

Ex Post-Evaluation Brief

Uganda: Water Supply and Wastewater Disposal, Entebbe



Programme/Client	Water Supply and Wastewater Disposal, Entebbe – 1998 66 807	
Programme executing agency	National Water and Sewerage Corporation (NWSC)	
Year of sample/ex post evaluation report: 2012*/2012		
	Appraisal (planned)	Ex post-evaluation (actual)
Investment costs (total)	EUR 16.5 million	EUR 20.2 million
Counterpart contribution (company)	EUR 1.9 million	EUR 5.6 million
Funding, of which budget funds (BMZ)	EUR 14.6 million	EUR 14.6 million
	EUR 14.6 million	EUR 14.6 million

* random sample

Project description: The project included measures for renovating and extending water purification plants, rehabilitating and expanding the water supply network, extending the sewerage system, expanding an existing and constructing a new pond sewage treatment plant.

Objective: Overall objective: “To contribute to reducing waterborne disease among the inhabitants of the project area” (this being a more specific expression of the original overall objective: “To contribute to improving the health situation of the project area ‘s the inhabitants”). In addition, the following was introduced as a new overall objective: “To contribute to realising the human right to clean drinking water and sanitation”.
Project objectives: To ensure the provision of hygienic services for water supply and sewage disposal on an economically acceptable basis. (The secondary objective listed in the project appraisal report, “To smooth the way for the takeover of facilities management by a private operator, through modernising water supply and sewage disposal infrastructure”, became obsolete over the course of the project).

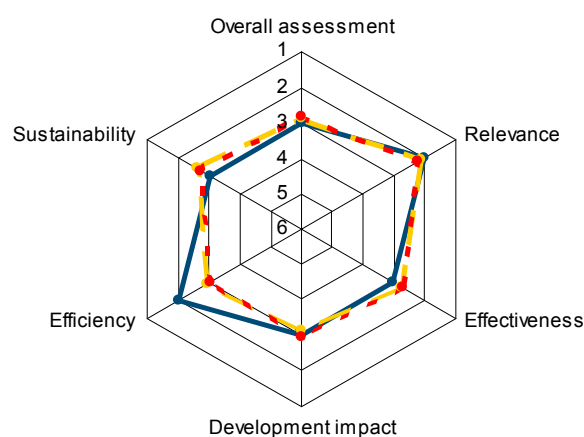
Target group: The entire population of Entebbe and those residing within the catchment area of a supply pipeline planned for the *Sub-County* of Katabi.

Overall rating: 3

The project is of great relevance; it is economically sustainable, the water supply components are efficient, and most of the objective indicators are met. Scoring has been reduced in certain areas as the connection rate to the centralised water supply network is only about 70%, and overall, ecological sustainability of the project executing agency is not assured. Furthermore, the initially designed facilities were for too many people. This was balanced out by enlarging the project area.

Of note: Private sector involvement in managing the facilities, which was the preferred option at the time of project appraisal, was relinquished in favour of “*Internally delegated Performance Contracts*” between the Ministry for Water and the Environment (MWE) and the NWSC. Today, this has proven to be the right decision and a pioneering approach.

Rating by DAC criteria



—●— Project
 -■- Average rating for sector (from 2007)
 -◆- Average rating for region (from 2007)

EVALUATION SUMMARY

Overall rating: Rating 3

Relevance: At project appraisal, only around 60% of the target group (approx. 72,000 people) in the project area (which was planned to include the city of Entebbe as well as part of Katabi county) were connected to the centralised water supply system. In addition, the water purification plants had insufficient capacity. Of total wastewater produced, only 4% was being transported to an undersized pond sewage treatment plant via a rudimentary centralised wastewater system (the core problem). The planned measures under this project - constructing, extending and/ or rehabilitating water purification and wastewater disposal facilities, including the water supply network, the sewage disposal network, and pond sewage treatment plants - were suitably modified and expanded over the course of the project. From today's perspective, these measures were appropriate for solving the core problem and thereby achieving the project objective - ensuring the provision of hygienic water supply and sewage disposal services on an economically acceptable basis. This aimed to make a contribution to improving the health situation of the target group (the overall objective).

Improving the health situation for the target group – or, expressed more accurately, reducing the incidence of waterborne disease is not only dependent on providing adequate supplies of drinking water to that target group but also on individual hygiene practices. This issue was not addressed by the project or any other donor initiatives. Hence, it is not possible to measure the health impact of this project *ex-post*. However, the project has made a relevant contribution toward attaining the second, recently introduced overall objective of “fulfilling the human right to clean drinking water and sanitation”.

Residential water management was and still is a priority in development cooperation between Germany and Uganda. The project fitted into this context, and was properly coordinated with TC projects, as well as with the projects and programmes of other donors. Local executing agency structures were appropriately used. The continuing development of these structures was predominantly supported through close cooperation with TC; this was complemented by FC measures in specific areas to support the executing agency in facilities management. Sub-Rating: 2.

Effectiveness: The project objective was to ensure the provision of hygienic services for water supply and sewage disposal, on an economically acceptable basis, to the entire population of the project region. The secondary objective was defined as smoothing the way for the takeover of facilities management by a private operator, through modernising water supply and wastewater disposal infrastructure.

At project appraisal, it had been planned to involve the private sector through a *Lease Contract* or a concession agreement covering the NWSC cities. However, given their negative experience with such contracts since 2003, the Ugandan partners reconsidered this approach. Since then, MWE has been concluding “*Internally Delegated Performance Contracts*” with NWSC as an al-

ternative. These contracts contain annual performance indicators; NWSC either receives bonus payments when the indicators are met, or must pay penalties when they are not. In retrospect, this was the right road to reform; NWSC is now working in a professional and economically sustainable fashion. For this reason, the secondary objective - the takeover of operations by a private operator - has not been considered in this assessment.

Progress towards project objectives was measured using the following indicators:

- During the project, the project area and with it the size of the target group were substantially extended. Altogether, 160,000 people were given access to centralised drinking water supplies within a distance of 500m. Of these, approx. 90,000 people gained access for the very first time, and approx. 70,000 people who already had access to the centralised drinking water system prior to the project acquired improved access in terms of both the volume and the availability of water supplies. However, it has not yet been possible to complete the network due to inadequate budget provisions at NWSC Entebbe. Therefore, only approx. 70% of the people in the project area currently have access to drinking water supplies from the centralised system. *This indicator is being met for the project area as originally defined, but not for the new project area, which is substantially larger. Interruptions to electricity supply (six hours every other day) limit the times when water supplies are available.*
- Total losses (Non-Revenue Water = NRW) in the water supply system are less than 25%. *This indicator is being met; according to the latest annual reports, NRW amounts to 11%. This was confirmed by the delegation's own review.*
- Collection efficiency has reached 90%. *This indicator is not being met. The core problem is the high level of receivables outstanding from state institutions (the military, the police, hospitals and schools). Collection efficiency is approx. 82%.*
- Water quality meets WHO standards. *This indicator has been met.*
- Treated wastewater conforms to national legal standards. *In terms of BOD (biochemical oxygen demand), less than 50% of the samples meet this indicator. This is unproblematic as treated wastewater is not discharged directly into Lake Victoria. Instead, it first receives further treatment in a wide bed of reeds. The national standard regarding nitrogen cannot be maintained with the chosen technology; yet the limit of 10 mg/l total nitrogen is unusually low by international standards, and is not consistent with other nitrogen parameters.*
- Operating costs are covered by the revenue. *This indicator has been met*

Taken altogether, progress made towards project objectives is considered satisfactory. Sub-Rating: 3.

Efficiency: For those people who now have access to centralised drinking water supplies, specific investment costs for the implemented measures in water supply are approx. EUR 100 per person. These costs will decrease further over time, since connection costs for additional people will be below EUR 100. Considering the large size of the supply region (up to 26 km from Entebbe's city boundaries), these costs are rated as appropriate and justifiable. At present, utilisation of water treatment capacity stands at an average of 54%, and reaches 70% in peak times. Hence, these plants also have adequate capacity to supply those people who have not yet access to the drinking water supply system.

Specific investment costs for the implemented measures in wastewater disposal are approx. EUR 400 per sewerage connection. Wastewater for approx 6,000 people is now being discharged and treated. Centralised wastewater disposal was only planned and built for the inner-city area of Entebbe as a more cost-effective, decentralised system of sewage disposal is not suitable for the city. To that extent, even considering the high specific investment costs, the measures implemented were still justified.

Both NWSC as a whole and NWSC Entebbe demonstrate a "good" to "very good" level of economic performance (e.g. 5 staff per 1,000 water connections, 11% NRW). With regard to collection efficiency for state-run institutions in particular, MWE and other ministries need to develop and implement an overarching political solution (e.g. invoices submitted to state institutions for water services to be paid directly by the responsible ministry, or funds to be allocated to NWSC out of the national budget, in the amount of the receivables outstanding) Sub-Rating: 2.

Overarching developmental impact: At project appraisal, no indicators were defined to measure progress towards the overall objective. During ex-post evaluation, it was not possible to establish any indicators for this purpose (such as the number of episodes of diarrhoea among children aged under five), since the health stations do not record the relevant statistics. Although no concrete numbers are available on the health situation, it is reasonable to assume that, due to the water quality, the project is also contributing to a certain extent to reducing the incidence of waterborne disease. However, it is not possible to deduce a compelling causal relationship between the measures in this project and any reduction in waterborne disease. This is not the case because, as already discussed under the Relevance section, hygiene practices among the population play a major role in achieving the overall objective.

However, it should be noted that the project is making an important contribution to realising the human right "to clean drinking water", and is therefore also making - independent of its concrete effects in the health domain - an important contribution to development. As discussed earlier in the context of progress towards project objectives, access is being provided for roughly 70% of the population of the extended project area. Progress towards the overall objective has thus been assessed as satisfactory. Sub-Rating: 3.

Sustainability: NWSC Entebbe is managing and maintaining the project facilities (and the entire water supply and wastewater disposal systems) in a both efficient, and - considering the circumstances (i.e. power interruptions) - technically appropriate way. In the financial year 2010/2011, NWSC, as a whole company, made a profit - after depreciation (at an appropriate level) and taxes - of approx. EUR 3.2 million. NWSC Entebbe contributed approx. EUR 900k (before taxes) to this result. Overall, NWSC achieves full cost recovery (with an appropriate budget for servicing and replacement parts included); however, some branches still have to be cross-subsidised by the head office. NWSC is operating sustainably, and with an efficient level of staffing.

Taking into account the shrinking allocation from the state budget and the increasing amounts receivable from state-run institutions (approx. EUR 7.7 million in 2009/2010, approx. EUR 9.3 million in 2010/2011), NWSC's opportunities to finance investments in facilities expansion from its own resources are severely limited. Due to this, and also as a result of population growth, raising the proportion of people with access to drinking water supply systems in its supply areas poses a huge challenge to NWSC.

Whereas economic sustainability is seen as assured, environmental sustainability is not presently guaranteed for the NWSC as a whole. In the area of sanitation services, evidence of satisfactory environmental sustainability can still be found at the NWSC Entebbe; however, due to the fact that over 90% of the city of Kampala's sewage is still being discharged untreated into Lake Victoria, which significantly contributes to the lake's eutrophication, the operation of the NWSC as a whole cannot be considered environmentally sustainable. Future FC-supported programmes should provide remedies and enhance environmental sustainability. Sub-Rating: 3.

Notes on the methods used to evaluate project success (project rating)

Projects (and programmes) are evaluated on a six-point scale, the criteria being relevance, effectiveness, efficiency and overarching developmental impact. The ratings are also used to arrive at a final assessment of a project's overall developmental efficacy. The scale is as follows:

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| 1 | Very good result that clearly exceeds expectations |
| 2 | Good result, fully in line with expectations and without any significant shortcomings |
| 3 | Satisfactory result – project falls short of expectations but the positive results dominate |
| 4 | Unsatisfactory result – significantly below expectations, with negative results dominating despite discernible positive results |
| 5 | Clearly inadequate result – despite some positive partial results, the negative results clearly dominate |
| 6 | The project has no impact or the situation has actually deteriorated |

Ratings 1-3 denote a positive or successful assessment while ratings 4-6 denote a not positive or unsuccessful assessment

Sustainability is evaluated according to the following four-point scale:

Sustainability level 1 (very good sustainability) The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.

Sustainability level 2 (good sustainability): The developmental efficacy of the project (positive to date) is very likely to decline only minimally but remain positive overall. (This is what can normally be expected).

Sustainability level 3 (satisfactory sustainability): The developmental efficacy of the project (positive to date) is very likely to decline significantly but remain positive overall. This rating is also assigned if the sustainability of a project is considered inadequate up to the time of the ex post evaluation but is very likely to evolve positively so that the project will ultimately achieve positive developmental efficacy.

Sustainability level 4 (inadequate sustainability): The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and is very unlikely to improve. This rating is also assigned if the sustainability that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

The overall rating on the six-point scale is compiled from a weighting of all five individual criteria as appropriate to the project in question. Ratings 1-3 of the overall rating denote a "successful" project while ratings 4-6 denote an "unsuccessful" project. It should be noted that a project can generally be considered developmentally "successful" only if the achievement of the project objective ("effectiveness"), the impact on the overall objective ("overarching developmental impact") and the sustainability are rated at least "satisfactory" (rating 3).