

Organizing Inter-Subak Federations in Bali

A research team from Udayana University is conducting action research to help organize inter-subak federations in Bali. The team is collaborating with the Division of Water Resources and Irrigation, in the Bali Provincial Office of Public Work, and is supported by Ford Foundation. The study, headed by Dr Nyoman Sutawan, began in July 1987 and is expected to be completed in April 1989.

Three irrigation projects were selected for study. Two of them (Penebel Irrigation Project and Sungsang Irrigation Project) are located along the Ho River in Tabanan District, South Bali. They were constructed under the ADB-financed Bali Irrigation Project (BIP) during 1983/84, and combine several previously independent subaks under a single weir. The Penebel Irrigation Project (761 hectares) comprises six subaks. Previously, three of these subaks had their own weirs, while the other three relied on run-off water. The Sungsang Irrigation Project (429 hectares) comprises two subaks, each previously having its own weir.

A third project included in the study (Ambengan Irrigation Project) is located in Buleleng District, North Bali. This project, also being constructed under the BIP, is currently under the design stage. It was selected with the aim of trying to adopt a new approach in an irrigation development project. Farmers' participation is being encouraged, and the number of subaks to be included in the project will be determined through intensive dialogue with leaders of the subaks concerned. This process is quite different from earlier projects already completed under the BIP such as the Penebel and Sungsang Irrigation

Projects, where socio-institutional aspects were not taken into consideration. In these projects the dam designed to serve several subaks has in fact been utilized only by the subak located at the head end; the other subaks continue to rely on their previous weirs.

The objectives of the study are as follows:

1. To motivate the related subaks to form a subak-gede (inter-subak federation) both in the projects already completed, (the Penebel and Sungsang Irrigation Projects) as well as in the project being started (the Ambengan Irrigation Project),
2. To encourage farmers' participation in the design, construction and implementation of Ambengan Irrigation Project,
3. To encourage farmers' participation in the rehabilitation of irrigation structures in the Penebel and Sungsang Irrigation Projects,
4. To determine or formulate the optimal share of responsibility between the irrigation agency and the newly formed federation in the O&M of the system,
5. To train farmers who are supposed to be in charge of the O&M.

Preliminary results of this action research were reported during a National Workshop in Padang, West Sumatra, during April 1988. The team has been successful in motivating farmers through several meetings within subaks as well as among subaks to form subak-gede in all of the projects under study. As of April 1988, the farmers in both Penebel and Sungsang Irrigation Projects have already elected administrators of the new federations. They have also made a proposal for the rehabilitation of some recently built irrigation structures

which were of bad quality, unacceptable design, or poorly located from the farmers' perspective. Farmers feel that rehabilitation should be the responsibility of the government since farmers did not request the improvements which are now in need of rehabilitation. They had wanted the government to improve the existing weirs rather than replacing those weirs with a single upstream dam. The implementing agency is now trying to find the funds for the rehabilitation, which will be done by contractors under a tender arrangement. The farmers have asked that they be allowed to control the work of the contractor and their suggestions be considered and adopted as far as possible. For example, the farmers suggested that proportional division structures be used rather than gated structures. In fact some of the gated structures built by the government have been temporarily modified by the farmers to suit their needs.

In the Ambengan Irrigation Project, the research team has held a sequence of meetings with subaks to consider several alternatives for subak grouping. For various reasons such as water supply, historical and socio-institutional background, only two patterns of grouping have been considered feasible. The BIP had already decided upon a layout for the project very similar to one of the two alternatives mentioned above. However, at a general meeting in October 1987 attended by leaders of the subaks and officials from local government and other related agencies, the farmers agreed to an arrangement which differed only slightly from the one already preferred by the BIP. The BIP finally agreed to adjust the layout accordingly. The project will include only three subaks covering a total area of about 344 ha, whereas the BIP initially intended to cover eight subaks with a total area of 514 ha. In April 1988, the research team invited the BIP to inform and explain

to farmers the design details of the project. Surprisingly, the design prepared by the BIP was still based on the earlier lay-out of 514 ha rather than 344 ha. The farmers protested and the BIP promised to revise the design.

One important point the farmers rejected was the proportion of inlet of the division structures. The farmers requested that the design of the division structures should be based on the traditional tektek (system of water rights) rather than on the size of rice fields. Under the tektek basis of water allocation, water distribution may not reflect the size of land among farmers; one tektek shows high variation. A farmer having 0.30 ha of rice field may obtain one tektek of water while another farmer having land of say 0.65 ha may also obtain one tektek of water. Historical transactions of water rights among farmers through buying or selling, or exchange of land, as well as location of the rice fields and porosity of the rice field may underlie the present seemingly "unjust" distribution of water if we just look at the actual size of the farmers' rice fields. However, designing division structures within a particular subak simply on the basis of the actual size of the rice fields may result in conflict among farmers.

Since the action research is underway, I will end this brief report here. I hope this information will be useful to readers of this Newsletter and would welcome any comments.

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