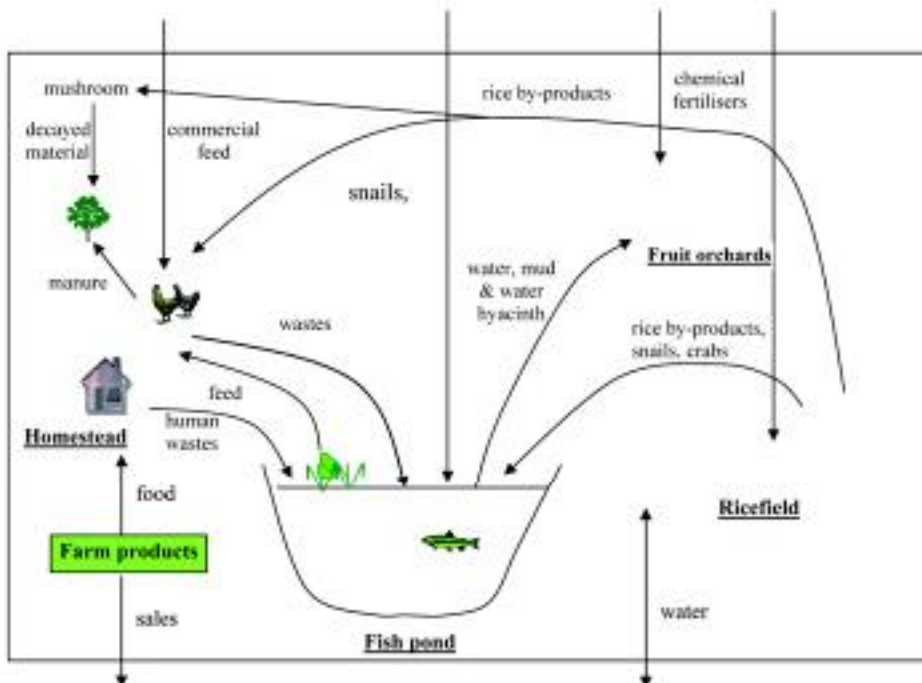
Asian Institute of Technology,
Bangkok, Thailand

Sisaket College of Agriculture and
Technology, Thailand

Bangladesh Agricultural University,
Mymensingh, Bangladesh



Integrated cropping.



can maximise the nutrient cycling process between pond and dike.

In the final stages of the project, we will develop a set of guidelines for producers to allow them to maximise the returns from their production systems: maximising the benefits from both the pond and dike crops. These guidelines will take into account different demands and resources available to rural and peri-urban producers. Although based on the results from the three countries mentioned here, the results should be applicable in many countries, even in Africa where the depletion of nutrients is more acute.

The Vietnamese component

The farming systems in Bangladesh and Thailand are similar with polyculture in the ponds and mainly vegetables grown on the dikes (see pictures attached). In Vietnam, one of the key systems in the Mekong Delta is an integrated fruit tree-water channel system, often in combination with rice cultivation or animal production.

If the fruit from the tree is the most important product, farmers do not put inputs into the water channel, but obviously there must be run-off from around the fruit trees straight into the water channel. Most, but not all, farmers do grow some fish in the channels, but it is only those that actually consider the fish

to be a valuable addition who will add nutrients (feed and fertilisers) to the water. Of course, if the water from the channel is used for irrigating the fruit trees these nutrients have a dual benefit. The research is looking if the potential benefits from fish-fruit tree integration match the current patterns of production, and if these potential benefits can be maximised.

Learning about farmer attitudes to ponds in Northeast Thailand

David Little, Chittra Arjankit, Danai Turongruang

Understanding the motivations of farming households to become interested in, and then adopt, aquaculture is fundamental to promoting the practice as a livelihood option.

A visit to a rural household with a pond filled with water signals to most aquaculturists that we are visiting a

farmer passionately interested in raising fishor does it?

Aquaculture has been supported by the establishment of Government fishery stations producing fish seed and offering training and more latterly by a dynamic private sector in this part of mainly rain-fed Asia. State agricultural and private banks have provided credit for pond construction; well-developed infrastructure and a buoyant general economy have spurred widespread availability of construction machinery. One result is a multitude of 'holes' everywhere many of which, casual observation suggests, are not managed to produce anything close to their potential yields of fish. But, especially in the long dry season, these ponds are highly visible, with farmers using the water to grow high value crops on and around the dikes.

Participatory exercises were used by the project partners in the area -the Srisaket Agricultural College and AIT AARM Outreach team - to assess the current status and impact of these ponds on peoples' lives. Two days of intensive activities with key informants and focus groups drawn from poorer and better-off groups of both men and women within each community allowed us to understand how the utility of ponds was being perceived and valued in a context of rapid change.

Previous research had indicated that this area of the Northeast region of Thailand was particularly rich in wild fish resources, a fact that had slowed interest in culturing fish compared to other areas of the same region. Many farmers at the time of pond construction clearly perceived a greater role in catching wild fish than stocking and culturing fish, although perceptions of current use suggested a change in attitudes in this respect. The use of water from these ponds was prioritized by all farming households for irrigation rather than fish culture or other uses, even by those producing significant amounts of fish (See Figure). A common perception appears to be that intensification of fish culture is incompatible with dry-season irrigation of high value crops such as chili and red onion. By selecting farmers in locations closer to, or further away from,

the provincial centre we have also been able to assess the impacts of proximity to market opportunities and availability of input supplies and knowledge.

The finding that farmers consider fish culture as only one of several objectives for pond and water use will come as no surprise to those interested in rural development. Many projects attempting to extend fish culture have been branded 'failures' when farmers decline to intensify to the level considered acceptable by its promoters. This has often given rural aquaculture a bad name and is partly responsible for the lack of interest among donors in supporting such efforts. A recent review of aquaculture development projects in Latin America (Lovshin et al. 2000) still reached the conclusion that the project had failed despite farmers gaining significant benefits from vegetable and rice production, in addition to those from continued fish production. In this case the evaluators failed to properly assess overall benefits despite the team including a social scientist.

The outcomes of our preliminary research in Srisaket has allowed us to report back, cross-check and modify these initial findings at a State of the System (SOS) workshop held locally and attended by a range of stakeholders. In this way research outcomes have been rapidly fed back to those who can use them and also allowed us to modify the subsequent research design in line with the priorities of the stakeholders. For example, major concerns of farmers and local extension agents included the increasing input costs of the pond-associated horticulture and the negative impacts of the pesticides routinely used in crop protection. Both of these aspects are now the focus of future research. These findings in the bilingual SOS report are available either as hard copy or as downloadable PDF files from the project web site (www.pondlive.org). In the current year our field team has been monitoring households with and without a pond to better understand the various quantitative and qualitative impacts in terms of seasonality which is pronounced in the Region. We are currently planning to begin pilot interventions with farmers that aim to improve overall productivities of ponds and associated agriculture. Hopefully the lessons learnt here and in Bangladesh, where similar work is underway, will allow a more informed and integrated approach to rural development based around rain-fed ponds.



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ENTRY REQUIREMENTS
Applicants for Aquatic Pathobiology require a good degree in Agriculture, Zoology, Applied Biology, Microbiology or other relevant subjects. For Aquatic Veterinary Studies a good Veterinary degree from a recognised university is required. The course can also be taken in alternate years.





FURTHER DETAILS AND APPLICATION FORMS CAN BE OBTAINED FROM:
The SDC Course Administrator
Institute of Aquaculture, University of Stirling, Stirling FK9 4LA
Phone: 01786 467874 Fax: 01786 462122
E-Mail: sdca@stirling.ac.uk

<http://www.stir.ac.uk/aquaculture>

What do you use your pond for?

