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A. Community management

All inspections, repairs, renovations and replacements are carried out by members of the community or under the community's direction.

Support to the community can be provided by private enterprise (spares and services) or purchased from a government agency.

Advantages

- ✓ Fast response to problems
- ✓ In control of own affairs
- ✓ Develop pride in own abilities and achievements

Disadvantages

- ✗ Needs motivated people with appropriate level of skill
- ✗ May require engineering facilities
- ✗ Need to hold expensive stock of spares

B. Centrally managed with community involvement (tiered system)

Simple routine inspections are carried out by community people using the pump, but a skilled team is responsible for looking after many handpumps. Major repairs, inspections, overhauls, and replacements are carried out by a government agency.

Advantages

- ✓ Community retains reasonable responsibility
- ✓ Back up for major problems
- ✓ Pride in maintaining pumps

Disadvantages

- ✗ Community dependent in pump operation
- ✗ Delays awaiting actions of government agency
- ✗ Skilled team needs to be present
- ✗ Expensive vehicles required

- While the centrally managed system (C) would seem the easiest to set up, it is the least effective in the long term.
- The compromise option (B) with both central and community involvement is perhaps the most common choice, but it has

Community-based maintenance

Repairs are carried out by the community or a centralized specialist group. Technicians will visit periodically for major repairs.

Advantages:

- ✓ Greater measure of control and accountability
- ✓ Skills beyond local resources are developed
- ✓ Less dependence on another organization or central group
- ✓ More likely to be properly resourced to be effective

C. Centrally managed

All work is carried out by a central agency.

Advantages


- ✓ Smaller stock of spares required per pump
- ✓ Concentration of skills and resources

Disadvantages

- ✗ Slow response to remedy breakdowns
- ✗ High cost and possibly poor service
- ✗ Routine inspections may not be carried out
- ✗ No involvement or commitment by the community

Community-based maintenance has not always been sustainable. For Village Level Operation and Maintenance (VLOM) - designed pumps, this option is becoming more feasible.

Community-based maintenance



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The significance of maintenance

When handpumps are to be installed a lot of time is spent considering the type of pump and the installation details, but ease of maintenance is of vital importance as it will influence the effectiveness and life of the pump.

Ease of maintenance should influence choice as much as hydrogeology.



Community involvement

No matter what system of management is adopted, community involvement is vital for long-term effectiveness of the handpump. The best way to ensure this is by the appointment of a *pump caretaker*. After proper training and the supply of a maintenance kit, will carry out the following duties:

Further reading

Colin, J., *Village Level Water Supply: Lessons from experience*, WEDC (www.lboro.ac.uk/wedc)
Kennedy, W. and others, T.A., *Human and animal-powered water-lifting devices*, 1985.
Pacey, A., *Handpump maintenance in the context of community well projects*, 1985.
UNICEF, *India Handpump installation and maintenance manual*.
World Bank, *Water Supply Handpumps Project*,

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