

The People's Volunteer Weir Programme: a three-way collaboration in irrigation

By Prakob Wirojanagud

The People's Volunteer Weir Programme, which has the objective of building 12,000 small weirs to provide agricultural water for about 480,000 hectares of paddy land in rural Thailand, is a good example of a self-help development programme in which three parties — the university, the government and villagers — have been collaborating.

MOST OF THAILAND'S population lives in rural areas and the majority of the people are farmers. Farmers, especially those who live in north-east Thailand, face a lack of water for agriculture because of erratic rainfall, frequent dry spells during the wet season and insufficient stored water in the dry season. As a result, crop yields are low, and there is also lack of clean water for drinking and domestic purposes during the dry season.

Many of the problems can be resolved inexpensively and effectively through the development of appropriate small-scale water facilities such as rainwater jars, tanks, shallow wells, deep wells, dug ponds, weirs and small reservoirs. In trying to solve the problem of inadequate water for domestic and agricultural uses, villagers traditionally built weirs and earth embankments, which are often not durable and frequently failed. The government therefore had to lend a hand.

Unfortunately there have been problems with the small-scale weirs designed and constructed by government agencies in the past. These have included high costs and under-use. Under some of the early small-scale water resources development programmes a high incidence of structural failure was

Dr Prakob Wirojanagud is an Associate Professor, Water Resources and Environment Institute, Faculty of Engineering, Khon Kaen University, Thailand.

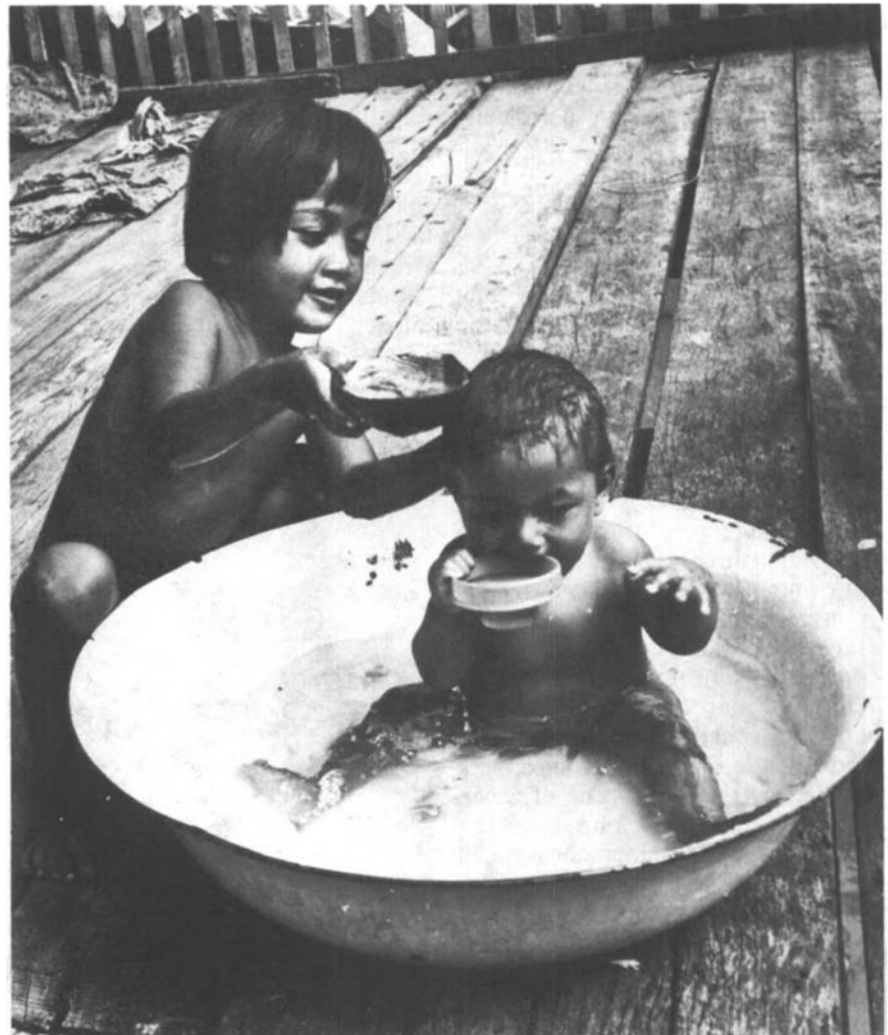
sufficiently high standard. Also, their usefulness was often very low and villagers did not maintain weirs that were not useful. This was mainly because the facilities were not constructed in accordance with the ideas and needs of the users.

There was therefore a clear need to develop an economical programme that was based on the villagers' traditional spirit of self-help, but using improved technology to overcome the design and construction deficiencies.

Weir studies

In response to the problems mentioned with small-scale weir development, the Faculty of Engineering at Khon Kaen University, with financial

observed because the design and construction techniques were not of a



Water is needed in the dry season for domestic purposes as well as irrigation.

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Some small-scale water resources have been turned into open sewers.

assistance from the New Zealand government, studied and experimented with an approach which required villagers to build the weirs themselves, but with good technical support. About 55 weirs were constructed during the period from 1979-85 in Khon Kaen and nearby provinces with the following results.

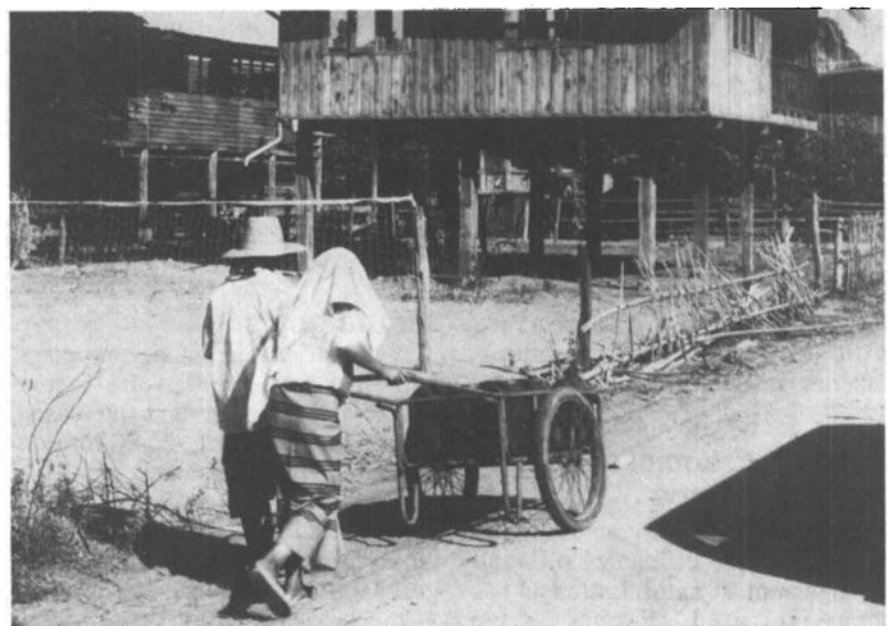
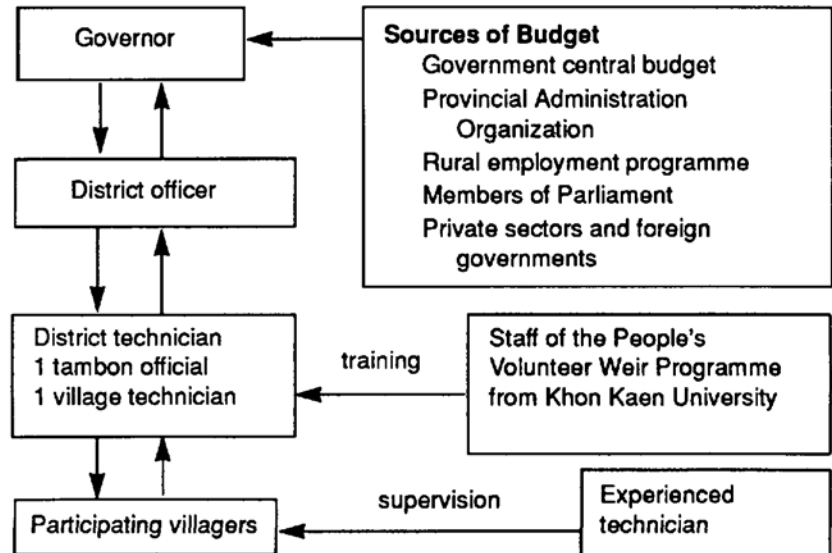
- A standard weir design with a simple design concept, layout and construction techniques was developed. Villagers could conduct the survey, size the design, and construct it by themselves with advice from officials such as the district technician or village technician.
- A people's voluntary labour approach was adopted. Villagers participated from the start until the completion of the project, with the result they also maintained the facility and used water more effectively.

Programme implementation

Development in the form of people volunteering their labour is the policy of the Ministry of the Interior. For this reason, the Ministry of the Interior, in co-operation with Khon Kaen University, has decided to implement the People's Volunteer Weir Programme with objectives described by the Permanent Secretary:

To resolve problems of inadequate water in rural areas and to lay the foundation for villagers' participation in water resources development, participation must take the form of

planning together, acting together, using together and maintaining



Rainwater jars have by and large replaced old water carts.

together. This will facilitate the success of this programme and conform with the Sixth National Plan for Social and Economic Development that aims for villagers to help themselves and make the best use of water resources.

To date more than 1,260 weirs have been constructed in different provinces all over the country under this programme. Some were built during 1986-7 using money from the Provincial Administration Organization, Members of Parliament, the Rural Job Creation Programme and foreign organizations; whereas a total of 520 were built in 1988 using 63.5 million baht from the central government's budget and 12 million baht from the Greening North-east Project; and a total of 660 were being built during 1989.

Training is an important component of the programme to teach management procedures and construction techniques to both

government officials and village technicians. To make sure that the programme is carried out effectively and leads to the highest level of utilization, the Department of Local Administration together with Khon Kaen University hold training workshops for deputy district officers and district technicians from all over the country before starting the programme each year. Meetings of the district officers, who are responsible as project managers, are also held to explain the policy and building procedures and to receive feedback.

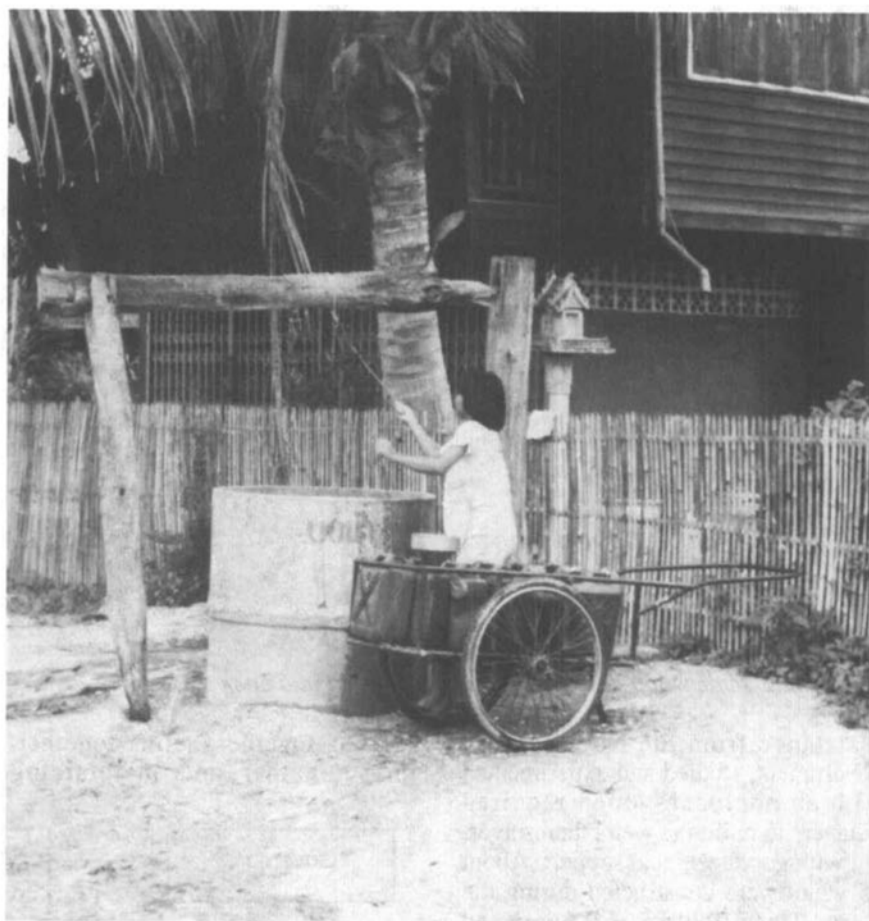
Labour management

Construction is carried out by the villagers who live in the immediate area of the site, and those nearby who will benefit. The labour is managed by dividing villagers into groups. Depending on the number of households, each group will have about 10 to 20 people. They will take turns working, and each group will select a leader to co-ordinate work with the village technician. During construction, monks are invited to visit the site, which gives villagers more confidence, willingness and enthusiasm about the work. On some occasions, when villagers cannot work according to the schedule, they will make up the lost time the next day. Sometimes villagers set up rules, with those not coming to work required to pay a small fine each time. The fines collected will be used to buy lunch for those who do come to work. Every villager agrees to these rules, and there has never been any unwillingness shown by villagers to participate in the project.

After construction, extension activities are most important in promoting the best use of the water, while sustaining them is a good indication of the success of the project. Extension activities should begin immediately after villagers have completed construction, with a meeting held to prepare activity plans and share out the new water supply between competing uses. For example, consumptive uses such as diverting water on to land for irrigation conflicts with storing water for livestock, fisheries and domestic uses.

Economic, social and political returns

As a result of the programme, water storage and the efficiency of water management in natural streams has been increased. Farmers have increased the volume of water



A village shallow well — but is the source protected?

available for growing wet season crops, often about 200 rai per weir, and often 20-40 rai per weir for dry season crops (one hectare = 6.25 rai). Water is also available for domestic use, livestock and fish farming. These activities provide additional income for villagers which in turn helps to raise their standard of living.

Villagers take pride in their weir and adopt a responsible attitude towards planning, acting, using and maintaining the weir together. This is an important foundation on which to build village self-reliance. Villagers are encouraged to exercise their rights and express their ideas which are important in a democracy. As a result they feel confidence in the government officials administering the programme who in turn respond to their needs during the building.

Future goals

The Ministry of the Interior has plans to construct 12,000 weirs in the countryside over the next five years. The estimated cost is 2,500 million baht or 500 million baht a year. At this rate 2,400 weirs per year could be constructed. In all, two to three million rai are expected to benefit when this goal has been achieved.

If, however, the government increased the budget allocation

annually, the construction could be completed within a shorter time so that further emphasis can be placed on more improvements such as stream dredging and water distribution systems.

The approach to small water resources development in the future puts emphasis on systematic watershed development planning. Each district must plan its construction taking into consideration other watershed activities. Meeting with villagers and co-ordinating with other agencies involved with development and extension work to consider project impact are all important in formulating appropriate plans.

Besides this, the Department of Local Administration in conjunction with the Faculty of Engineering, Khon Kaen University and the New Zealand government, is promoting increased efficiency in managing and using People's Volunteer Weirs. The New Zealand government is providing financial support for some villages that have completed weirs to plan water distribution systems and integrated farming systems, and to establish co-operatives for producing and marketing produce. A management and geographic information system is also being set up in order to facilitate the planning of small watersheds in north-east Thailand. ■