

Ex post evaluation – Uganda

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Sector: Water supply and sanitation – large systems (CRS code 140200)
Programme: Support for the facility for developing the water supply and sanitation in northern and eastern Uganda (BMZ no.: 2010 66 042)*
Implementing agency: Ministry of Water and Environment, Uganda



Ex post evaluation report: 2020

All figures in EUR million	Project A (Planned)	Project A (Actual)
Investment costs (total)	23.00	32.16
Counterpart contribution	2.00	3.95
Funding	21.00	28.21**
of which BMZ budget funds	20.00	20.00

*) Random sample in 2019; **) Financing for the investment costs was increased with additional funds from the ADA and an EU mandate (EUR 6.8 million).

Summary: Applying an open and demand-oriented programme approach, the programme involved the financing of measures to refurbish and expand water supply systems (treatment, storage and distribution) and sanitation systems (e.g. public sanitation facilities and demo toilets) in selected communities, including the associated consulting services. The implementation was based on donor basket funding and included financing from the EU/Austrian Development Agency (ADA). Under close cooperation with German TC and the ADA, the aim was to provide the implementing agency with personnel support in order to contribute to increased performance, the sustainable use of the promoted infrastructure capacity and the transparent use of funds. The implementing agency was the Ministry for Water and Environment, which implemented the investment using the allocated regional water development facilities (WSDF) for northern and eastern Uganda.

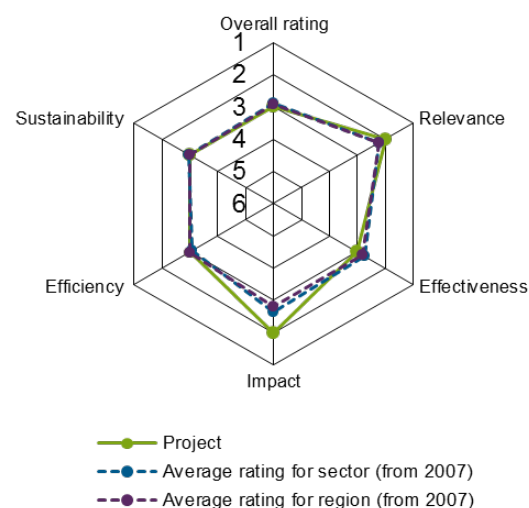
Development objectives: The outcome-level objective was to ensure an adequate, hygienic, economically viable water supply and sanitation for the population in selected small towns and rural growth centres in the post-conflict region of northern and eastern Uganda. The programme’s development policy goal (impact) was to make a significant contribution to improving the population’s health situation in the intervention area and to thereby improve their living standards.

Target group: The programme’s target group was the population in selected small towns and regional growth centres in a post-conflict region.

Overall rating: 3

Rationale: The programme indicators at outcome level are broadly achieved and the target group confirms the positive impact on health, living conditions and economic growth. The specific costs of the measures are appropriate and standardised designs were implemented. However, there are currently issues, such as operating and maintenance deficiencies, and current operations only have a limited degree of technical and economic sustainability. At 5 l per day, per capita consumption is very low. Use of the demo sanitation systems in public spaces is not satisfactory. Furthermore, E.coli tests indicate that water chlorination in some systems is not adequate.

Highlights: As part of the programme, the weaknesses identified in the implementing agency’s financial management were used as a basis for implementing a data-based monitoring system for investments and operative management, which now successfully provides comprehensive and transparent support for further implementation.



Rating according to DAC criteria

Overall rating: 3

Ratings:

Relevance	2
Effectiveness	3
Efficiency	3
Impact	2
Sustainability	3

General conditions and classification of the project

The programme to support the facility for developing the water supply and sanitation in northern and eastern Uganda, phase I, was part of basket funding within the Ugandan government's Joint Water and Sanitation Sector Support Programme. Other donors and institutions that were or still are involved in this sector programme are the ADA, EU, DANIDA, AfDB, SIDA, DIFID and GIZ. The GIZ and ADA/EU worked closely together and were involved in some community financing. Phase II of the programme has now also been completed and phase III is currently in progress.

Relevance

As identified during the appraisal, the core problems with the water supply and sanitation in small towns and rural growth centres in the post-conflict regions in northern and eastern Uganda relate to a lack of access, unequal access, water supply and sanitation systems with a low supply rate and a lack of availability, inadequate services and the increasing contamination of water resources, as well as the resulting health risks due to the use of unclean water.

The aim was that investments in water extraction and treatment systems, networks and sanitation systems, the reinforcement of implementing agencies, and awareness-raising measures for the population would help to improve these problem areas. These investments were intended to increase supply and water quality, improve wastewater disposal, and improve the target group's hygiene standards while also ensuring social compatibility and sustainable operations. It was therefore hoped that this would contribute to the development policy goal of reducing health risks among the target group.

The aforementioned impact chain is cohesive on the whole and the programme's design was fundamentally suitable for addressing the core problems. This applies in particular to the coordinated collaboration between German FC and TC with ADA and the EU, with harmonised intervention at various levels (national, regional, local) and with the other parties involved (including the relevant ministry, implementing agencies, operators, target group). In relation to the improvements to water supply access and hygiene improvements in particular, the programme is in line with the Ugandan programmes and the Federal Ministry for Economic Cooperation and Development's (BMZ) sectoral concept. Interviews reveal that the improvement to the water supply and the resulting economic growth have a stabilising and conflict-mitigating effect in communities that host refugees and are contributing to peaceful coexistence between the various groups.

From the current perspective, the involvement of the private sector in the operation of the systems and the resulting reinforcement of this sector – as included in the original concept – was not coherent and responsibility for managing operations has since passed to the national water supply company NWSC and the regional operator UO. On the whole, we rate the relevance as just about good.

Relevance rating: 2

Effectiveness

The achievement of the objectives at the outcome level can be summarised as follows:

Indicator	Status PA, target PA	Ex post evaluation
(1) At least 400,000 beneficiaries benefit from an improved water supply.	0 or not quantified	Achieved: 422,000 beneficiaries. Note: The indicator was verified on the basis of a spot check in 7 communities.
(2) At least 80,000 beneficiaries benefit from improved sanitation.	0 or not quantified	Achieved: 80,000 beneficiaries. Note: The indicator was verified on the basis of a household survey in 15 communities.
(3) The water supply systems and public sanitation facilities in small towns and rural growth centres work on at least 90% of the days in a year.	0 or not quantified	Achieved: The water supply system works on 92% of days. Note: The indicator for the water supply was verified on the basis of a household survey in 15 communities while the indicator for the sanitation was verified by visits to the systems.
(4) Women are employed in key roles in at least 70% of the water authorities and user committees.	0 or not quantified	Achieved: 100% for the systems operated by UO and the implementation facilities WSDF North and East. Note: There are currently no formal user committees for the systems operated by the NWSC.
(5 new) The water quality meets national drinking water standards at 90% of locations and in 90% of samples.	Not used	Achieved. >90%

Note: The indicators were calculated without the financing contribution from ADA/EU.

The achievement of indicator (1) for the water supply is primarily down to the implementation of household and yard connections, the creation of water kiosks, and the ongoing expansion of the supply system through additional household connections. The average specific water consumption per resident is around 17 l per day, though this also includes the use of water from old, unsafe systems, such as wells and untreated surface water, particularly for non-drinking purposes. The actual specific water consumption from the new systems is significantly lower at around 5 l per day.

The achievement of indicator (2) for sanitation is mainly attributable to using improved latrines in households, which were promoted through information campaigns and demo systems as part of the measure and were a prerequisite for the installation of household water connections. The financed public toilets make only a minor contribution to the improved sanitation supply as they are not used on a frequent basis. By contrast, school toilets are very well used.

The achievement of indicator (3) relating to the water supply is fragile because, for example, power cuts regularly lead to interruptions in the water supply and there is often no fuel for emergency generators. In this case, only downtimes lasting longer than one day were taken into account. Furthermore, there are problems with functionality, particularly in relation to the chlorination of water, that have temporary effects on the water quality (bacteria indicator: E.coli). Based on the statistics provided, around 90% of the annual

samples meet the appropriate standard. However, the systematic approach used for the sampling process (number of samples and geographical distribution) requires some improvement. For this reason, effectiveness is rated as satisfactory overall.

Since current practice means that water quality is always used as an indicator in water supply projects, indicator (5) “Water quality meets national standards in 90% of samples” was added for the EPE. Its fulfilment was assessed on the basis of data from the operators and was also spot checked using simple water tests (bag tests, see Annex 4) relating to bacteria at the locations visited.

Effectiveness rating: 3

Efficiency

The total cost of phase I amounts to EUR 32.1 million, EUR 26.6 million of which is investment costs. The programme-specific technical assistance (TA) provided by the FC and the ADA and the consulting component amounts to 7.7%, and with administrative costs of 9.6% it can be regarded as appropriate. Thanks to the experience with the basket approach, funds were increased efficiently.

The unit costs for the implementation of the water supply amount to EUR 55 per resident supplied. They are within the range recommended by the Ugandan Water Ministry and can be considered appropriate. The unit costs for the sanitation amount to EUR 33 per resident and are also appropriate in view of the somewhat low level of investment (particularly the restriction to public toilets and demo systems) (see discussion for indicator 2 above). The programme was implemented without any major delays.

The measures were designed on the strength of a feasibility study with the national design standards as the foundation; the design was also standardised to a sensible degree (e.g. water tanks or pump stations). However, during the evaluation (two years after commissioning) it was noted that the output of some wells had already started to drop (silting), chlorination systems were defective and broken pipes were causing significant water losses, which indicates insufficient planning, execution and maintenance. Some pumps also appear to be too large for the current network or actual water consumption levels, and are only operated for a few hours a day. The production efficiency is rated as satisfactory overall.

The water losses (non-revenue water) in the systems operated by UO amount to around 30–40%, which is rather high for new networks and can, to a certain extent, also be caused by illegal connections. The fee collection efficiency rate for the networks operated by UO is low at 60–70%. There is no data available for the systems operated by the NWSC. According to the statistics, tariffs still cover 100–140% of operating costs, which is somewhat questionable considering the low fee collection efficiency rate and high water losses. This figure may be explained by the operating costs being too low (e.g. due to a lack of maintenance and the saving of diesel during operations).

The household tariff for the systems operated by UO is between UGX 2,500 and 3,600 per m³ (EUR 0.6–0.9 per m³) and is therefore slightly lower on average than the standard tariff for the networks operated by the NWSC (UGX 3,500 per m³), even though the latter tend to have more connections and can therefore be operated more efficiently. According to the results of the household survey, 94% of households spend less than UGX 5,000 a month (EUR 1.22) on their water supply. However, around 46% of respondents reported that they had a monthly household income of less than UGX 60,000 (EUR 14.7). This is a relatively low figure and can be explained by the subsistence economy with only very little income. The median percentage of income spent on water is around 8% and significantly higher still for poor households. It is important to note that the water tariffs at the taps and water kiosks, which are intended particularly for poorer members of the population, are normally almost twice as high as those for household connections, at least in the systems operated by UO. The operating and tariff concept for these systems should therefore be reconsidered (tariff adjustments and remuneration of the operator). The results of the survey reveal that (poor) users limit their water consumption from the new system on the grounds of costs and continue to use other, unsafe water sources, though mainly for non-drinking purposes. In view of the lack of promising alternatives for the implementation concept, the allocation efficiency is rated as satisfactory, meaning that overall efficiency is also satisfactory.

Efficiency rating: 3

Impact

The outcome-level objective was to ensure an adequate, hygienic, economically viable water supply and sanitation for the population in selected small towns and rural growth centres in the post-conflict region of northern and eastern Uganda. The programme's development policy goal (impact) was to make a significant contribution to improving the population's health situation in the intervention area and to thereby improve their living standards. For the purposes of the evaluation, this objective has been expanded to include the improvement of living conditions for the target group.

This objective is in line with the aim to achieve the MDGs in place at the time and the national development plan. At the time, explicit reference was made to MDG 7c (halving the proportion of people without sustainable access to safe drinking water and basic sanitation) and MDG 7d (significant improvement in the lives of the poor).

No indicators were defined at impact level. For this reason, the following indicators were defined for the EPE:

Indicator	Status PA, target PA	Ex post evaluation
(1) The health of 75% of the target group has improved.	0 or not quantified	Achieved: 88% of the respondents in the household survey reported that their health situation had improved since the programme's implementation; 91% for children under the age of 6.
(2) Collecting water takes less time for at least 25% of the poor population.	0 or not quantified	Achieved: 47% of the poor people surveyed reported that they had more time to work and care for their families.
(3) At least 50% of those surveyed state that they need less time to look after poorly children	0 or not quantified	Achieved: 91% of respondents indicated that their children were ill less frequently and that they had more time for other activities.
(4) 50% of the target group state that the time they save thanks to the water supply is used to increase their income	0 or not quantified	Achieved: 50% use the time to increase their income.

The programme generally benefited the entire population, whereby the target group in small towns and rural development areas is relatively poor compared to the national average [1]. The programme's design, which included the implementation of public taps, was also intended to address the needs of particularly poor groups of the population who are unable to access water through their own household or yard connection.

However, the very positive survey results for indicators (1) and (3) must be qualified slightly as the water in some communities had been contaminated with E. coli bacteria as a result of insufficient chlorination.

The promotion of the private sector's involvement, as intended in the original plans, was not successful and the systems are now operated by the publicly owned company NWSC and the public-sector implementing agency UO.

¹ According to UNHS (UBOS, 2016/17), households in the north and east regions have the lowest disposable household income

Furthermore, a number of the respondents stated that the programme has had additional positive effects as women and children in particular are no longer attacked while collecting water. What is more, the respondents stated that the improved water supply contributes to the communities' economic development or may even be perceived as a prerequisite for this (establishment of hotels and restaurants, hospitals and higher quality shops). On the basis of the survey, the overarching developmental impact can be rated as good.

Impact rating: 2

Sustainability

In respect of sustainability, the evaluation's results are inconclusive:

On the one hand, it must be noted that the technical condition of the infrastructure has already significantly deteriorated in comparison to the results of the final inspection and that the ongoing operation of the water supply, including the necessary chlorination of the water or the short-notice replacement of defective power units, is not always guaranteed. A lack of proactive maintenance and the provision of the operating resources (e.g. diesel for the generators) has been observed. The operators do not have sufficient technical expertise and their monitoring is inadequate. Occupational safety standards are not always met. The sustainability of the sanitation systems, particularly the public and EcoSan toilets, is not assured (disposal of faecal sludge, some toilets are already closed). The integration into the water supply system of the systems that are currently still operated by the communities and concessionaires appears necessary and is currently under discussion.

On the other hand, the supply system is still under development and – in view of the recent switch of operations from private companies to UO – is still in transition and therefore cannot be issued with a final rating. Based on the figures available, there is clear indication that the negative development can be stopped. Permanent operation depends on the cross-subsidisation of operating costs, which for the NWSC can be assured from the more lucrative supply services in larger cities, while UO requires state grants (e.g. through the financing of staff and equipment). Extensive network expansions with water connections are currently in progress, which is also increasing the economic efficiency of operations. The state has budgeted EUR 12 million per year for the next five years to expand the system. The plans for the current programme phase III include the further strengthening of the operators and improved performance monitoring.

On the whole, sustainability is therefore rated as only just satisfactory.

Sustainability 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 **impact**. The ratings are also used to arrive at a **final assessment** of a project's developmental effectiveness. The scale is as follows:

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

Rating levels 1-3 denote a positive assessment or successful project while rating levels 4-6 denote a negative assessment.

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

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

Sustainability level 2 (good sustainability): The development effectiveness 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 effectiveness of the project (positive to date) is very likely to decline significantly but remain more or less 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 effectiveness.

Sustainability level 4 (inadequate sustainability): The developmental effectiveness 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. Rating levels 1-3 of the overall rating denote a “successful” project while rating levels 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 development objective (“impact”) **and** the sustainability are rated at least “satisfactory” (level 3).