



In South India

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The third of a series of leaflets explaining the work and philosophy of WaterAid South India Office (WASIO) – working with NGO partners in rural communities in five States – Tamilnadu, Andhra Pradesh, Orissa, Maharashtra and Karnataka.

In rural India, there has been a great expansion in the number of drinking water borewells and handpumps installed over the past 20 years. State governments' maintenance budgets have not grown as fast however, and a steadily increasing number of handpump breakdowns have forced many communities to revert to unsafe surface water sources.

In Tamilnadu, each government mechanic is expected to maintain approximately 400 handpumps. WASIO recommends 100 as the average to sustain service standards.

WASIO believes that a sustainable infrastructure for community managed rehabilitation and maintenance of handpumps is as important as the development of new sources.



In 1994, in the Visakhapatnam District of Andhra Pradesh, government handpump mechanics were taking an average of three months to repair rural drinking water handpumps when they broke down. In some cases handpumps were out of order for as long as one year at a time. By 1997, in 14 mandals of the District, repair times had dropped to a maximum of 72 hours. This leaflet uses this and other case study material to show how community involvement in the management of handpump maintenance can dramatically improve service standards and reduce costs.

Government's Problem – Spiralling Costs

Throughout India, state government maintenance budgets for rural drinking water handpump supplies have not mirrored the rapid increase in the number of borewells over the past 20 years. Government mechanics have found themselves faced with the impossible burden of maintaining 300-400 handpumps each. Their problems have been aggravated by the misuse of vehicles, spare parts and tools. As a result:

- no regular preventative maintenance is carried out
- broken handpumps often remain idle for many months before being repaired

- mechanics abuse their scarcity by soliciting payment
- the most distant and poorest villages are often totally excluded.

Community Management – an Alternative Approach

It seems unlikely that Government in India will ever be able to efficiently manage the maintenance of rural drinking water handpumps itself. WASIO therefore believes that the only way an adequate level of service can be achieved is if there is a move towards communities taking financial and practical responsibility for the maintenance of their own supplies. In WASIO projects, there is an emerging community model for managing maintenance.

The Water and Sanitation (Watsan) Committee takes overall responsibility for handpumps within a village although the exact number of committees depends on the density of handpumps in the area. There is often a close relationship between the Watsan committee and other existing groups such as women's sanghams. Membership usually includes:

- a Panchayat member, preferably the sarpanch
- at least 50 per cent women members
- at least one user of each handpump in the village.

Principal duties of the Committee are to monitor work of the caretakers and mechanics, to monitor the spare parts stock and to raise funds to pay for spare parts and mechanic's labour costs. Funds may come from a small monthly contribution from each household (e.g. Rs2) or alternatively the community may prefer to pay for repairs as and when they arise.

Caretakers are selected from the committee membership, ideally two per pump. Their principal duties are to oversee correct operation of the pump by the users and to carry out preventative maintenance and simple repairs. The time caretakers need to commit to such work is fairly small and the skills required fairly limited. The work is therefore normally carried out on a voluntary basis.

Specialist Mechanics are drawn from the community and trained to perform repair work for a number of villages, usually of a more demanding nature than caretakers can manage. They may have additional skills such as masonry. Being a specialist mechanic takes up considerable time and may even be a full time occupation. Because of this and the level of skills required, they are normally paid for their services.



In Kattuklam village, Trichy District, Tamilnadu, the drainage channel from the handpump platform is diverted to water a small banana plantation jointly owned by the Watsan Committee. The bunches of bananas are sold by auction, normally to local shopkeepers. With five trees, the Committee enjoys income of Rs80-100 per month, far more than is required for maintenance of the pump.

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Once the transition to community management is complete, government *could* continue to restock community spare parts banks as repairs are carried out and *could* offer to contribute a part of the community Specialist Mechanic's labour costs. However WASIO's experience to date suggests that communities can afford to bear the costs of handpump maintenance themselves. If further experience bears this initial conclusion out, then it may make more economic sense (once the transition is complete) for government to concentrate its funding efforts on the development of new sources, rather than supporting the maintenance of existing ones.

Case Study **REEDS, Bomraspeta, Andhra Pradesh**

In 1992 REEDS found a familiar picture of problems with government maintenance. The mechanic was often unpaid for three to four months, worked short hours, had responsibility for 250 handpumps, lived outside the mandal, and tended to solicit payment in cash or in kind from villages for repairs which might have taken six months. Accountability was blurred between the disjointed lines of responsibility of Mandal Development Officer and Executive Engineer.

Today the mandal of Bomraspeta enjoys consistent 48-hour service standards for pump repairs. Four community mechanics work very closely with the government mechanic. There is no formal written agreement with the District but established day-to-day procedures are as follows:

- villages send report of broken down pump to Kodangol
- the Mandal Development Office and REEDS coordinator liaise to decide the daily work schedule for mechanics
- REEDS community mechanics take spare parts as necessary from separate spares bank maintained by REEDS in Kodangol
- villages issue certificate of satisfactory work carried out

REEDS send a quarterly statement of spares used to Superintending Engineer for reimbursement. Stock is replenished by purchase orders made by REEDS. Each community mechanic looks after approximately 100 handpumps.

In those villages within the mandal covered by a WASIO/REEDS project, committees have been established and caretakers selected and trained. Many of these have established mechanisms for collection of Watsan committee funds to support maintenance costs. For example, in the REEDS village of Legcherla, seven separate women's thrift groups have united to establish a joint water fund account. REEDS' aim is to have the community covering the mechanic's charges in the near future.



New Roles For NGOs & Government

NGOs

In WASIO's projects NGOs have, with WASIO's technical and financial assistance:

- persuaded local government to grant permission to communities to repair their own tubewells
- helped communities set up Watsan committees and spares banks
- helped Watsan committees develop ways of raising money to cover maintenance costs
- trained caretakers and specialist mechanics and provided them with necessary tool kits
- paid mechanics wages during the period of transition between government managed and community managed maintenance

The experience of WASIO and its partners is that there is a potential role for NGOs to act as facilitators for the change from government to community management of handpumps.

Government

In the same projects local government has:

- usually granted access to handpumps for community mechanics (although in some districts local government has been hostile to the idea initially, or has had different attitudes towards allowing communities to maintain handpumps installed by donor agencies and handpumps installed by government)
- occasionally agreed to provide community spare parts banks with replacement stock from government stores as spare parts are used by community mechanics for repair work
- on one occasion, in Visakhapatnam District, Andhra Pradesh, agreed to fund the wages of community Specialist Mechanics during the transition period to full community management. This was, however, managed from discretionary funding sources, was dependent on the agreement of key district government officials, and stopped once these officials moved on to other posts.

Based on this experience, WASIO believes that there is a potential role for government to:

- develop a legislative and administrative framework which actively encourages communities to take over responsibility for the management of their own handpumps
- fund and facilitate the training and support to communities needed to achieve the transition from government managed to community managed maintenance, either directly, or through partnerships with NGOs
- maintain central records of maintenance status and provide overall coordination

In Visakhapatnam District, Andhra Pradesh, the NGO network

'Viswasamakya' works together with government to maintain handpumps in no less than 14 mandals, covering 4,145 handpumps and 660,000 people. Two community mechanics supplement the government mechanic in each mandal – their duties co-ordinated by Deputy Executive Engineers.

Example costs for establishing the above mentioned community managed maintenance scheme for 4,145 tubewells (Visakhapatnam District, Andhra Pradesh):

Training 1,000 caretakers:	Rs	196,400
Training 30 mechanics:	Rs	20,622
Tool kits:	Rs	283,250
Initial stock for 16 spares banks:	Rs	512,000
Total	Rs	1,012,272
Cost/tubewell:	Rs	244

The Spares Bank ensures prompt and local availability of spare parts. Typically based in a safe location such as a 'people's bank' or NGO field centre, it might serve 10-50 villages. In some cases WASIO and its partners have established constructive relationships with District administrations and Watsan Committees are able to restock spares banks from local Panchayat or Mandal stores.

The Potential Cost Savings

A community managed approach requires recognition by Government of some form of community ownership of handpumps. It can however produce substantial benefits, including a reduction in operating costs achieved by:

- **More careful use**

Correct operation is the single most important factor for trouble-free and low-cost maintenance of handpumps such as the India Mk II, the most common rural handpump. Over vigorous use of the handle creates unnecessary wear and tear. Communities who own and feel responsible for their handpumps are more likely to use them carefully.

- **Better preventative maintenance**

An India Mk II handpump requires basic maintenance such as having the chain greased and nuts and bolts tightened every 10-14 days, depending on frequency of use, if lasting damage is to be avoided. It is too expensive for government mechanics to travel to villages to carry out this level of maintenance. As a result, on government managed tubewells it is rarely carried out. Preventative maintenance tasks are simple and require little time for local community members however, and significant improvements in preventative maintenance are possible under community managed schemes.

- **Faster repairs**

Continued use of a handpump in need of a minor repair may cause additional damage and lead eventually to a total breakdown and considerable expense. As the Visakhapatnam example quoted on the previous page shows, community managed maintenance can speed up repairs dramatically, reducing or eliminating such damage.

- **Lower labour costs**

Trained community mechanics tend to cost less than those in government service. A community mechanic under the WASIO project in Visakhapatnam typically earns Rs700 per month, as opposed to the Rs2,000 - 5,000 per month paid to the government mechanics).



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Current State budgets for maintenance are about Rs600 per annum per handpump. WASIO estimates that average costs could fall as low as Rs200 per annum per handpump, including spare parts. If 20 families use the pump, the maintenance cost per family is just Rs10 per annum.

WaterAid is a British NGO working with poor people in 12 developing countries in Asia and Africa. It has a vision of a world in which all people have access to safe water and sanitation, complemented by appropriate hygiene education. All projects use practical technologies that are low in cost so that user communities can take responsibility for management.

WaterAid's South India Office (WASIO) supports projects with NGO partners in certain areas of Tamilnadu, Andhra Pradesh, Karnataka, Maharashtra and Orissa that follow an integrated approach and:

- **cover a range of villages, typically with about 5,000 beneficiaries**
- **address the needs of entire villages**
- **integrate domestic water supply, sanitation and hygiene education requirements**

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