

Community-Based Irrigation Management in Laos

W.R. Ireson[§]

IRRIGATION DEVELOPMENT IN THE LAO PDR

AGRICULTURAL DEVELOPMENT HAS been a priority for the Lao government since the establishment of the Lao PDR in 1975 and irrigation has been given an important role in this process. However, priorities for irrigation development have changed during the intervening fourteen years, particularly as the National Irrigation Department has matured. During the first five years after the revolution irrigation development emphasized relatively large schemes which turned out to be beyond the engineering and construction capacity of the government. With the promulgation of the first Five-Year Plan in 1980 official policy was modified to emphasize small-scale projects in all sectors. In irrigation, the response was to begin a mix of projects ranging up to about 1500 hectares maximum. Since 1985, foreign assistance to the National Irrigation Department from a few nongovernment organizations for village-scale irrigation projects has led to the incorporation of such small schemes into ongoing plans for irrigation development. To date, there have been no systematic efforts to incorporate community-organizing principles into irrigation-development programs, but there are examples of traditional community-managed irrigation systems in Laos which may provide models for government-sponsored community-managed irrigation development.

In 1985, the American Friends Service Committee began a program of assistance to small-scale irrigation development in the more mountainous regions of Laos. Development emphasized the replacement of seasonal weirs with small permanent-diversion weirs which would supply water to existing canal systems. Labor for most of the American Friends Service Committee projects was provided by the villagers involved with technical supervision by provincial irrigation technicians. This program gave no specific consideration to the need to

[§]Technical Consultants, Community Aid Abroad, Vientiane, Lao PDR.

organize farmers for irrigation management. In villages where farmers had been caring for a traditional irrigation system the new resource was incorporated *into* the existing system with minimal difficulty. However, where the new weir **required** several villages to cooperate in a larger irrigation network or involved the introduction of irrigated rice farming to groups which had previously grown swidden crops, significant difficulties in operation and maintenance were encountered (Ireson, 1988). The National Irrigation Department and several provincial irrigation departments have now recognized the need for a holistic approach to small irrigation development which includes farmer involvement in design, construction, and operation and management of headworks and canals. However, few changes have **as yet been** implemented.

This paper outlines the present pattern of village-irrigation management -- Irrigation Department interaction in the development of small-scale irrigation -- and **finally** discusses changes and new directions in the Lao government's approach to village-irrigation management.

INDIGENOUS PATTERNS OF IRRIGATION MANAGEMENT

In many parts of the country, particularly in the mountainous north, traditional irrigation schemes have existed for many decades. These systems usually consist of a temporary stone or wood-and-earth weir across a stream which diverts water during the rainy season into channels leading to nearby rice fields. The weirs must be repaired several times each year after damage by heavy rains; thus a system of local labor mobilization has been developed to carry out the repairs, as well **as** the more routine annual maintenance. Few traditional systems serve more than one village. Irrigation-system leaders are frequently men who have other responsibilities in the village government. Changes in the organization of village governments under the new Lao regime have not much affected the positions or responsibilities of such traditional irrigation leaders. Although terminology used for officers and activities varies, in general, these traditional systems operate much like the northern Thai systems described by Sirivongs (1983).

The following principles and practices seem to be common among northern Lao village-irrigation systems. Water is allocated in proportion to land area and distribution is usually accomplished by proportional outlets. Households receiving irrigation are expected to contribute labor whenever necessary for maintenance and repairs, but seldom cash. Leaders of an irrigation group seldom receive pay or compensation for their work: when they do, it is usually in the form of a rice contribution from the members. Written agreements governing the operation of the system and members' responsibilities are unknown. Irrigation leaders tend to be informally selected and hold office for indefinite terms.

Other than an annual meeting prior to the rainy season regular meetings of the irrigation users do not take place; most organizations keep no written records. The physical operation of Lao-irrigation systems is also rather casual. Water-division points are usually calibrated roughly only once at the start of the season and head regulators are not employed. Canal maintenance varies greatly, but field channels are often better maintained than main and secondary canals.

INSTITUTIONAL CONTEXT

To understand relationships between **Lao** villages and the government with regard to irrigation development, it is *first* necessary to describe briefly the institutional context of government activities. The country is administered through a five-tiered government structure., beginning at the national level in Vientiane, and passing through provincial, district, and subdistrict levels to the village. For the first time in Lao history remote villages are being integrated into a Lao nation. Since the revolution, the national government has **taken** the position that it is responsible for the development of the country. This attitude is in marked contrast to the behavior of the Royalist government prior to 1975, but at the same time fosters an attitude of paternalism and dependence, which inhibits village initiative. Many officials believe that the government must provide all **social** services and inputs and guidance to development projects. Many villages postpone cooperative projects **until** government or foreign assistance is received, regardless of their local **resources**.

At present, however, the government has very limited resources and relies heavily on foreign aid. **In** most provinces salaries have not **been** paid for months and local departments do not even have funds to purchase fuel for vehicles to transport aid materials. Administrative rules and procedures are frequently changed adding confusion and uncertainty to program planning and implementation. Human resources **are** similarly limited. The Vientiane provincial irrigation department, for example, consists of only four technicians and three secretary-clerks, yet is responsible for administering nearly a million dollars of aid yearly.

SOCIAL CONTEXT

Most Lao villages have a long history of cooperation in mutual-assistance projects. This cooperation includes mutual aid during the rice-growing cycle, village-wide assistance at house raisings, weddings, and funerals and village cooperation on community projects such as school or temple construction. Traditionally, community projects were organized under the auspices of the village headman (*pho bum*) and the committee of elders, with perhaps a separate committee for the **school** or Buddhist temple (*wat*) constituted to handle the details. Since the revolution, the village headman has **been** renamed village president (*pathaan baan*) and given more clearly defined duties for **keeping** village statistics and collecting **taxes**. But most traditional elements of the role **are** still practiced.

GOVERNMENT SUPPORT FOR VILLAGE IRRIGATION

The Lao government usually becomes aware of possible village-irrigation projects through requests referred from the district to the provincial irrigation departments. Provincial irrigation technicians are then called upon to visit the site and make the first assessment of project feasibility.

If the project appears feasible further technical data are collected, usually in cooperation and consultation with the village leaders. At this stage provincial irrigation technicians perform the survey and design activities, but rely on district officials to introduce them to the village leaders and to facilitate communication with the village. Typically, there is little direct contact between either district or provincial technicians and the majority of the villagers. Rather it is assumed that the village president and the committee adequately represent the desires and priorities of the village. While this is usually the case the full details of discussions between village leaders and the provincial technicians are seldom recorded or relayed to the villagers. This situation can lead to difficulties during construction or operation of the project.

Assuming that the proposed project is approved at the provincial level and that the province has adequate budgetary resources for its construction, an agreement is made with the village committee regarding the division of inputs between the village, the district, the province, and foreign aid. Typically, for village-scale projects, the villagers will be expected to provide all labor for construction (with supervision by a province or district technician) and quite possibly provide form-wood and aggregate for concrete. In some cases the district or province may provide trucks to haul sand and gravel. The government typically undertakes to provide all purchased inputs whether from its own budget or, more commonly, with foreign assistance. Mobilization of workers is left to the village committee which will have convened a general village meeting sometime before work commences to explain the parameters of the work and to secure consensus on the project.

In most village-based irrigation projects the provincial irrigation departments assist or advise only in the construction or replacement of the headworks. It is usually assumed that villagers can design and excavate distribution canals on their own. Larger projects involving more than one village are more likely to have the canal system designed by the Irrigation Department. Water allocation and distribution are also left to the village. Rarely has the Irrigation Department consulted with villagers to advise them on procedures for water distribution. Consequently, some systems are well-organized with equitable distribution while others have only ad hoc distribution with high degrees of conflict and water stealing.

Upon completion of a construction project the village is left to manage it as best it can. Where a traditional temporary weir is replaced by a permanent structure the preexisting management organization usually continues with little modification, though perhaps with gradual expansion of the canal network over several years to take advantage of increased water availability. Where the village has had little prior experience with irrigation, the development of a canal network and of an operation and maintenance system may take many years and may never be completed to the extent originally planned. Because of national priorities for the expansion of irrigated area by the construction of new systems and due to poor monitoring of the performance of existing schemes irrigation cadres are regularly transferred to new projects, and are unable to devote the time

necessary to improve the performance of existing schemes. Lack of transport and per diem expenses while in the field also inhibit district cadres from spending the time necessary in a village to assist farmers to improve irrigation management. Some of the smaller pump schemes near Vientiane are an exception to this generalization.

In sum, the Lao government involves villagers in small-scale irrigation development by working through the existing government structure. Irrigation cadres work most closely with village leadership and have little direct contact with the majority of farmers. They assume that village leaders will mediate in the project and facilitate accurate communication between the village and the district or provincial government. The accuracy of this assumption depends on the ability and motivations of the village leaders. Little support or follow-up of projects is possible, however, once initial construction is completed, and for all practical purposes villages are left to their own devices for the management of their irrigation system.

EFFORTS TO IMPROVE SMALL-SCALE IRRIGATION MANAGEMENT

The National Irrigation Department and many provinces are now becoming aware of deficiencies in village operation and maintenance, and some have started plans for operation and maintenance-training sessions. Probably the only systematic effort in this sphere has taken place at the Operation and Maintenance Training Center attached to the Lao-Australian Irrigation Project in Vientiane. There, over 300 people have been trained in short courses over the last four years. The training is oriented mainly to pump operation and to pump and canal maintenance rather than to water allocation and delivery, or system management. There has been no follow-up of trainees to learn whether they have been assigned to irrigation projects or how successfully they have applied their training.

Recently, the National Irrigation Department has begun a project in Vientiane province to rehabilitate small-scale irrigation systems with assistance from Community Aid Abroad, an Australian nongovernment organization. This program will include explicit work with village-irrigation organizations and support for training of provincial and district irrigation technicians in community-organizing techniques for irrigation management. In addition, workshops in the villages will focus on strengthening indigenous irrigation groups and on improving overall-system management. As this project has just begun, it is too early to predict its impact. The content of the training courses and village workshops has not been fully developed but it is likely that the organizational approach will rely on local leadership patterns as described above. Any organizational support for village-irrigation groups must come from the district irrigation cadres who already have many responsibilities and few resources. Specialized community organizers for irrigation will not be a possible strategy. Rather the village-irrigation committee, or village-administrative committee will be the focal point of any training and organizing activities. Advice regarding technical issues of water distribution and system maintenance as well as suggestions for organizational changes, designation of specialists at the village level (ditch inspectors, etc.), and the development of a maintenance fund, will undoubtedly be directed through that committee, and not by direct contact between officials and farmers.

THE OUTLOOK

The prognosis in Laos for improved irrigation management through farmer participation is rather mixed. The present situation shows both positive and negative factors. **On** the positive side, the Lao government policy encourages cooperative and community-wide activities, particularly in agriculture, and supports two-way communication between local groups and the government. **In** contrast to many countries **there are no social or institutional** obstacles to organizing farmers into groups which effectively represent local interests. There is no landed elite, for example, to oppose farmer groups that might question rules for water distribution.

On the other hand, despite a favorable official and social environment for farmer organizing no resources are allocated to active support of farmer organizations. The Cooperatives Department in the Ministry of Agriculture and Forestry has been disbanded and the ministry has no effective agricultural extension service. Local nongovernment organizations which engage in community organizing in some countries **do** not exist **in** Laos. At present, any community-organizing work must be done by district officials whose approach is usually to convene a meeting of the village leaders and discuss the problem in a formal setting. Usually the issues discussed are those defined as problems by the government, rather than by the village. Whatever action is taken is directed toward solving that particular problem rather than to developing a generalized resource for solving this and future problems. No theory or model of community organizing is available to the government cadres other than that of working officially through village-administrative committees.

A positive factor for strengthening community-managed irrigation organizations is that most villages are solidary, with minimal conflict or factionalism, and led by a respected local president. Villagers are used to cooperating on specific community projects, **as** well as to participating in family-centered mutual-assistance activities; and customary norms of fairness and reciprocity associated with these activities can be incorporated as principles of water users' groups. Systems which extend beyond the limits of a single village are more problematic, however, **as** there is no clear model for organizing locally managed multi-village irrigation systems. Virtually **all** multi-village systems which have received government assistance **are** managed, at **least** on paper, by the district agricultural service. Similarly, there is no clear policy on handing over completed projects to the community to manage on its own. The unclear status of such projects **leads to** confusion as to who is responsible for enforcement of rules, or for maintenance. When government assistance goes to improve an indigenous irrigation system this lack of clarity could lead to the disruption of a previously functioning village organization.

While Laos appears to have a high-inherent potential for the effective development of community-based and farmer-managed irrigation systems, there are numerous limitations of manpower, knowledge, and basic administrative resources which inhibit such development. The National Irrigation Department, which is the only agency involved in irrigation development in Laos has begun to take steps to improve irrigation management through farmer participation, but how widespread and how effective these efforts will remain to be **seen**.

References

Ireson, W. Randall. 1988. Evaluation report: Quaker service Laos small scale irrigation program. Vientiane: American Friends Service Committee.

Sirivongs na Ayudhaya, Abha. 1983. A comparative study of traditional irrigation systems in two communities in northern Thailand. Bangkok: Chulalongkorn University Social Research Institute.