

COMMUNITY-BASED NATURAL RESOURCE MANAGEMENT AND WATERSHED RESOURCE CONFLICTS: A CASE STUDY FROM NAM NGUM, LAO PDR

Philip Hirsch and Khamla Phanvilay

Department of Geography, University of Sidney
News South Wales, Australia

INTRODUCTION

Alternative approaches to resolving intensified resource use conflicts can be examined through a basic diagnostic approach that works backwards and forwards from the points of conflict. Working backwards usually involves seeing conflict as an outcome of resource competition among different actors, either similar actors each of whom places more pressure over a resource to which all lay claim, or different types of actors making a combination of direct and indirect claims on a resource for various uses. The next stage back is thus to examine resource competition in terms of intensified or changed use of a particular resource. This ultimately necessitates examining a starting point of existing resource use patterns by different actors in a particular context, and the forces for change that lead to pressure. Thus, resource use, intensification/change, competition, conflict are examined in sequence. The stage forward from such an examination is to examine cooperative solutions as alternative means of resolving conflicts, and this implies a combination of bio-physical and social analysis of the resource conflict in question.

Thus, understanding conflict is a pre-requisite to developing alternative approaches through cooperative solutions, whether through community-based natural resource management or otherwise. This requires both a material analysis of the basis for resource use and a social analysis of the stakeholders involved. The implication here is that conflicts and their resolution need to be examined in their ecological, socio-cultural, economic, political and policy contexts.

With context in mind, a key problematic in developing alternative approaches is the balance or tension between national policy and local implementation, that is between generalised approaches and catering to specific instances, between top-down technocratic implementation and bottom-up participatory design, between new institutions and modification of existing institutional means of dealing with conflict. Even a single medium-scale watershed may have diverse local settings in which application of policy, however progressive, needs to be adapted to local circumstances for successful and equitable resolution of resource conflicts.

THE NAM NGUM CASE

This case study deals with intensified resource use conflicts, and institutional approaches to dealing with them, in the Nam Ngum Watershed, Lao PDR (see Figure 1). The Nam Ngum River is one of the major tributaries of the Mekong. The Watershed is defined as the area draining into the Nam Ngum Dam. The significance of this watershed to the issue of conflict management arises from the multiple users of watershed resources (land, water, forests, fish) for subsistence and commercial production in the context of rapid change. The watershed is important nationally for electricity production, and locally its resources are the main source of livelihood for approximately 80,000 mainly subsistence cultivators from diverse ethnic groups living above the dam.

There are several dimensions of resource competition and actual or potential resource conflict in the Nam Ngum Watershed. Most immediately for many communities, competition between neighbouring villages from different ethnic groups arises due both to different traditional production systems and to the closer proximity of communities resulting from a high rate of population movement within the watershed, in part attributable to the aftermath of wartime devastation. As in any watershed, upstream-downstream conflicts arise, both directly from extraction of water for upstream agriculture, and less directly as upstream forest clearance affects downstream agriculturalists. Resource competition between subsistence and commercial resource uses is also increasing. Yet another dimension is competition between uses for national development and for local livelihoods, as existing and proposed hydropower developments encroach on land and water resources.

The main political-economic contextual factors relevant to the Nam Ngum case arise from the reforms of Lao PDR's transitional economy since the mid-1980s. Domestically, these reforms involve a move away from collectivised production within socialist central planning, toward a market economy. The market reforms are particularly significant in encouraging intensified resource use away from subsistence-based production. The reforms also involve an outward orientation of macro-economic policy, based on attracting foreign investment to develop the country's natural resources for export; within this, hydropower has received particular attention. The Nam Ngum case thus provides something of a microcosm and a baseline for anticipation of the local implications of such policies.

Significant policy reforms in the natural resources sector have accompanied the wider economic re-orientation. Notably for the purposes of this case study, Decree No. 169 dealing with allocation of forest land was seen to have potentially far-reaching implications when issued in late 1993. The Decree involves allocation of rights and responsibilities over forest management to local communities, partly in recognition of the limited ability and effectiveness of the Department of Forestry to administer all state lands under its jurisdiction, and partly in recognition of the traditional role of communities in governing local land and forest resources.

The authors were the leaders of an applied research project from 1992-1996, which investigated changing resource use, intensified competition, emerging conflict, and cooperative solutions to resource management within the Nam Ngum Watershed. The study was carried out in two phases. The first phase investigated socio-economic conditions and resource management systems at the community level throughout the watershed through an extensive survey of all villages and an intensive participatory study of two adjacent villages (one lowland Lao, one Hmong) on the northeastern edge of the reservoir. The second phase involved intensive study and limited interventions in four pilot areas (see Figure 1), each of which represented a particular resource conflict and management challenge. The application of Decree 169 at the local level in diverse agro-ecological, socio-cultural and politico-historical circumstances within the watershed was a primary focus of the second phase of study.

THE SITUATION REQUIRING INSTITUTIONAL CHANGE

The overall situation prompting institutional change has been the intensification of resource use among the multiple users of Nam Ngum Watershed resources. The competition over a limited resource base has resulted in degradation and unsustainable use of increasingly scarce land, forest, water and fish resources. This scarcity necessitates some formalisation of allocation procedures, dispute resolution and management devolution authority at various levels.

As indicated above, it is necessary to refer to local contexts in order to understand and find points of intervention to deal with particular instances of conflict over natural resources. Specifically, the resource challenges for each of the four areas subject to intensive study in Nam Ngum Watershed can be

summarised as follows:

Long Korn

- Long Korn is a recently re-established village, having settled at its present location since 1994;
- Settlement in the area has been affected by periodic insecurity and displacement (first by US bombing and deliberate depopulation of Xieng Khouang during the early 1970s, later by remnants of right wing Hmong forces previously led by the ex-CIA supported Vang Pao), reflecting one of the key background problems that has historically constrained the livelihoods of most communities in Nam Ngum Watershed;
- The Khamu villagers of Long Korn are at an early stage of securing their livelihoods, in an area of relative resource abundance but isolation;
- Major constraints to sedentary farming include shortage of draught animals and thus also natural fertiliser, a problem that is quite general to communities on the Plain of Jars; and,
- Long Korn and surrounding areas are eyed by the District as potential recipient site for resettled communities from elsewhere, lending particular significance to a participatory approach to establishing the limits of sustainability in agricultural production.

Nong Ped / Baan Taa

- Nong Ped is an established Lao Loum village in the upper part of Nam Ngum Watershed. The village was destroyed during the 1960s by aerial bombardment, and villagers have thus experienced similar upheavals to those of other Xieng Khouang communities;
- Baan Taa is a neighbouring upstream Hmong village established shortly after the end of the War in 1975, including old and newly established rice terraces. It is one of many Hmong communities that have resettled in line with government policy but which faces pressures as its cultivation demands place it in competition with adjacent and longer established lowland communities;
- In 1994, older rice terraces at Baan Taa were returned by Hmong farmers to the original owners from Nong Ped, a culmination not only of the settlement changes in the area, but also of changing tenure conditions with the move from cooperative to household production and landholding; and,
- The changed conditions have prompted renewed encroachment on upper watershed forests, causing problems for both communities.

Nam Phao / Muang Sum

- Muang Sum is an old established community with a well established and hitherto sustainable resource management system, based on wet rice farming, supplementary rotational shifting cultivation, and protection of forested areas on surrounding slopes;
- Muang Sum has been targeted as a resettlement site for Hmong returnees from Thailand and from surrounding upland (mainly Khamu) and reservoir-edge communities (mainly from islands in the reservoir), leading to a sharp increase in demands on the resource base;
- Nam Phao is a more recent adjacent community, with a mix of settlers from diverse geographical and ethnic origins. The factionalism of the village is symptomatic of many problems of the 'community based' approach that often assumes a common interest and stable, long-standing community structure;
- Problems of forest clearance and degradation at Nam Phao have spilled over into forests traditionally managed and protected by Muang Sum villagers, and management of this issue has become very difficult with the re-drawing of administrative boundaries; and,
- Maintaining sustainable management of Muang Sum forest and land resources requires appropriate action in neighbouring communities, notably Nam Phao. This area thus provides a complex management challenge within and between communities, involving multiple state authorities.

Namon / Huai Nhyaang

- Namon village used to be in the area flooded by the Nam Ngum Reservoir, which means that it is representative of a community whose resource base has been impacted by hydropower development;
- Villagers have re-established their livelihoods close to their original area of settlement, but with a considerably constrained resource base. This indicates more widespread challenges faced by relocated communities relying on more efficient use of increasingly scarce land, forest and water endowments;
- During the 1980s, a Hmong settlement was established at neighbouring Huai Nhyaang, and this reflects the more general situation arising from the government policy of resettling shifting cultivators who thereby reside in closer proximity to lowland cultivators than hitherto;
- Prohibition of fishing in the Kaeng Noi area led to establishment of two more communities, Don Samphan and Don Seua, creating an incremental increase in pressure on local forest resources as upper slopes have been cleared by villagers from these communities;
- Raised reservoir levels have flooded about 20 percent of the two villages' wet rice lands since 1994 and have reduced the drawdown area available for grazing. As a result, there is an increased reliance on the remaining forest area for shifting cultivation. This situation is perpetuated by the Nam Song diversion, which increases energy output at Nam Ngum Dam by raising water levels and throughput; and,
- Competition for forest and land resources has intensified as a result of this combination of pressures. This competition is most evident in a rapid and clearly observable loss of natural forests on the slopes immediately above the villages, particularly in the headwater areas of streams that are used to irrigate the remaining wet rice fields.

THE CHANGE PROCESS: POLICY ENVIRONMENT, LOCAL RESPONSES AND PROJECT INTERVENTION

Just as the resource competition in the Nam Ngum Watershed needs to be understood at different scales, so the change process is an interaction of the national level policy environment and reform process, on the one hand, and local responses and adaptation to rapidly changing circumstances, on the other. Inserted into this dynamic of change are limited project interventions, based on the analysis of the key local resource management challenges summarised above. Key actors include villagers from diverse community situations, environmental circumstances and ethnic groups, District staff in each of the four districts, and project staff from the Department of Forestry.

At the national policy level, it is important to recognise that in many cases policy supportive of community-based approaches to conflict resolution may be part of a wider policy environment that simultaneously creates difficulties and uncertainties. In the case of the Nam Ngum Watershed, several areas of national policy and its provincial interpretation are relevant.

Resettlement

Vientiane Province has periodically developed plans to remove people settled on the edge of the Nam Ngum reservoir to areas on the other side of Phou Khao Khouay protected area (i.e. out of the Watershed altogether). This includes communities settled on the islands and those in Namon and Huai Nhyaang who do not have permanent cultivated land (paddy). However, this plan has been cancelled due to the shortage of new suitable areas for settlement and a lack of funds for development of infrastructure. Nevertheless, population movement into and out of the area is considerable, partly influenced by government policy. Most of the movement is based on voluntary settlement and in most cases relates to

family relationships and the search for new permanent cultivation land (paddy). However, in the case of Namon and Huai Nhyaang, the movement of fishers from Kaeng Noi has created considerable problems.

Decree 169

The Management of Forest and Forest Land Decree (3 November 1993) aimed to provide guidelines for Districts and villages to demarcate forest resources for management, protection and conservation purposes (forest zoning). Some detailed guidelines on forest demarcation were mentioned in this decree. In principle, therefore, it is supportive of community-based natural resource management. However, outside limited pilot areas, the implementation of Decree 169 was mostly based on dissemination of the document to the District level, and this was passed on to village level through a short verbal or written missive. The implementation of this decree thus depended mainly on the capability and competence of the district staff (DAFO). Namon, Houai Nhyaang and adjacent communities failed to implement this decree fully due to the lack of staff at District level and weakness in communication between District and village. There was a significant difference in the expressed wants of Namon and Huai Nhyaang villagers, on the one hand, who wanted to maintain collective management of remaining natural forest between the two villages, and the District authorities on the other, who wanted to divide the natural forest area for individual village allocation including to new communities resettled from Kaeng Noi.

Forest Law No. 125/PO

The Forest Law was issued on 2 November 1996 to substitute Decree 169 on the Management of Forest and Forest Land and Decree 186 on the Allocation of Land and Forest Land for Tree Plantation and Forest Protection (issued 12 October 1994). Article 1 states the function of the Forest Law as defining basic principles, regulations, and measures on the management, conservation and utilization of forest resource and forest land. The Forestry Law is aimed to promote forest generation and plantation in Lao PDR in order to improve people's livelihoods as well as to sustain the natural environment and maintain equilibrium of the ecosystem.

According to this new Forest Law, forest is divided into five categories, namely: (i) protection forest; (ii) conservation forest; (iii) production forest; (iv) regeneration forest; and, (iv) degraded forest or bare land (Article 16). Article 18 defines conservation forest as forest and forest land classified with the objective to reserve the historical, cultural, tourist, environmental, educational and research values of wildlife and plant species and the ecosystems of which they are part.

The tenure rights to forest and forest land can be obtained by: (i) transfer; (ii) allocation; and, (iii) inheritance (Article 48). However, customary rights to use of forest and forest land are recognized. Customary use includes the collection of non-prohibited wood for fences and fuel, the collection of forest products, hunting and fishing of non-prohibited species for household consumption and other uses following custom (Article 30). Village authorities are accorded significant rights and duties to organize and develop local regulations to practice the use and allocation of forest and forest land to individuals for management, protection and conservation of forests, watersheds, wildlife and natural environment appropriate to the actual conditions of the village (Article 63). Practically, the new forestry law has not yet been developed into by-laws or regulations for detailed enforcement. The old decree 169, in some circumstances, is still valid and to be used as the guideline for legal enforcement, for example in land allocation and land use zoning at the village level.

Fishery Development

A project supported by Mekong River Commission operated in reservoir-edge communities in the late 1980s to develop fisheries in the reservoir. One of its major activities was provision of loans for purchase

of fishing nets by households. However, this project failed due to the decline of natural fish stocks and the stealing of fishing nets and also a weak monitoring system. Some households in Namon are still in debt to the project, which has collapsed. Part of the project's failure was due to lack of community participation in project design, preparation and lack of knowledge on credit management at the village level.

At the Nam Ngum Watershed and project level, while all actors shared a perception that change was necessary to overcome a deteriorating resource base, there were quite different perspectives on what constitute the main reasons for such deterioration. At the national policy level, a standard explanation for deforestation in Lao PDR is vegetation clearance and burning by shifting cultivators. However, the situation becomes much more complex at each local level, particularly where forests that have been managed by longer standing communities come under pressure either from within the community itself or from recent settlers who have been displaced from elsewhere as a result of a range of extraneous pressures.

Project interventions worked broadly within the framework of the forest land allocation policy. However, within this overall framework, interventions were based on the hypothesis that different local circumstances require different measures and need to be developed by the local communities concerned in consultation with District level authorities. At Long Korn, stabilisation of wet-rice based permanent agriculture was hindered primarily by shortage of livestock, and intervention here was through a revolving fund to purchase buffalo. In Baan Taa, stabilisation of livelihoods among the Hmong families whose land had been redeemed by neighbouring Nong Ped farmers was seen as a priority. At Nam Phao, assistance with the construction of a weir was deemed the best way to reduce pressure on remaining forest within the village boundaries and in neighbouring Muang Sum. In the case of Namon and Huai Nhyaang, the main effort was placed on cooperative management of the common forest area of the two villages. In all cases, interventions were associated with, and contingent on, a process of participatory land use planning through use of three-dimensional terrain models.

THE OUTCOME AND LESSONS LEARNED

The salient Phase I project findings were used to guide the next stage of activities during Phase II. The findings can be summarised as follows:

- Contrary to common assumption, there is substantial pressure on natural resources and food production systems in the Nam Ngum watershed area. *Implication: Significant changes in land, forest and water use and management are required in order to achieve a sustainable pattern of production;*
- The nature of resource degradation and resource conflicts varies significantly from one part of the watershed to another, based on a range of social, historical and ecological parameters. *Implication: An overly generalised approach to watershed management should be avoided in favour of one based on local knowledge and participation of communities and local authorities in each area;*
- Community management of forest, land and water resources is longstanding and widespread throughout the watershed. *Implication: Local/traditional practices and arrangements should be seen as the starting point for resource management initiatives and planning;*
- Resource competition and conflicts can be identified at a number of levels: Within communities; between communities; between local people and external claimants (notably forestry and hydropower); between ethnic groups with different agro-ecological practices, or differently stated, between upland and lowland production systems. *Implication: There is a need to develop conflict pre-emption and resolution procedures at a number of levels, including more participatory impact*

assessment procedures for externally conceived projects;

- Ambiguity of both individual and community resource tenure is a basic source of competition, conflict and resource degradation. *Implication: Demarcation and definition of resource tenure at the village level need to be backed up at the District and other levels;*
- At the District level, division of duties is often unclear; District level staff lack technical and organisational experience; and District staff tend not to be involved in activities at village level, relying more often on written directives. *Implication: District level staff need support, including technical and organisational training and experience in community liaison, in combination with more clearly defined duties in the field of forest, land and water management; and,*
- From a local perspective, there are ambiguities in government policy regarding rights and duties of village, district, provincial and national authorities. *Implication: The rights and duties regarding resource management, planning and enforcement need to be clarified.*

At this stage, it is difficult to quantify outcomes of Phase II project interventions in terms of reducing forest clearance, assisting the poorest within each community, or reducing tensions along each axis of conflict. Since the learning process among national, District and village level staff was integral to the process, the lessons learned are part of the project outcome. In this regard, heightened awareness of the importance of community dynamics among District and DOF staff was probably a more significant outcome than any immediate and measurable improvement in environmental or human welfare, although in the case of Long Korn significant improvements in livelihoods were observed as direct project outcomes.

The involvement of local staff (villagers) in the implementation of the project, through training, data collection, workshops and a study tour, created more confidence among local people in official recognition of their role in decision making over resource management in their village territory. This influence allowed villagers to assert the joint management of forest between Namon and Houai Nhyaang, where the two villages preferred to share the forest, land and water resource. This case also reflects on land allocation and zoning policy, wherein the community itself has rights to decide how local resources should be managed and conserved as well as to protect from outside claimants. A small revolving fund provided by the project to develop local livelihoods in Namon, Houai Nhyaang and adjacent villages still awaits full evaluation and assessment.

Lessons learned from Namon and Huai Nhyaang at a wider level had some influence on the Centre for Protected Area and Watershed Management, the national level agency within the Department of Forestry that was directly responsible for project implementation. At a practical level, running a project with such intensive local involvement from a central agency presented many logistical limitations that restricted the effectiveness of co-management, particularly in Hom District where the intermediary local government authorities were less responsive than in other Districts – notably Phukood. However, feedback and experiences of Phase I of the project had a direct influence in national policy in the development of Decree 169, especially over the issue of community level implementation such as the establishment of village committees for land allocation and control and monitoring of forest resources. At that time, the Nam Ngum Watershed Community Resource Management Study was the only project in DOF that tackled issues dealing with social aspects of forest, land and water resources management at the village level.

The results from Phase I and Phase II of the study also provided input into CPAWM in promoting more community involvement in protected area management and in emphasizing a people-centred approach to protected area management. Data and information from the study have been used by other projects working in the Nam Ngum Watershed, such as the large Nam Ngum Watershed Conservation Project (NAWACOP) supported by GTZ, the Nam Ngum Watershed Management and Reforestation supported by JICA, and the Nam Ngum Watershed Strategic Management Planning supported by ADB to prepare a

strategic plan for the Nam Ngum Watershed. It is expected to use this plan as a model for preparing watershed management plans for other watershed in Laos, including means to return values generated by watershed resources in the form of hydropower back to other watershed stakeholders.

At the District level, awareness of the complexities of community level management was built up by compiling baseline information, presented through maps and tables as a tool for resource monitoring during training courses for District staff in Phase II of the project. The Districts also developed awareness of time consuming nature of work with communities, and the need for staff experience and proper organisational structuring. However, Districts gave different levels of attention to such lessons, and Long Xane District was one of those in which less importance was attached to community consultation.

For the project itself, and therefore CPAWM and DOF more widely, the important outcomes were that project staff had a chance to learn about applied research. Most of the staff, after the project finished, have used the experience gained to work with other projects and local consultancy firms in the field of community development and resources management.