

# Using Irrigation Agency Staff as Institutional Organizers: The Small Systems Turnover Program in Indonesia

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## INTRODUCTION

THE IRRIGATION SECTOR in Indonesia is currently under pressure to shift its emphasis from construction and rehabilitation to the development of a self-sustaining operation and maintenance program aimed at slowing, if not stopping, the typically rapid rate of deterioration of irrigation systems. The current irrigation subsector loan programs with the World Bank and the Asian Development Bank are directed at allocating proportionately more funds to operation and maintenance and at introducing new policies aimed at making operation and maintenance more efficient and sustainable.

Perhaps the two most prominent of the new policies in the shift towards sustainable operation and maintenance are, charging for irrigation services and the turnover of small irrigation systems. The irrigation-service fee is payable under a policy, currently being tested, of collecting fees from water users in agency systems to recover operation and maintenance costs at the main-system level. The objective of the turnover program is to transfer operation and maintenance responsibility from the provincial irrigation services to the farmers in all systems below 500 hectares (ha) within 15 years of the 1987/88 budget year. This will amount to 70 percent of all systems currently listed in the government inventory of irrigation systems, or 21 percent of the total public-irrigated area in the country. During and after turnover, it is expected that provincial irrigation services will take on a more macro-level role to improve water management between systems along river courses. Assistance to small systems should then be provided only where solving the problems is truly beyond the capacity of local water users' associations. These policy changes constitute a basic revision of thinking about the appropriate management roles for the government and for the farmers.

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These changes have occurred in parallel with a broadening recognition of the traditional potential which farmers in various parts of Indonesia have for managing irrigation systems. The Balinese *subak*, the Javanese *ulu-ulu*, and the West Sumatran *tuwo banda* are only a few of many examples of frequently observed competent traditional irrigation institutions. Government officials now widely recognize that farmers are capable of handling routine operation and maintenance tasks in small-scale systems, given the proper training, guidance, and legal support.

## AGENCY INTERVENTION AND FARMER DEPENDENCY

Since provincial- and district-budget allocations are generally based on area irrigated by agency systems there has been an incentive to reclassify village systems as agency systems, often regardless of the amount of provincial irrigation-services investment in the systems, if any, prior to "incorporation" into the provincial irrigation services. A small-scale provincial irrigation-services system may not actually be managed by, nor be dependent upon, the agency.

Much change has occurred in both the degree and type of provincial irrigation-services investment, and correspondingly in the degree and type of farmer dependency on the agency in small irrigation systems. However, even a pattern of occasional provincial irrigation-services repair assistance to a small system may discourage the development of a routinely active water users' association, if the assistance given is solely from provincial irrigation services and if it replaces routine maintenance. The water users' association would not bother to maintain all parts of the system because it would expect the agency to repair them eventually. As long as essential structures continue to divert, convey, or divide water in accordance with the users' basic system objectives (e.g., two rice crops a year) they may be content to allow the structures to deteriorate even though the eventual cost of "heavy repairs" (what farmers assume is the role of the agency) may exceed the cost of "proper routine maintenance" (what the agency assumes is the role of the farmers).

The government hopes to break such patterns of dependency during the turnover process, because full responsibility for operation and maintenance in small systems will be transferred to the farmers. The government seeks to implement a turnover process which will prepare the farmers institutionally and repair the system physically (if need be), so that the farmers will find it simple to manage operation and maintenance unaided, in the future. The task of the institutional organizer is not so dramatic as might be assumed, as many of the management tasks are even now being done by farmers, albeit informally.

## TURNOVER-IMPLEMENTATION PROCESS

### Target

Implementation of the turnover program began with 12 systems irrigating a total area of 1,200 ha. The program quickly spread to other systems, sections, and provinces, and will reach 2,304

systems with a total command area of **185,300** ha, by **1992/93**. During the fifth Five-Year Plan (Pelita V), the turnover program will be limited to only systems of **150** ha or less, except for two pilot systems of about **500** ha each. If the process progresses as planned, within 15 years all systems below **500** ha will have been turned over to water users' associations.

## Involved Organizations

The Directorate of Irrigation together with provincial irrigation services is responsible for overall program development and implementation. During they are being assisted by the Institute for Social and Economic Research Information and Education -- an Indonesian nongovernment organization and the International Irrigation Management Institute (IIMI). The Institute for Social and Economic Research Information and Education is responsible for training and assisting in program development and field-advisory support. IIMI's role is to collaborate with the Directorate of Irrigation and provincial irrigation services in research, monitoring and evaluation, and to assist with program development and advisory support. Both the Institute for Social and Economic Research Information and Education and IIMI are funded for the turnover work by the Ford Foundation. These participants meet periodically as "working groups" at the national, provincial, and section levels.

## System Categories

Under the turnover process currently being implemented and tested, all systems below **150** ha in a given section are divided into three categories: **A**, **B**, and **C**.

*System categories for the turnover program.*

Category	Relevant system characteristics	Turnover preparation activities
<b>A</b>	No prior agency investment; May or may not need repair	Removal from provincial irrigation-services inventory; Development of water users' association
<b>B</b>	Prior agency investment; No need for physical repair	Development of water users' association
<b>C</b>	Prior agency investment; In need of physical repair	Development of water users' association; Special maintenance assistance for physical repairs

## Stages of the Turnover Process

In its most complete form (category C) **the turnover process consists of six basic stages** at the field-implementation level:

1. **An** inventory of field data is made in all systems eligible for turnover and is divided by category.
2. In the B and C categories, a “profile” is conducted to obtain more detailed information. It involves additional walk-throughs of the system, making a sketch map of the system, and in-depth interviews of fanners and water users’ association leaders.
3. **A** list of farmers’ suggestions on the repairs needed is collected and drawings are made of each suggested repair. The suggestions are ranked by priority by fanners, and a farmer-design version is made.
4. Construction is carried out using farmers as laborers. **The government pays for all materials and labor.**
5. Where no official water users’ association exists, one is created. Repeated monitoring and guidance by provincial irrigation services are felt to be needed for institutional development.
6. Official transfer of operation and maintenance authority and change of **status** of the system are expected to occur about 12 to **14** months after the inventory stage begins.

## USING AGENCY STAFF AS INSTITUTIONAL ORGANIZERS

### Why Use Agency Staff as Institutional Organizers?

In past experiments with the use of community or institutional organizers in the development of water users’ associations, university-trained institutional organizers (usually social scientists) were recruited from outside the agency to live and work in the field. They were usually responsible for only one or two small systems or tertiary blocks. **For the turnover program, at least in the initial three-year pilot phase, the government has decided to use provincial irrigation-services field-operations staff (usually the *juru pengairan*, or irrigation inspector) as institutional organizers.** There are six main reasons for this decision.

1. On a national scale, there are no sufficient funds to hire non-agency institutional organizers, nor are there enough university-trained recruits.
2. In the long-run, this strategy is expected to help develop the agency’s capacity to use a more sociotechnical approach to irrigation development. In part, this means more systematic interactions with farmers as water “managers,” not just as “users.” The role of the institutional organizer is not perceived as a “position” but rather as a “task” of the field staff.

3. To some extent, using agency staff as institutional organizers frees the agency from dependence on outside organizations in its dealings with the social aspects of irrigation development, and prevents the rather perverse outcome of having the agency become detached from the social aspects, in the very process of seeking assistance in dealing with them.
4. Many agency field staff have experience working in systems that will be turned over and are already acquainted with some of the problems and people involved. It is assumed that most have the potential for learning the requisite social skills, given proper training, supervision, and incentives.
5. Non-agency institutional organizers recruited on the open market tend to have a shorter span of attention and dedication since they have no long-term career security.
6. The institutional organizer experience helps reorient not only staff but the bureaucracy itself towards a more macro-level, coordinative, interactive, and service-providing role in the future.

## Job Orientation and Background of Irrigation Inspectors

The irrigation inspector is the key field operation and maintenance position at the third level of the provincial irrigation-services hierarchy and supervises the lowest level of subsection staff -- the weir, gate, and ditch tenders. Most of his tasks are technical in nature. The inspector is used to receiving precise, tangible targets, and instructions and is not accustomed to being creative. Nevertheless, realities in the field may require some creativity in implementing even the most narrow instructions and some tasks do require communications and meetings with farmers. There are several factors such as relatively large area, distances which must be traveled, and the large number of gates to be set and inspected which tend to restrict the extent to which the irrigation inspector interacts with farmers in carrying out his duties. In the samples in west and central Java, most inspectors reported having sideline-income earnings which sometimes may compete for time. Most did not have motorcycles.

Clearly, if an irrigation inspector with his relatively restricted technical orientation is to be given an assignment as an institutional organizer which requires frequent and intensive interaction with farmers, in systems being turned over to the users, he will have to be given training in institutional-development skills, clear delegation of specific tasks (so as not to require too much creativity in this new endeavor), and an adequate transportation or overtime allowance. There will also be need for more frequent on-site visits by supervisors. There may be a need to decrease some of his routine work load during periods of intense activity as an institutional organizer. Under the turnover program most institutional organizers are assigned two systems which are located within his jurisdiction as an irrigation inspector.

## Tasks of the Institutional Organizer

The irrigation inspector-cum-institutional organizer is called upon to act **as**: collector of social and technical information, individual and group interviewer, draftsman, lay consulting engineer, mediator between agency and farmers, bookkeeper, and water **users'** association institutional-development adviser. This follows the procedures listed earlier with regard to the turnover process.

The physical repair is intended as a catalyst for institutional development of the water **users'** association. During this stage, which should not exceed four to six months, the institutional organizer collects and makes sketches of all farmer suggestions for repairs, holds meeting with farmers in which they prioritize proposals, and then makes a farmers' version of design. This is later integrated with a "technical" version of design for **use** in actual construction.

Simultaneously with the implementation of the design and construction stage institutional organizers should be making efforts to form water users' associations or to strengthen them. This includes three basic elements: first, identifying key farmer representatives and informants; second, (if there is no formally established water users' association) assisting in the formation of the water users' association; and third, involving the key farmer representatives in the turnover activities. Assisting in the formation of an official water **users'** association involves helping farmers to hold meetings to select the water **users'** association leaders, preparing a water users' association charter and constitution, seeing to the approval of the charter and constitution by the appropriate local-government authorities, and possibly holding a meeting for the legal establishment of the water **users'** association attended by farmers and local-government officials.

The final stage is immediate preparation for turnover. At this time the main activities are **1)** testing and possibly correcting newly constructed structures, **2)** formal legalization of the water users' association (if not yet done), **3)** preparation of the water **users'** association post-turnover operation and maintenance work **plan**, **4)** possible planning and conducting of agency-staff relocations or reallocation of assignments, and **5)** arranging and conducting formal turnover procedures and meetings.

It is expected that following turnover of the small systems, the irrigation inspector will collaborate with farmers in a more macro-level role in coordinating planting dates, crop types, and diversion of water between systems along river courses. He will provide technical advice and arrange for provincial irrigation-services assistance for repairs, only if solving the problems is considered to be beyond the capacity of the water users' association. It is hoped that the experience of the inspector as a turnover-institutional organizer will develop his capability to handle these tasks with a more balanced sociotechnical approach.

## Institutional Organizer Training

The institutional organizers are trained for varying periods of time prior to each task: for three days prior to conducting the inventory; for eight days prior to **use** of the sociotechnical profile; for six days prior to design and construction phase; for an as yet undetermined period prior to preparation for turnover. During the current pilot phase the Institute for Social and Economic Research, Information, and Education has been conducting the training.

## ABILITY OF AGENCY STAFF TO FUNCTION AS INSTITUTIONAL ORGANIZERS

### Positive Results to Date

The experience of being an institutional organizer appears to be positive in helping the irrigation inspectors discover the value of farmer experience and knowledge and the importance of social factors related to irrigation. Many inspectors hear for the first time the farmers' rationale for why a certain type of structure is needed and not another. For example, they discover that farmers can tell them exactly what type of lining is needed and where. The farmers know this by experiencing relative degrees of water loss under different levels of water discharge through the channel. The institutional organizer realizes that **this** is knowledge which is not ascertainable by a conventional technical survey. The institutional organizer also learns that farmers request simple structures, such **as** lining, only where they are really needed so **as** to spread out and better use the limited funds available.

Institutional organizers are also receiving proposals from farmers which would not be perceived **as** a need by an inspector, were the farmers not consulted. For example, farmers **know** they need more sediment-flushing gates because of the amount of labor required to clean out the channels. Also the tendency of the proposals to emphasize the conveyance system **as** opposed to the diversion structures (which tend to be emphasized by the agency) makes the institutional organizer more sensitive to designing for farmer-management needs.

Through the profile the institutional organizer **learns** that although there may not be an active and functioning official water users' association, numerous management tasks **are** being accomplished by the users through informal or traditional mechanisms. Seeing the extent of current farmer-management practices, the institutional organizer discusses with the farmers their complete takeover of operation and maintenance, and repair work after turnover.

There is an apparent feeling among the institutional organizers expressed in working group discussions or in one-to-one interviews that they are a select group which has been given a challenge to implement a new type of program in which they are expected to use initiative in the field. They have come to realize that working with and motivating farmers to take on operation and maintenance tasks will be an increasingly important measure of their success as inspectors, rather than application of conventional job-performance measures of how timely they fill in forms or do operation and maintenance tasks themselves.

### Problems, Constraints, and Suggestions

The problems observed to date, after one year of turnover-field activities, seem to be related mainly to the operational skills, supervision, and work incentives needed to support their work.

It is the conclusion of these authors that most irrigation inspectors are intellectually capable of understanding and performing their tasks as institutional organizers. These tasks are of two

types: 1) making physical repairs with farmer participation and 2) water users' association development. The **key** constraints are training, supervision, transportation, and operating expenses, and work incentives such as overtime. **If** these constraints can be overcome, the irrigation inspector as institutional organizer should be able and willing to *see* that the program successfully accomplishes its goals, which are to turn over operation **and** maintenance responsibility to the water users' associations and to reorient the **way** the agency relates to small irrigation systems.

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