



16th WEDC Conference

Infrastructure for  
low-income communities

Hyderabad, India 1990

## Integration of NGO water project components

Jon Lane

### 1. INTRODUCTION

The current coverage of water and sanitation facilities in Nepal (approx. 30% for water, 3% for sanitation) is considerably below the average for Asia. There is a great demand from the people for water: they generally identify it as one of the highest priorities for the improvement of their lives. Although the Government of Nepal has formulated plans to increase coverage, it is severely hampered both by the weakness of the national economy and by the geographical constraints of working in the Himalayas. Therefore a concerted effort is needed from the non-government sector to supplement the Government's work, and the Government welcomes this in principle.

The non-government sector consists of several hundred NGOs, such as health organisations, youth clubs, social and religious groups. These are mostly small organisations, with few staff or financial resources. They do, however, have strong local roots and enthusiasm. They do not wish to be used merely for the motivational aspect of some other agency's projects, but to carry out their own water projects themselves.

Typically such projects are small gravity-flow or tubewell schemes covering populations of 100-5000 people. The project locations are often isolated and the beneficiaries poor (their typical annual income being below U.S.\$100) and ill-educated. Their general living conditions, especially as regards health, hygiene and sanitation, are bad. In principle, the NGOs try to involve the people fully in the projects and to place ownership in their hands.

In order to undertake these projects successfully, the NGOs need financial assistance, technical support and coordination. The author has been working in Nepal for over three years for an organisation which aims to

provide these inputs. One of the major conclusions of the work to date has been the importance of integrating all the different aspects of a project into a single clearly-defined whole. This paper examines why and how to carry out that integration, starting from a consideration of the common problems.

### 2. PROBLEMS OF NGO WATER PROJECTS IN NEPAL

Among the major problems commonly identified in NGO water projects in Nepal are:

#### Conceptual Problems

- The community, the NGO and the donor often have very different understandings of the overall aim of the projects. (Ironically, this is often caused by the high demand for water: projects are seen as providing water only, and the overall improvement of health and living conditions, of which water supply is only a part, is neither understood nor demanded).

- In deciding whether to launch a particular project, the community do not have a clear idea of how much work is involved on their part. They can be over-optimistic about their own abilities.

- The people have difficulty in judging the success of their water projects. Often this is judged only by the flow of water from the tap, and not by the potential benefits to health and living standards. (These benefits will generally only be achievable if the water supply has been well designed and built, if it functions reliably for a long time, if the people make good use of their water and if other hygiene practices, notably excreta disposal, improve to complement the water supply).

Technical Problems

- Projects are designed without consulting the people or properly studying the location (e.g. tapstands wrongly located, sources which dry up). Often projects are designed by staff who are not sufficiently trained or experienced.

- Project design is not aimed at minimising maintenance (e.g. stream crossings too weak, odd sizes of pipes and fittings, over-use of imported items, use of poor-quality materials).

- Construction supervision is bad, leading to poor standards of construction quality and hence more maintenance problems (e.g. unburied pipes, leaking tanks, low yielding tubewells).

Management Problems

- In projects with several different components, these are often the responsibility of different staff members who fail to coordinate their activities, due to weak overall management.

- Construction work is not properly finished, which is usually due to under-funding or to lack of mobilisation of the people rather than to technical failures.

- Projects are ineffectively maintained, due to lack of systematic management and fundraising structures in the community and lack of manpower training.

Educational Problems

- The people accept poor quality of construction work, because they do not know any better, never having seen good quality work in their area.

- The people do not know the importance of good construction and regular preventive maintenance. They also have a poor attitude towards their own primary role in maintenance.

- The users abuse the system, because they have not been taught how to use it properly.

- The water supply is not used to its full potential (e.g. personal and household washing not increased, low quantity of water used, water quality not maintained in the home).

- The potential benefits of improved water supply are negated by poor hygiene and sanitation practices of the people (e.g. open defaecation, contamination of food, lack of solid waste disposal).

## 3. BENEFITS OF INTEGRATION OF PROJECTS

Many of the problems mentioned above can be reduced or avoided by integration of the different project components. For clear understanding, it is helpful to list these components. They fall into two groups: component activities and component phases.

Component Activities

Water Supply  
Sanitation  
Health Education  
Project Management  
Maintenance

Component Phases

Planning  
Design  
Implementation  
Operation  
Evaluation

The project consists of all of the activities carried out at all of the phases. Integration of the project simply means the understanding and use of the inter-dependence of each component with every other component. In an integrated project, all the component activities and phases are considered together and their links with each other are utilised to achieve the overall aim.

Thus, a water project is not carried out in isolation, but always with sanitation and health components, properly managed and maintained. The sanitation interventions aim to break faeco-oral disease transmission paths, in conjunction with health education. Environmental hygiene measures help to improve living conditions and optimise the benefits of water supply. Health education raises personal awareness and understanding of the basic issues, and hence motivation for all aspects of the project to be successful. The users are more committed to putting money and effort into the construction

and maintenance of the project, because they understand both its technical nature and its potential benefits. The NGO's project management structure provides cohesion, efficiency, accountability and a sense of ownership.

The beneficial effect of the whole project is greater than the sum of the effects of its individual parts carried out in isolation.

#### 4. METHODS TO ACHIEVE INTEGRATION

The following are some methods and principles that have been observed to contribute to successful integration of water projects:

- The NGO understands the benefits of the integration, as outlined above. This generally requires careful explanation, because the original demand from the people, and hence from the NGO, is usually for the water supply component only.

- The NGO always thinks of the project as a whole and not of the components in isolation.

- The people are educated before implementation starts to share the NGO's understanding of the nature of the project and to raise their enthusiasm for it.

- The project is carefully defined and planned as a whole, rather than planning each component in isolation. For example:

- The health education work leads to the demand for sanitation improvements, so the latter is planned to start later.

- If water is needed for the preferred type of latrine, then the water is planned for completion before the installation of the latrines.

- The individual component activities are then designed in detail and cross-referred to each other.

- A proper range of staff are appointed and budgets clearly allocated to each component, including those less visible such as the project management and training.

- A maintenance committee is formed before construction starts, to motivate and inform the people about the maintenance while they are building the project.

- Tapstand user groups, formed primarily for fund-raising and routine maintenance, can be used as focus groups for the health education work.

- Maintenance workers are appointed before the construction starts, and can be trained during construction.

- The education on use of the water is completed before the water flows, so that the people understand how to use it from the very beginning.

- During the implementation phase, the NGO and the project staff constantly monitor the work, view the progress of each activity in relation to the others, and identify problem areas. This information is fed back to the community, and activities can then be replanned to cope with the actual circumstances. For this, flexible timescales and budgets are necessary.

- During the operational phase, problems that occur with the water or sanitation system can be used as themes for the educational work.

- The evaluation of the project considers all the components together in the light of the stated aims and objectives. Lessons from the evaluation can be incorporated into the planning of future similar projects.

#### 5. SUMMARY

This paper has drawn attention to one important aspect of NGO water projects in Nepal: that of integration of the project components. An integrated approach has many benefits in helping to solve the common problems found in such projects. Some indications have been given of working methods to achieve integration in practice. Although the paper is based on experience in Nepal, the ideas discussed may also be helpful to NGOs in other countries.

