



Water engineers and community management

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IN RECOGNITION OF the need to maximise their resources, the Government of India and many States are pursuing decentralisation through Panchayati Raj legislation.

This involves devolving power and resources to Local Government Bodies and to Village Panchayats. Both these types of institutions require strengthening to meet the new challenges, particularly in terms of dealing with the increasingly problematic area of rural water supply. An effective way of strengthening Village institutions is through encouraging Community Management.

In many parts of India, it is becoming increasingly difficult to provide affordable, sustainable water supplies in rural areas. Water Engineers need to collaborate closely with village communities to develop solutions and systems which those communities are willing to operate, maintain and bear the O&M costs.

The best way to achieve this is through genuine negotiation with Village Communities and other Stakeholders. Once the design options have been selected in this manner, supporting community management would follow.

Using examples from two current donor funded projects in India, this paper explores how Water Engineers can work more effectively with village institutions and groups to develop sustainable water supplies. Firstly, a participatory design option selection process is considered, which is based on a flowchart developed for the Save the Children Fund Kalahandi Water Development Project which has recently commenced in a remote area of Orissa.

Secondly, the question of how Water Engineers can support community management of O&M and cost recovery for regional piped water schemes is explored, using the ODA funded Maharashtra Rural Water Supply Project as an example.

A participative planning process

In developing appropriate designs for new water supplies to villages in remote areas such as Kalahandi district, there are a number of uncertainties that are likely to arise. These include:

- Do the different sections of the village community consider that the proposed solution is the best option for them in terms of affordability and use?
- Will the village community be able and willing to maintain the new water supply system?
- Do the intended beneficiaries in the community want the new water supply enough so that they are prepared to pay their agreed share of the costs?

- Will the Local Government body be able and willing to provide a reliable back up support service for the new water supply in the villages?

Such questions or uncertainties, which are not exclusive to remote areas, are best resolved by an open consideration of the options based on negotiation with both the village communities and the Local Government Institutions (LGIs).

Figure 1 is based on a flowchart that was developed for the SCF Kalahandi Water Development Project. It sets out key steps in a participatory design option selection process, intended to provide an optimum sequence of activities. The aim is to minimise the time spent by all concerned, bearing in mind that 'Process' Projects can take a considerable time to complete. The process described has five key features:

- a) A broad survey and review of the many relevant aspects, such as available infrastructure and the local socio-economic situation, in order to develop an overall understanding of the project area environment.
- b) Developing preliminary design options and cost estimates, in collaboration with the different groups in the village communities.
- c) Negotiating an agreed menu of options with the Local Government Institutions, that the LGIs will be able and willing to support in the long term.
- d) Village based selection of the preferred option, from the agreed menu of options, focusing on affordability and developing work plans.
- e) A learning process that involves open dialogue, piloting and feeding back lessons learnt into the planning process.

The suggested role for the Water Engineer at each stage is shown by the letters [O] - organising, [P] - participating and [F] - facilitating. The process shown is not intended to be a blueprint. Each project team should develop its own agreed process, in order to encourage a common direction for project partners. Such a process can establish a clear sequence of activities for resolving uncertainties and thus save time and increase the potential for sustainable operation, maintenance and cost recovery.

Supporting community management

How can Water Engineers support village community management of O&M and cost recovery? This question is

**Figure 1. Design option selection process for rural water supply
A participatory planning process**

addressed using as an example the Maharashtra Rural Water Supply Project that is currently underway in Jalgaon and Nasik Districts. This project entails the construction of four regional schemes covering groups of 38, 42, 51 and 56 villages.

Each scheme entails pumping water from a reservoir or river, treating it and then distributing it to the large groups of villages via pumping stations, balancing reservoirs and distribution pipelines. The 38, 42 and 56 village schemes are nearing completion; testing and trials have commenced in the case of the 38 V scheme.

The Zilla Parishad (District Council) will be responsible for managing the schemes from the source up to the Village Reservoir, and the Village Water Committee (VWC) will be responsible for managing O&M and cost recovery within the village. The VWC will be responsible for transferring approximately 75 per cent of the water tariff revenues collected in the village to the Zilla Parishad.

Whether the VWCs will collect and transfer the relatively high subsidised tariffs (Rs300 for private connections and Rs80 for standpost users) is a key uncertainty that will have a crucial impact on the sustainability of the schemes.

This uncertainty can be reduced by strengthening both the Zilla Parishads (ZPs) and the VWCs to enable them to provide a reliable water supply, good cost recovery and financial management. This is the main focus of the project.

Table 1 summarises how the Village Water Committees can be supported in completing six of the main activities. The Water Engineer can be seen to have a key role in the process. In Maharashtra, Water Board Engineers provide support prior to Scheme Handover and the ZP Water Management Unit Engineers will provide support after the schemes are commissioned and handed over.

The roles of the Community Development Specialist or Government Extension Worker are also outlined in the table. Close collaboration between these staff and the Water Engineers is important, if the support to the VWCs is to be successful.

It should be noted that for this project, no design options were available to the villages other than whether to join or opt out of the scheme. The VWCs do have options, however, with respect to standpost positions and how they will manage the O&M and cost recovery within the village.

It can be seen that the Water Engineer has a leading role to play in all technical matters, but also has an important role in other village level aspects, such as training, VWC problem solving, developing management plans, budgeting, and negotiating standpost positions, Handover Agreements etc.

Approach

A key to the success of the Water Engineer's work at village level is his/her approach. To descend upon the village as an all-knowing expert who deserves respect is

unlikely to develop the VWC's confidence. A more helpful approach is for the Water Engineer to:

- focus on affordability and the longer term sustainability of the water supply facilities;
- be flexible wherever possible, including the use of design norms, e.g. with agreeing on limits for the per cent of private connections in each village;
- collaborate with other professionals working at village level, supporting the facilitatory role of the CD Specialist or Extension Worker;
- encourage different groups in the community to contribute, participate in PRAs and consult widely;
- view the work as a learning process for all concerned, building on the existing knowledge of the concerned village people;
- clarify implications of decisions and actions, e.g. if the VWC do not transfer the agreed portion of the water tariffs collected to the ZP, then the scheme and water supply service will deteriorate;
- where differences or intractable problems arise, seek to negotiate solutions through an open dialogue.

Constraints

There are a number of constraints which Water Engineers face when adopting a more participatory approach in the selection of design options and supporting community management in the manner proposed in the two examples given above. These constraints include:

- a) *Existing training* - There is a general lack of broad-based training for engineers including social, economic and management issues, as well as training in problem solving approaches and communication skills.
- b) *Existing service regulations* - Engineers are often restricted in the overtime and expenses they can claim, for such work as attending evening meetings in villages.
- c) *Lack of delegation of responsibilities* - It is common for Engineers working in the villages, to have little scope to negotiate with village communities on key issues, because they do not have the delegated authority to do so. Highly hierarchical relations are preserved with the 'Confidential Report' system in Government, which in turn reduces the willingness of junior staff to take initiatives and accept more responsibility.
- d) *Inappropriate procedures and guidelines* - Current project procedures in India focus too much on obtaining official sanctions, which are often related to meeting arbitrary targets. The process of consultation and consideration of options is not well defined.
- e) *Crisis management* - has become the norm for many institutions responsible for water supply, leading to limited time available for planning and the yearly sanctioning of hastily planned emergency schemes.
- f) *Clarity of the division of responsibilities* - between the various institutions involved in the Water Sector could be improved in many areas.

Table 1. Support to village water committees

**Maharashtra regional rural water supply project (ODA)
Preparations for scheme handover and O&M**

- g) *Lack of a commercial and consumer approach* - in water supply institutions makes it difficult for engineers to act as 'Managers', as they should in their negotiations with project partners and consumers.

Potential solutions

To overcome constraints such as these requires considerable effort, planning and commitment. However, they are not insurmountable. Considerable progress has already been made in dealing with some of the above issues in the Maharashtra Water Supply Project. Potential solutions to these constraints include:

- developing more broad based training for Water Engineers at all levels, focusing on: developing a better understanding of other disciplines working in the sector; problem solving approaches; teamwork and communication skills;
- identifying, agreeing and implementing institutional change to improve organisational autonomy as well as a more commercial and consumer orientated approach;

- improve Management Arrangements through the development of: objective orientated planning, increased delegation of duties with appropriate job descriptions, guidelines for participative consultations and more flexible service regulations.

The challenge remains for Water Engineers in India to identify, agree and implement their own solutions to overcome—in collaboration with other sector professionals—the constraints they encounter, and thus make effective Participative Planning and support to Community Management a reality.

References

- ¹ Kolsky P. & Cotton A.; *Educating Engineers in Water and Sanitation*, UK, unpublished, 1995.
- ² ODA; *Guide to Social Analysis for Projects in Developing Countries*, HMSO, UK, 1995.
- ³ ODA; *Social Development Handbook*, 1993.
- ⁴ Tata Institute for Social Science (TISS), Mumbai; *Village Management Plan Format for Regional Water Supplies in Maharashtra*, unpublished, 1995.