

NEPAL, EASTERN REGION WATER SUPPLY PROJECT

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The Project

The objective of the Eastern Region Water Supply Project (ERWSP) was to install water supplies to 16 communities, covering about 63,000 people, and improve the water supply to one hill town (Dhankuta). It included a community Health and Sanitation Programme and community-oriented operation and maintenance. The schemes were to consist mainly of public tapstands and, in the hills, gravity-fed supplies. In the plains areas, however, schemes required more complex pumping and storage works. Substantial benefits were expected from the reduction in time and labour spent collecting water and from an improvement in health from safer water supplies.

UK engineering consultants were to have overall responsibility for the management of capital funds, with the Nepalese Department of Water Supplies and Sewerage (DWSS) as the implementing agency. Implementation was expected to last three years from 1984 to 1987. ODA intended to meet 100% of the costs, estimated at £3.9m (at 1982 prices). Project conditions included provision by DWSS of adequate budgetary support for maintenance, and progress towards reform of the national water tariff policy.

The Evaluation

The evaluation was jointly undertaken by ODA and DWSS. The full report provides details of team members, terms of reference, itinerary, and people consulted. The field work for the study was carried out in Eastern Nepal in November 1992.

Overall Conclusion & Success Rating

The project was *partially successful*. Eight schemes were completed to a high standard of construction, often in difficult circumstances. The community health and training components were effective in the short to medium term and the project has brought significant benefits of better quality water, better health conditions and practices, and a better quality of life, especially for numbers of women, arising in part from easier access to domestic water and the associated time saving. The project was less successful in that there were significant time and cost overruns and fewer schemes were completed than planned. Three of the largest schemes were left unfinished. They were subsequently finished under a separate project. There is also doubt over the longer term sustainability given the inadequate budgetary and institutional support and the lack of capacity for

management at the community level.

The Main Findings

- As designed, the project was clearly over-ambitious. Early on, 5 schemes were dropped and, by the end, 3 schemes and the work in Dhankuta were still to be completed. In addition, there were significant time and cost overruns: the project was extended to June 1989 and, overall, there was a 46% escalation in costs.
- Given the lack of relevant previous experience with implementing such schemes in Nepal and the geographical inaccessibility of the project sites, implementation should have been sequential, not simultaneous, with a longer time period.
- The project went ahead on the basis of inadequate technical, economic and social data. Engineering re-design took place only when the consultants had staff in post.
- The implementing agency and the consultants were primarily engineering organisations and the bulk of the project was engineering-led, with emphasis on provision of infrastructure constructed to a high standard. Overall project objectives, however, required a wider approach.
- Institutional and social issues were given some but insufficient consideration during the redesign and implementation. This may have been because of the limitations of the original design. Greater attention should have been given to such issues, to promote community involvement and ownership, in order to underpin longer term sustainability.
- Water supply schemes were continuing to function in the villages visited by the evaluation team but routine and preventative maintenance work has been neglected since the project's end. DWSS lacks the capacity and adequate maintenance budget for sufficient maintenance work. A serious problem affecting the operation of the schemes visited was the lack of minor spare parts and tools. Typically, about a third of all taps were broken or needed replacement parts.
- Access to water was widely and, for the most part, equitably distributed among the sections of the communities which could be reached by the systems. Greater attention should, however, have been given to the possibility of misuse or waste of water, both of which were occurring in some cases, to the detriment of other users.
- Women reported physical and mental health benefits from easier access to piped water and savings of time; for many women, such time savings, especially when these were substantial, were perceived to be the greatest benefit. Nevertheless, the evaluation found that women should have been consulted more about aspects of infrastructure design.
- The Health and Sanitation Programme was well-designed in terms of staff, content, approach to communities, and educational materials. Implementation, by training of trainers with cascade effect via male and female Village Health Leaders (VHLs), was very effective. The programme was successful in reaching both men and women and was designed to involve women at all stages. It reached households of all castes and social groups in the communities.

- Post-collection care of water and, possibly, its quality were improved by the programme: so too, was food management in the home, especially with regard to protection from flies. The programme also increased latrine coverage in communities receiving sanitation education. Disease morbidity, especially diarrhoeal disease, reportedly fell, the most common reduction being by 60-75% and children being the greatest beneficiaries.
- The Health and Sanitation Programme did not begin until 18 months after the start of the engineering component. Earlier implementation of the health programme would have enhanced its positive effects.

Lessons

- Many of the project's problems arose from its overambitious objectives. These could have been reassessed if the original design had received a more searching appraisal. The key lessons here are: (i) the need to appreciate the logistical and organisational difficulties presented by the mountainous terrain of Nepal's Middle Hills and the dispersed location of the schemes; (ii) the need to provide careful checking of all technical and social data used as the basis for scheme design; (iii) the need to have a realistic appreciation of the limited capacity of partner institutions like the DWSS.
- Community participation needs to be built into the initial design, particularly in relation to the engineering component. The community focus of the health and water user education components can be a notable strength but here also the programme needs to address those institutional issues upon which depend the sustainable impacts of such projects over the longer term. In particular, a more broadly based social development component would have made possible: (i) greater awareness of the social characteristics of the target populations; (ii) formulation of strategies to promote, from the outset, community awareness of the project, community participation in scheme design and location of outlets; development of village level institutions such as Tapstand User and Health Committees; and links between these and with regional level agencies; (iii) overall strengthening of a community sense of ownership of schemes and capacity for sustainability over the longer term.
- The question of sustainability of the schemes should be of central concern from the start. Provision for long term maintenance needs to be realistically tackled. Given previous general experience in Nepal it was unrealistic to expect that a project of limited scope can either bring about reform or survive without it.
- Construction of relatively large centralised and costly schemes may not be the best solution to the provision of much needed water supplies. Consideration should also be given to smaller schemes based on more numerous local sources.