


**WEDC**
**12th Conference: Water and sanitation at mid-Decade: Calcutta 1986**
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**Village participation in Madura, Indonesia**

**INTRODUCTION**

This paper describes two programmes being carried out on Madura Groundwater Project in Indonesia. The first programme comprises local consultation during the survey and design of village level irrigation systems, and the second is the training of farmer representatives to manage and operate these systems themselves. Both programmes aim to achieve effective village participation in a major government project. They are well received and seem to be proving successful.

**THE MADURA GROUNDWATER PROJECT**

The aim of the project is to develop groundwater resources for irrigation (and to a lesser extent for domestic water supply) in Madura which is an island off the north east coast of Java in Indonesia. Some 55 tubewell irrigation systems are already in use, and another 45 are to be constructed under the current phase of the project. This is being implemented by the Groundwater Irrigation Division (P2AT) within the Ministry of Public Works, with finance from the Government of Indonesia, the EEC and the UK. A typical well is 100m deep, with a turbine pump and diesel engine. It is designed to pump about 60 l/s from a dynamic water level of between 5m and 35m, depending on the site, to irrigate an area of some 40 ha, divided into seven blocks. The project includes the construction of canal systems over this area, to deliver water to outlets which each supply about 0.25 ha. Main crops are paddy rice and tobacco.

Before each tubewell is commissioned, the project appoints and trains an operator to run the pump and engine, and it also organises the formation of a water user association (called HIPPA) made up of the 100 to 150 farmers with land in the tubewell command area. They elect a chairman, secretary, treasurer, water baliff and seven block leaders. The general educational level is low, but most of these HIPPA officers can read and write.

For the first two years after commissioning the project pays the operator's salary and supplies diesel etc for operation, but after that the tubewell is handed over to the HIPPA and the government provides only

maintenance and repair services for the tubewell pump and engine. A flow chart for the development of a typical tubewell is shown in Figure 1.

**OBJECTIVES OF THE PROGRAMMES**

The overall objective of both these programmes is to improve the standard of the operation and maintenance of the tubewell irrigation systems by the villagers, and to increase their agricultural production.

Objectives of the Consultation Programme

The following detailed objectives were set:

- that a large representative group of villagers know the project's plans and timetable and understand their consequences;
- that the plans are discussed and modified in the light of local comments;
- that the tubewell irrigation system is considered to belong to the village;
- that the villagers take an active interest in the quality of the civil works.

These objectives are to be achieved through a series of meetings at the 45 new sites.

Objectives of the Training Programme

These may be stated as follows:

- that the tubewell irrigation system is operated efficiently;
- that the system is maintained in a satisfactory condition;
- that the HIPPA officers know their duties and perform them responsibly;
- that the HIPPA collects charges for operation of the tubewell and maintains financial viability.

These objectives are to be achieved through a series of meetings at the 55 operating tubewells and the 45 new sites.

**FEATURES COMMON TO BOTH PROGRAMMES**
Approach and Communication Methods

A similar approach was adopted for both programmes. This follows closely the

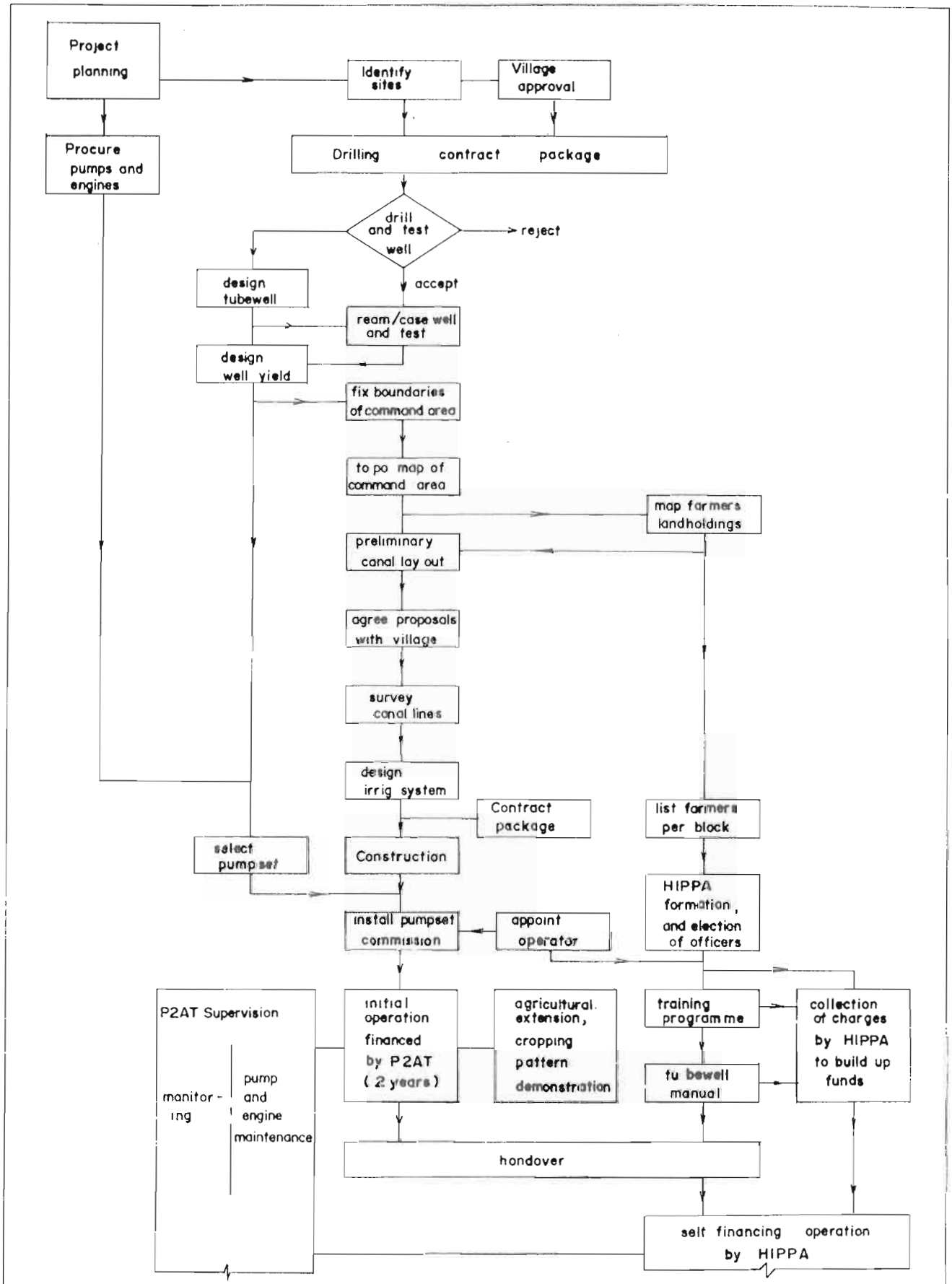


FIGURE 1 . SCHEMATIC DIAGRAM OF DEVELOPMENT OF TYPICAL TUBEWELL

approach recently developed for training low level irrigation staff in East Java (Ref 1). The consultant organised and trained a mobile team of local staff from the agriculture and tubewell operation subsection of the project. Arrangements are made for the team to visit each tubewell according to a schedule, and for villagers to attend at the agreed meeting place in the village. The photograph shows a typical situation. The team follows a standard programme, with minor variations as found necessary. They present previously prepared material which comprises both standard items common for all tubewells, and site-specific items about this particular tubewell. All the material is directly relevant to the villagers, and it is presented in the local Madurese language or in a mixture of Madurese and Indonesian. The team also receives the villagers' reactions to the project's proposals, and details of other problems and requests. Some of these can be dealt with in discussion or after inspection of the situation in the field, others are taken back to the office for further investigation and discussion.

An important part of each programme is a field visit to another tubewell which is operating successfully. The villagers are usually able to talk to the operator, water baliff and farmers on the demonstration tubewell.

#### Equipment

The basic equipment for the programmes is an overhead projector (OHP), a flipchart and stand, and a generator.

The OHP is used for the presentation of prepared material, which is written and drawn partly on continuous acetate rolls, and partly on individual photocopied transparencies of maps, forms etc. This proved to be very successful. With the acetate roll, the presenter is continuously prompted, while the screen display reinforces the message.

Similarly by projecting coloured up photocopies of maps the presenter can explain proposed canal layouts etc clearly to groups of villagers and note their suggestions.

The flipchart is used for structuring and recording the feedback from the villagers, and for site-specific flipcharts which are left with the villagers, covering topics such as recommended operating speeds and charges.

The generator, with a 30 m long cable and a voltage stabiliser, is essential because most of the villages do not have electricity.

Additional equipment is used as follows:

- video recorder and monitor, to show films on construction and water management prepared on the project tubewells;
- film projector, and slide projector;
- portable wireless microphone/amplifier.



Photo : Training Programme, Madura Groundwater Project

## DESCRIPTION OF THE CONSULTATION PROGRAMME

The consultation programme was set up in August 1985, prompted by the experience gained in the training programme, and using the same equipment and much of the same material. The content of the programme is shown in Table 1.

By mid-November 1985, the programme had been carried out on a back log of 14 sites, most of which had already reached the design stage. It is continuing on sites at earlier stages of development.

Table 1. Consultation Programme

- Day 1 (after drilling and testing well)
1. Tubewell irrigation (film/slides)
  2. Command area boundaries (OHP)
  3. Timetable for this site (flipchart)
  4. Planned organisation and finance (OHP)
- Day 2 (after preparing preliminary layout)
1. Demonstration tubewell (field visit)
  2. Canal alignment (OHP)
  3. Timetable for this site (flipchart)
  4. HIPPA organisation, duties, charges (OHP)
  5. Construction, water management (videos)

## DESCRIPTION OF THE TRAINING PROGRAMME

The training programme started in July 1985, after two months of preparation. The trainees comprise the HIPPA officers, the operator, and the village head together sometimes with several leading farmers. They are paid a small daily allowance (about fl), and the village head is paid to provide meals and drinks. Several hundred people usually see the film.

The content of the programme is shown in Table 2. This standard programme had been carried out on 30 sites by mid-November 1985. It is followed by preparation of a tubewell manual which gives recommendations on management and operation of the tubewell.

Table 2. Training Programme

- Day 1
1. Water management (OHP/flipchart/video)
  2. Existing problems (flipchart/field)
  3. Demonstration tubewell (field visit)
- Day 2 (1 week later)
1. Feed back on problems from Day 1.
  2. Operation costs/charges (OHP/flipchart)
  3. HIPPA structure, officers duties ( " )
  4. Summary of conclusions etc. (flipchart)
  5. Film : Drama about a water baliff.

## CONCLUSIONS

The consultation and training programmes are making a major impact, though improvements are still needed in order to fulfill all the objectives. The approach is successful, and can be recommended for use elsewhere. The key elements are :

- the programmes are conducted in the villages;
- the content is directly aimed at the participants interests;
- the basic equipment of OHP, flipchart and generator enables the necessary detail to be communicated;
- the programmes are carried out by local staff, in the local language.

Village participation has led to requests for major changes which shows the need for consultation at an early stage. Requests have also been made for minor changes which are more easily accommodated. Nevertheless all these items increase the design staff's work load.

The standard of the programmes is crucially dependent on the ability and motivation of the staff who carry them out and on their rapport with the villagers. In setting up such a programme it is important to mobilize these staff and provide them with the necessary support in terms of planning and programming, official approval, equipment and finance, prepared material, training, supervision and back up. Their status within the project is also important, so that they can persuade other staff to act on villagers' problems and requests.

## ACKNOWLEDGEMENTS

The author wishes to thank Mr Tjetjep Sudjana BIE, Project Manager of P2AT East Java and Ir. Wahyu Hartomo, Sub-Project Manager of P2AT Madura, for their support in setting up these programmes, and also thank the project staff who are working hard to carry them out.

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