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Participatory student research increases awareness of sustainable fisheries management

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• Introduction

This paper considers the use of participatory student research and essay writing in rural fishing villages as a way of raising environmental awareness and increasing the quality and quantity of local debate and discussion. Here it was used to examine aquatic resources, fisheries management and conservation issues in the Mekong River, in the Lao People's Democratic Republic (Lao PDR).

Lao PDR is a landlocked country in mainland Southeast Asia. Most of the country's 4.6 million people are semi-subsistence rice paddy farmers and fishers living in the lowland plains adjacent to the large rivers, including the Mekong River, which passes 1,993 km. from the north to the south of the country before entering Cambodia. Wild caught fish make up the largest proportion of protein for people living in rural areas. Wild capture fisheries also provide rural people in many parts of the country with a large proportion of their cash income.

The Lao Community Fisheries and Dolphin Protection Project (LCFDPP) is an NGO supported, Lao government project operating in the southernmost part of Lao PDR in Khong District, Champasak Province. The objective of the project, which was first established in January 1993, is to support the Khong district government and rural villages living next to, or on islands in the middle of, the Mekong River to sustainably manage and conserve natural aquatic resources in the district.

An important part of the LCFDPP's integrated natural resource management and community development programme is the support it provides for community-based aquatic resources co-management. The Khong district government has agreed to permit villages to set up and enforce individualised village rules designed to improve the management of aquatic resources, including fishes and frogs. The local government has recognised a system in which local communities can voluntarily request permission to conduct a village workshop to officially establish such rules in the presence of all the members of the communities, neighbouring village leaders, and district government officials.

The LCFDPP provides support for the participatory planning workshops through helping to facilitate the process at both village and governmental levels and by providing requested technical and financial support. To date, 59 villages in Khong district have established these types of village rules. Each village's rules are different, so as to adequately consider special circumstances at the community level.

Working with students

Supporting the work with the communities, the LCFDPP also works with village primary and secondary schools in Khong district. The aim is to strengthen teachers' and students' understanding of the need for sustainably managing aquatic resources for present and future generations. The LCFDPP believes that effective and sustainable co-management systems are more likely to be developed if the environmental awareness of all members of

communities, including the younger generation, is high. Thus, there is a crucial link between the project's community-based aquatic resource management programme and its work with teachers and students.

In 1993, the LCFDPP, in co-operation with various schools in Khong district, began trying out various extension techniques designed to raise student awareness about aquatic resources sustainable management and conservation. Cartoon books and posters with sustainable natural resource management and nature conservation themes were introduced to primary school students.

The project provided students with coloured pens and paper for drawing pictures of fish and Mekong River dolphins. Teachers participated by requesting that students answer simple questions about the biology, ecology and conservation status of the dolphin and various fish species. Discussion in class was encouraged. The method seemed to work well with primary students, but junior secondary students seemed less enthusiastic about drawing pictures.

The LCFDPP decided to experiment with secondary school teachers at the Khone Island Junior Secondary School to develop a different methodology for working with secondary school students. It was recognised that one of the biggest deficiencies of the education system in rural Laos is its general lack of support for:

- learning about issues relevant to daily life in the villages; and,
- providing incentives for the promotion of individual free thinking and the open analysis of everyday problems and their solutions.

Through informal discussions with the Khone Island Secondary School teachers, it was decided to develop a process which would allow students to individually conduct participatory research about fisheries and other aquatic resource management issues of relevance to their communities.

Project staff and teachers introduced groups of students to the participatory research exercise. The students were provided discussion topics

related to fisheries and other natural aquatic resource management issues. The discussion were clustered around three sections, focusing on the past, the present and the future. Each section contained a number of questions. For example, the section dealing with the past included the following questions:

- 'What was the status of wild fish populations in the Mekong River in the past?'
- 'What fish species were abundant in the past?'
- 'What fishing gears were used in the past?'
- 'Were fish easy or difficult to catch in the past?'
- 'What was the marketing system for fish in the past?'

The other two sections of the discussion used similar questions but dealt with the present and future situations. In addition, the students were asked to investigate:

- What fishing methods should be restricted to ensure the sustainable management of aquatic resources; and,
- What other measures should be taken to manage aquatic and fishery resources sustainably.

Using a semi-structured interview approach and working individually, the students researched the topics outside of the classroom and in their own villages. They were encouraged to discuss the questions informally with elders and family members. The students were given two weeks to submit a discussion paper on fishing. It was stressed that there were no right or wrong answers, rather it was up to each student to carefully collect information about the issues, analyse the situation and provide their best interpretation of it.

Results

The first student participatory research and essay writing contest was initiated at Khone Island's Junior Secondary School in November 1993. 123 Students, or almost 100% of the student body, submitted essays entitled 'Managing Indigenous Fisheries for the Benefit of Lao People'.

Teachers and the extension team of LCFDPP graded the essays according to style and the individuality and depth of their content. There were no significant gender differences in the quality of essays received. Some teachers had expected the boys' essays to be the best, but some of the best essays were written by girls.

Once the best essays had been selected, the writers were requested to prepare to present their essays at an awards ceremony for the essay writing contest. All the teachers and students attended the awards ceremony, which was organised in early 1994. Village chiefs, district government officials, and members of the school parents committee also attended.

Each student who contributed an essay was provided with a small prize, a note book, in acknowledgement of their efforts. The writers of the top essays received slightly bigger prizes, including notebooks, pens, rulers, and student book bags.

As a follow-up step to the process, one of the best essays was sent to the Lao language newspaper 'Sangkhom-Thoulakhit', where it was published in three parts. This was an added bonus for the project, enabling it to reach towns such as Vientiane, the capital of Lao.

Discussion

The co-operating teachers, students, parents, and government officials were all pleased with the results of the participatory research and essay writing contest. We were all surprised by the depth of understanding and analysis demonstrated by many of the students. The majority of the essays were well researched, analysed and written.

Almost all the students concluded that the fisheries and other aquatic resources around their communities required immediate and drastic attention in order to reduce or stop their decline. Many provided clear, and sometimes draconian, recommendations of measures required to solve perceived problems. Other students endorsed the strict implementation of management and conservation measures already included in some villages' co-management rules.

At the end of the process, we felt that the exercise had been successful in increasing awareness levels regarding important aquatic resource management issues at a number of levels. First the students benefited from the research and essay writing. They succeeded in becoming active contributors to the community debate regarding these important issues. They also learned to appreciate the important role that indigenous knowledge from elders can play in analysing situations.

Second, teachers increased their understanding regarding community resource management issues, and ways of encouraging idea-developing processes in their classes. Third, parents and other relatives who helped supply the students with information during the research phase of the project expanded their own understanding of issues. Fourth, it gave parents and grandparents a unique opportunity to participate in their children's school education process. It linked the content of school studies to real-life village situations, helping parents to see the value of their children going to school.

Finally, the LCFDPP learned from the various ideas and recommendations provided by the students. We were encouraged to see how much the content of the essays impacted on village leaders and district government officials who attended the ceremony. Many were visually shaken up when they heard that their children and grandchildren had strong views about the urgent need to stop the inappropriate, inequitable and unsustainable exploitation of aquatic resources.

The essays have made a long term impression in southern Lao. For example, in his speeches advocating effective aquatic resource management in the Mekong River in late 1996, the chief of the Agriculture and Forestry Office from Khong District, referred to the essays written by students in 1993. Furthermore, a father of a student stopped trading fish from Cambodia that had been caught using explosives after he read his son's essay which was critical of the use of explosives in fishing.

• Conclusion

Since late 1993, the LCFDPP has completed this exercise at two other junior secondary schools in Khong district. Work in three more schools in the district has also begun. So far the results in all cases have been promising, and greater expansion of the methodology is planned. There is also potential to adapt the methodology described here for use in other situations and with regards to other natural resources. The method has proved itself to be a valuable participatory tool for working with fishing communities and one that supports ongoing community-based aquatic resource management.

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