Cameroon: Water Supply Bafoussam

Ex-post evaluation

OECD sector	14030 / Water supply and sewage disposal	
BMZ project ID	1991 65 028 1991 70 408	
Project-executing agency	Ministère des Mines, de l'Eau et de l'Energie (MINMEE)	
Consultant	IGIP	
Year of ex-post evaluation	**2004**	
	Project appraisal (planned)	**Ex-post evaluation (actual)**
Start of implementation	Q 3 1991	Q 3 1993
Period of implementation	48 months	69 months
Investment costs	EUR 14.7 million	EUR 15.1 million
Counterpart contribution	EUR 1.4 million	EUR 0.0 million[1]
Financing, of which Financial Cooperation (FC) funds	EUR 13.3 million	EUR 15.1 million
Other institutions/donors involved	None	None
Performance rating	Overall slightly insufficient degree of developmental effectiveness (rating 4)	
• Significance / relevance	Rating 4	
• Effectiveness	Rating 4	
• Efficiency	Rating 3	

Brief Description, Overall Objective and Project Objectives with Indicators

The project comprised the rehabilitation and expansion of the existing water supply system in Bafoussam and Bandjoun as well as the connection of the towns of Baham, Bamendjou and Baméka to the system. Under a complementary measure, the city administration of Bafoussam was advised on how to operate the sewage disposal system more efficiently. In addition, the Direction Régionale de l'Ouest (DRO) of the national water utility Société Nationale des Eaux du Cameroun (SNEC) was offered advice on how to increase water sales. Sensitization activities were also carried out in connection with the measure.

The overall objective of the project was to contribute to reducing the health risks resulting from water-borne and water-related diseases. At the time of the project appraisal in the year 1991 the

[1] Cameroon's counterpart contribution as stated in the project appraisal report of 10% of the investment costs was made by privately financed, additional measures amounting to approx. EUR 1.4 million. Since these measures were not implemented under the project, they were not included in the calculation of the total cost.

project objectives included supplying the population in Bafoussam, Bandjoun and Baham with sufficient, qualitatively safe drinking water through 2005, improving the disposal of solid waste in Bafoussam and sensitizing the target group to hygiene in connection with drinking water and domestic waste. After the loan was increased in 1996, the project was expanded to include the towns of Bamendjou and Baméka and the time frame was extended by five years to 2010.

No indicators were defined for achieving the overall objective. The following indicators were to measure the achievement of the project objectives:

- Connection rate (after the increase: Bafoussam 90%, Bandjoun 80%, Baham 70%, Bamendjou and Baméka both 75%);
- Average per-capita consumption by the connected population (target: Bafoussam 40 l/c_d, Bandjoun 30 l/c_d, Baham, Bamendjou and Bakéma 26 l/c_d);
- Water quality matches the standards set by the World Health Organization.

The target indicators for the complementary measure were either changed or cancelled during implementation. Ultimately, the project's success was to be measured against the following indicators:

- State and community agencies assess the success of the sensitization measures and carry out additional sensitization campaigns if needed.

Project Design / Principal Deviations from the original Project Planning and their main Causes

The construction measures originally comprised the rehabilitation and expansion of the existing water supply system for the towns of Bafoussam and Bandjoun as well as the connection of the town of Baham to the system. In 1995 the connection of the nearby towns of Bamendjou and Baméka to the central water supply system was added to the project. The measures performed encompassed the rehabilitation and expansion or construction of three water treatment facilities, nine pumping stations, six reservoirs and the installation of 65 km of main pipes and 209 km of distribution mains. The facilities were planned in such a way that they will meet the projected demand in the year 2010. The installed production capacity increased as a result of the measures that were performed from 11,041 m^3 / d to 27,700 m^3 / d. The construction of 50 public standpipes – which were originally planned – was cancelled because the needs were considered covered.

The construction of ten model latrines, which was originally planned, was not carried out due to unclarified operating issues. The construction of a regulated dump in Bafoussam was cancelled as well because the city of Bafoussam was unable to provide a suitable location during the agreed period. Thus, the planned delivery of four container vehicles and 60 new waste containers was no longer necessary, either. As a result, in the field of sewage disposal the city administration was simply offered advice under the complementary measure as to how to build up an efficient disposal system.

Apart from the activities originally planned in connection with the complementary measure, the DRO was offered advice on how to increase water sales. The measures involved the provision of 5,000 new house connections that were to be sold within one year at a cheaper price. Additionally, 4,000 more water meters were procured. Under the water marketing campaign advertising was carried out directly in the households by advertisers for a new connection or reconnection to the central water supply system. Further, individual measures were realized to

improve hygiene awareness in connection with drinking water. Also, advice was offered on how to improve customer relations and collection, to reinstate inactive connections, to prevent fraud in connection with water withdrawals, and to control the standpipe operators.

Compared to the plans at the time of the project appraisal, the completion of the facilities was delayed by nearly four years. The delay was caused by the sluggish administrative process of the state of Cameroon (three years until the construction measures actually began) and by the prolongation of the construction period by one year, with eight months of the delay having been caused by the construction firm. Redesigning the complementary measure reduced its period of implementation from 48 months as originally planned at the time of the project appraisal to 36 months.

Key Results of the Impact Analysis and Performance Rating

The SNEC is a joint stock company, and the state of Cameroon owns 94% of the shares. It is commissioned by the state to operate all of the urban water supply systems in the country. Currently there are 102 operating centers split up among nine regional directorates. The organization's structure is highly centralized. All financial flows are pooled at the head center; the regional directorates are assigned annual budgets. Since 1995 the IMF and the World Bank have also been pushing for the privatization of the SNEC as part of an extensive privatization programme. In a public tender, only one bid was submitted for the concession (by Ondéo Services). However, the negotiations between the Cameroonian government and Ondéo Services broke down in September 2003. At the moment, less far-reaching forms of privatization are being discussed (operator contract). Another tender is scheduled for 2005.

For the SNEC the privatization talks had highly negative impacts. Since 1995 the state of Cameroon has practically ceased investing in the urban water supply system. External donors withdrew. The national tariff table, which basically has legal force, has not been changed since then, although the prices increased significantly due to the devaluation of the FCFA (1994). At the same time, state agencies stopped payment on most of their water bills, so that the collection rate declined substantially. As a result, the financial situation of the SNEC deteriorated considerably. It was no longer able to finance the necessary operating expenses, much less to expand the existing systems. Even if – at least with regard to liquidity – improvements have been made recently, the technical condition of the assets is generally poor. A meaningful indicator of this situation is the fact that the total installed production capacity is available to only 57%.

The current supply situation in the project areas is far behind expectations. After the loan was increased, water consumption of 5.5 million m^3 was calculated for the year 2003. In actuality, 3.1 million m^3 were sold in the five project cities in 2003. Therefore, the actual consumption corresponds to only 55% of the planned consumption. The connection rate in Bafoussam is currently approx. 49% and, in the smaller towns, between 16% and 38%. Thus, the corresponding indicators of achievement of the project objectives were not met by a wide margin. Standpipes supply only around 4% of the population with water; so, they account for only a minor share of the supplies. The specific consumption by households connected to the system about matches the expectations. Consumption at the standpipes ranges between 3 and 7 l/c_d, i.e. it is very low, so that they only partially supply the population with water. The water quality does not pose a problem.

A main reason for the low supply level is the high cost of accessing the water provided by the SNEC compared to the purchasing power of the population. This includes – albeit to a lesser degree – the running expenses (on average EUR 0.5 per m^3) and the connection costs of between EUR 150-210 (including a deposit for future consumption), which are prohibitive for a

majority of the population. Increasing the connection rate is made more difficult by the fact that other sources of water are widely available, which for the population are an alternative to the SNEC water. Since there are no systematic sensitization activities, the population is not sufficiently aware of the risks involved with using alternative sources. The SNEC assigns the standpipes rather a marginal role in water supply (nation-wide there are only 184 standpipes). What is more, they are not of interest economically, neither to the licencees nor to the users.

The SNEC's DRO operates the water supply system. The system is, for the most part, adequately operated and maintained. Owing to the liquidity problems of the SNEC (see above), in many cases system components that have broken down cannot be replaced or repaired. For instance, only around two-thirds of the installed production capacity is actually available. Pressure management in this topographically challenging system poses major problems. As a result, the system requires a great deal of maintenance (on average twelve grid repairs per day), and the water losses of around 40% are too high. Due to the liquidity problems, the DRO was unable to expand the distribution network on its own, so that some applications for a house connection had to be rejected.

The management of the system is quite good. Nearly all connections are equipped with functioning meters. The invoicing and collection are organized efficiently. Water inventories are prepared on a regular basis, although this task is rendered difficult by defective or inaccurate large water meters.

The economic results of the funded water supply system are not satisfactory. When the collection rates of 95% for private customers and 80% (estimate) for the public administration are taken into account - which accounts for approx. 27% of total revenues at the project sites – the result is average tariff revenues of FCFA 314/m³. Thus, the operating costs were covered to 86% and the full costs, to 58%. Consequently, the five project sites have to be cross-subsidized by the main center in Douala in order to be able to finance running operations on a long-term basis. This result is alarming because Bafoussam is the third-largest operating center of the SNEC, which would normally mean it has a good chance of making a positive contribution to the SNEC's overall result.

For the most part, the consulting services for the city administration that aimed to make waste disposal more efficient had only a temporary impact. The long-term application of the proposals that were worked out failed because of scarce material and personnel resources on the part of the city administration. The water marketing component under which 5,000 house connections were to be sold within one year made slow progress. In the end, it took four years and the original price reduction of 25% had to be increased to 50%. The sensitization campaign was not continued after the consultant left.

Our overall assessment of the project's developmental effectiveness can be summarized as follows:

- Overall the achievement of the project objectives is insufficient, mainly because of the insufficient connection rate. The level of supply for the population remained far behind the expectations, which was expressed in part by the insufficient use of the project facilities. What is more, the project objective defined for the complementary measure was not achieved, either. The consequences for the possible privatization of the SNEC and the resulting influence on its financial and operational situation are difficult to project. Overall, we rate the project's effectiveness as slightly insufficient (sub-rating: 4).

- The developmental relevance of the project is given since the health risks facing the population could potentially be reduced by improving the water supply. Since the supply

level for the population is still inadequate, traditional sources of water continue to be used, and the waste disposal situation in the project cities is poor, the incidence of water-borne and water-related diseases is not expected to decrease significantly. The project's poverty orientation is strongly limited because the project mainly reached higher-income groups. Overall, the project's relevance and significance are slightly insufficient (sub-rating 4).

- Based on current prices, the specific investment costs are close to EUR 128 and are thus acceptable despite the low connection rate. The operational efficiency is ambivalent. Although in some areas the operational resources are not sufficient for sustainable operation, the available resources are being used efficiently in comparison. Overall we judge the production efficiency to be sufficient. Due to the low recovery of operational costs of 86% we consider the allocation efficiency to no longer be sufficient. However, in the case at hand water wastage is not induced. So, since the production efficiency is sufficient, we judge the project's efficiency to be sufficient overall (sub-rating 3).

Taking the above mentioned key development criteria into account, we judge the developmental effectiveness of the project to be slightly insufficient (rating 4).

General Conclusions

The project design must be adjusted to the given situation in the project area. In the project at hand, this was the case to only a limited degree. In view of the broad range of alternative sources of water, one focus of the complementary measure should have been on intensive public relations that are as institutionalized as possible to permanently raise awareness among the population about the use of hygienically safe water. In view of the insufficient ability of the population to pay connection fees and the running expenses tied to a house connection, the standpipe component should have been emphasized more in order to also provide poor population groups with access to the water supply system. In addition, an attempt should have been made to reach an agreement with the project-executing agency on a suitable economic incentive scheme for the operation and use of standpipes. Finally, in order to increase demand for house connections, other financing possibilities such as installment payments should have been considered for potential customers.

Legend

Developmentally successful: Ratings 1 to 3	
Rating 1	Very high or high degree of developmental effectiveness
Rating 2	Satisfactory 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.