Mozambique: Rural Water Supply (Emergency Drought Relief)

Ex-post evaluation

OECD sector	14030 - Water supply and sanitation – small systems	
BMZ project ID	1993 65 032	
Project-executing agency	Direcção Nacional de Água (DNA)	
Consultant	Landwehr und Partner, Hamburg (until 1997) CES – Consulting Engineers Salzgitter, Lingen (from 1998)	
Year of ex-post evaluation	**2005**	
	Programme appraisal (planned)	**Ex-post evaluation (actual)**
Start of implementation	3rd quarter 1993	3rd quarter 1994
Period of implementation	36 months	69 months
Investment costs	EUR 5.1 million	EUR 5.1 million
Counterpart contribution	not planned	EUR 0.3 million
Financing, of which Financial Cooperation (FC) funds	EUR 5.1 million	EUR 4.8 million*
Other institutions/donors involved	-	-
Performance rating	4	
• Significance / relevance	4	
• Effectiveness	4	
• Efficiency	5	

* Balance of EUR 0.36 million was utilised in other FC projects in Mozambique

Brief Description, Overall Objective and Programme Objectives with Indicators

The programme was originally designed to overcome the water shortage problem caused by the drought which affected the rural population and civil war refugees in three provinces of the country. As a result of considerable delays, however, it lost its direct relevance to the drought of 1991/92 and, after the measures were modified accordingly, ultimately served to ensure the long-term drinking water supply for the population in selected programme regions in the provinces of Maputo and Zambézia. The measures comprised the rehabilitation of existing and the construction of new hand pump wells, the rehabilitation and enlargement of supply installations in small towns and the repair of the water supply mains of the town of Quelimane. The measures originally planned in the province of Manica were cancelled for cost reasons. The project-executing agency was the National Water Directorate (Direcção Nacional de Água) in the Ministry for Public Works and Housing.

On the basis of the modified programme conception the FC programme was intended to contribute to improving the living conditions by reducing health hazards to the population (overall objective). The objective of the programme was to durably supply the population in the programme areas with sufficient quantities of drinking water (25 litres per person per day). The

indicators for the achievement of the programme objective were defined as being the degree of utilisation of the facilities by the target group and the population's hygiene behaviour.

Programme Design / Major Deviations from the original Programme Planning and their main Causes

The original programme design covered measures in selected areas in the provinces of Maputo, Manica and Zambézia. Owing to delays in implementation the programme measures had to be redesigned in 1996/97 as they had lost their immediate relevance to the drought relief. Besides, the cost of consulting services had already soared to high levels by that time, requiring cuts to be made to the investment measures. So the measures originally planned in the province of Manica as well as those planned in parts of the programme areas occupied by the anti-communist resistance movement *Renamo* until the end of 1992 (end of the civil war), which had not yet been specified, were cancelled as well for cost reasons. What was planned was the construction and rehabilitation of hand pump wells and supply systems for smaller towns (provinces of Magude and Maputo) as well as the rehabilitation of raw water extraction, the supply mains and smaller supply installations in the City of Quelimane (Province of Zambézia). Measures directed at organising user groups, training standpipe supervisors and hygiene education were newly introduced to increase the sustainability of the programme measures.

The following investment measures were eventually performed under the programme: (i) In the province of Maputo (districts of Magude and Manhiça) 51 boreholes were newly built or rehabilitated and equipped with hand pumps. (ii) Also in the province of Maputo three water supply systems for small towns were rehabilitated (towns of Magude, Manhiça and Xinavane). (iii) In the province of Zambézia the raw water extraction was rebuilt for the city of Quelimane, the supply mains was repaired and standpipes and supply facilities set up alongside the mains were rehabilitated. Equipment and machinery needed for maintenance and operation were acquired as well. Finally, the above-mentioned measures aimed at increasing sustainability were carried out.

The conception was generally not suitable for assuring the long-term supply of the population with drinking water as major deficiencies in the supply systems were not addressed, for instance in drinking water distribution. Moreover, even after modification of the programme measures, not enough importance was given to complementary hygiene education measures or measures aimed at organising user groups and committees that would have been able to ensure the sustainability of the measures.

Key Results of the Impact Analysis and Performance Rating

The programme benefited roughly 70,000 people in the province of Maputo (45,000 of which in smaller towns) and around 100,000 people in the province of Zambézia. However, the programme objectives were achieved only in part and not at all programme locations. It is true that the supply situation has changed and the target group now has access to safe drinking water at almost all locations. But actual consumption is low (around 10 litres per inhabitant per day), covering merely the absolute minimum needs so that the population additionally resorts to alternative sources of water, most of which are not safe (open dug wells, surface water). Besides, health hazards remain even after completion of the programme, particularly in connection with drinking water transport and storage, but also as a result of improper consumption habits.

Sustainable operation is not ensured at all locations. Operation and maintenance of the hand pump wells in the district of Magude and, in particular, in the three smaller towns, are inadequate; some facilities are already out of order. While in the district of Magude the cause

was lack of acceptance by the population of the "salty" water the operating problems in the small towns resulted from the very low capacities of the municipal and district administrations operating the systems. The excessively low water tariffs which, combined with low collection efficiency, fail to even cover the cost of operation, play an important role in this connection.

In contrast, the situation of the hand pump wells in the district of Manhiça and of the water supply system in the city of Quelimane appears to be comparatively positive. At the time of the ex-post evaluation the facilities were in good condition. In Quelimane a decisive factor in this development was the fact that the operation was transferred to a private operator under a management agreement that includes the obligation to perform preventive maintenance. In the district of Manhiça the population uses the hand pump wells intensively and performs minor repairs as needed. Financing is usually provided ad-hoc and only in individual cases on the basis of regular contributions. The population cannot afford to finance major repairs.

There is no reliable information on the development of the health situation in the programme areas. As the programme measures have improved the supply of the population with safe drinking water it can generally be assumed that the health situation has improved as well, although risks arising from transport, storage and consumption habits remain as mentioned above.

The programme measures benefited roughly 170,000 people in the programme regions. The vast majority of the target group is poor. Thus, the project had an immediate poverty relevance. At the locations of the hand pump wells as well as in places where water supply is provided through public standpipes the target groups are generally responsible for operation, maintenance and repairs. Their level of organisation, however, is low throughout. There are no organised user groups; instead, water supply is usually supervised by local "traditional" authorities (such as the local delegate of the government party).

The vast majority of users of the hand pump wells and public standpipes are women, making it plausible to assume positive effects on women. First, at some programme locations the measures have resulted in reducing the amount of time required for fetching water. Second, as health conditions improve the effort required to care for ailing family members, a task usually performed by women, diminishes.

Below we rate the developmental effectiveness of the programme against the key criteria of effectiveness, relevance, significance and efficiency.

As the programme objectives were achieved only in part and the programme measures are not sustainable at some locations we rate the effectiveness of the programme as slightly insufficient (rating 4).

Hygiene education measures were not given enough importance in the programme, as was the case with other complementary components (user group organisation and training of standpipes supervisors). This is why it was not possible to bring about any significant changes in the population's hygiene behaviour. As the modified programme was not based on a conclusive conception either, it succeeded only in achieving a limited amount of lasting positive health impacts although it was generally of great relevance to the improvement of water supply. We therefore rate the significance and relevance of the programme as slightly insufficient (rating 4).

As a result of the long delay at the start of programme implementation, as well as the replacement of the consultant due to inadequate performance the consulting costs reached an unacceptably high level of around 42% of the total programme cost, diminishing the production efficiency of the programme. Given the low cost recovery rate (allocation efficiency), particularly

in the three small towns, we rate the efficiency of the programme overall as clearly insufficient (rating 5).

In consideration of these key criteria we rate the developmental effectiveness of the programme on the whole as slightly insufficient (rating 4).

Conclusions and Recommedations

When substantial changes in the overall programme setting precede the implementation of a programme the executing agency and KfW should conduct an in-depth review and, where necessary, modify the programme conception, if necessary on the basis of additional studies.

In rural water supply programmes it is indispensable to implement comprehensive measures to involve the users (such as user group organisations) as well as hygiene education campaigns to ensure the sustainability of the programme and to achieve significant impacts at the level of the overall objective (to improve the health situation of the population).

Legend

Developmentally successful: Ratings 1 to 3	
Rating 1	Very high or high degree of developmental effectiveness
Rating 2	Satisfactory degree of developmental effectiveness:
Rating 3	Overall sufficient degree of developmental effectiveness
Developmental failures: Ratings 4 to 6	
Rating 4	Overall slightly insufficient degree of developmental effectiveness
Rating 5	Clearly insufficient degree of developmental effectiveness
Rating 6	The project is a total failure

Criteria for the Evaluation of Project Success

The evaluation of the "developmental effectiveness" of a project and its classification during the ex-post evaluation into one of the various levels of success described in more detail below concentrate on the following fundamental questions:

- Are the **project objectives** reached to a sufficient degree (aspect of project **effectiveness**)?
- Does the project generate sufficient significant **developmental effects** (project **relevance** and **significance** measured by the achievement of the overall development-policy objective defined beforehand and its effects in political, institutional, socio-economic and socio-cultural as well as ecological terms)?
- Are the **funds/expenses** that were and are being employed/incurred to reach the objectives **appropriate** and how can the project's microeconomic and macroeconomic impact be measured (aspect of **efficiency** of the project conception)?
- To the extent that undesired **(side) effects** occur, are these tolerable?

We do not treat **sustainability**, a key aspect to consider for project evaluation, as a separate category of evaluation but instead as a cross-cutting element of all four fundamental questions on project success. A project is sustainable if the project-executing agency and/or the target group are able to continue to use the project facilities that have been built for a period of time that is, overall, adequate in economic terms, or to carry on with the project activities on their own and generate positive results after the financial, organisational and/or technical support has come to an end.