



WATER, ENVIRONMENT AND MANAGEMENT

Public sector stimulus for private sector repair systems

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This paper looks at the Madura Groundwater Irrigation Project in Indonesia and the Deep Tubewell II (DTW II) Project in Bangladesh.

The public sector on both these projects were supplied with continuous advice and guidance to achieve a successful project. The private sector were excluded from any active participation in daily running and decision making. Stimulus for private sector involvement came when the public sector failed to fulfil their obligations to the equipment users, in terms of supply of efficient mechanics and necessary spare parts.

Project Comparison

Table 1 compares the two projects. It is necessary to provide some additional background information. Madura Groundwater project was based on a small island with effectively no access for the farmer groups to the private sector workshops, large or small, that are readily available to their opposite numbers in Bangladesh. The relative isolation of the Madura project put greater dependency upon the only repair system - the public sector, and in consequence the necessary pre-planning of a follow-on private sector repair system once the project implementation was

TABLE 1
General Comparisons

	Madura	Bangladesh
Implementing Period	1982-92	1983-92
Project Area	4,382 KM ² /43,82,000 ha	1,576,672 ha
Irrigated Area	4,633 ha	91235 ha
Av. Command Area	36.8 ha	23.44 ha
Abstraction Material	Limestone	Plastic clay
Climate	Tropical	Tropical monsoonal
Droughts	Feb-July 1250 mm East 2000 mm West	Jan-April 2000 mm SW 2500 mm NE
Implementing Agency	Ministry of Public Works Groundwater Dev. Project	BADC BRDB
Tubewell Av. Depth	80 m	100 m
Pumpset Av. discharge	50 l/s	48 l/s
Pumpset equipment	Lineshaft driven Turbine multistac Setting depth 25 m Right angle gearbox Air cooled diesel 19-54 HP	Lineshaft driven Turbine pump Setting depth 15-27 m Right angle gearbox Air or water cooled diesel 21.5-44 HP
Pumping hours	2190 per year east 1250 per year west	1166-1750 hrs

completed. In Bangladesh, there are large and small repair facilities in most towns which can respond to a machinery failure quicker than a cumbersome public sector repair organisation. There are also spare parts stockists.

Machinery supplied to the projects often come from the same manufacturers. The differing sizes of equipment are important only in the comparison of running costs. A diesel engine is, in most cases, no more complex when there are six cylinders as compared to two.

To achieve the expected life span of tubewell machinery, there must be a viable repair organisation, be it public or private sector, during the implementation stage of a project. The main elements must include:

- a preventative maintenance based system
- trained managers, mechanics and operators
- tools, spares, technical specifications
- readily available supplies of uncontaminated fuel and lubricants

Whilst this type of organisation was in place at the start of both projects for implementation by the public sector, parallel planning of a similar private sector organisation comprising the same elements ought to have been encouraged to avoid the inevitable vacuum when the project comes to an end and the public sector repair organisation is dismantled. The assumption here is that the public sector repair organisation has been successful in terms of keeping the pumpset machinery functional. From observation, the reverse is often the case. The public sector largely suffers from weak management leading to inefficient use of personnel and equipment, a cumbersome bureaucratic labyrinth of a spare parts distribution system and low levels of mechanic skills. The repair system in DTW II had the added disadvantage of no government support available at the early stages of operation, hence the farmer groups were loath to spend money on any planned maintenance system. The public sector failed to educate the machinery owners in the importance of this aspect of tubewell ownership.

Whilst there has been no direct planning taking place between the public and private sectors to set up a handover/continuity repair system, stimulus for the private sector involvement has come from the equipment suppliers. With a few exceptions, agents have attempted to provide alternative back up

services, ie technical assistance on specific equipment, spare parts supply, and training for both operators and mechanics. Whilst this cannot be said to be a "stimulated repair system" it is an interest in the sustainability of pumpset irrigation techniques and could provide the necessary leadership.

Conclusions

Both projects are now at the stage where the public sector implementing agencies have completed their task and are dismantling their repair systems. Madura has in place a support repair system. DTW II has not as yet. It is, however, probable that the public sector mechanics who will be made redundant will retain their clients.

Unless the overall strategy, when decided at the planning stage, lays out clearly the inclusion of private sector involvement in the repair system, little or nothing will be done. In both projects, public sector management levels were at times actively hostile to suggestions that the private sector should be included in long-term decision making.

Clearly, decisions must be made at the project planning stage as to when and how much private sector involvement is phased into the project system. This could be achieved by including the equipment suppliers, manufacturers and agents. The agencies more importantly as they are business of the projects country and would be commercially aware of the advantages to be gained by having a planned maintenance and repair system.