

Ex post evaluation – Zambia

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Sector: Drinking water, sanitation and waste water (CRS code 14030)
Programme/Project: Rural water supply, North-Western province
 BMZ No. 2000 66 407* and 2002 70 256 (AM)
Implementing agency: Ministry of Local Government and Housing (MLGH)

Ex post evaluation report: 2015

		Investment (Planned)	Investment (Actual)	AM (Planned)	AM (Actual)
Investment costs (total)	EUR million	5.53	5.53	1.85	1.85
Counterpart contribution	EUR million	0.21	0.21	0.00	0.00
Funding	EUR million	5.32	5.32	1.85	1.85
of which BMZ budget funds	EUR million	5.32	5.32	1.85	1.85

*) Random sample 2014



Summary: This FC measure, which was designed as an open-ended programme, was to provide hygienic drinking water all year round for up to 100,000 people living in rural areas in North-Western province that previously had an inadequate supply. Using the funds provided for the project, some 361 modern water points were established for approximately 90,000 users in the districts of Kabompo, Kasempa and Mufumbwe in North-Western province. The measure was backed by a complementary component related to hygiene awareness, organising users into well committees and establishing a three-level maintenance system. The accompanying measure (AM) was implemented in cooperation with the German Development Service (DED, now GIZ).

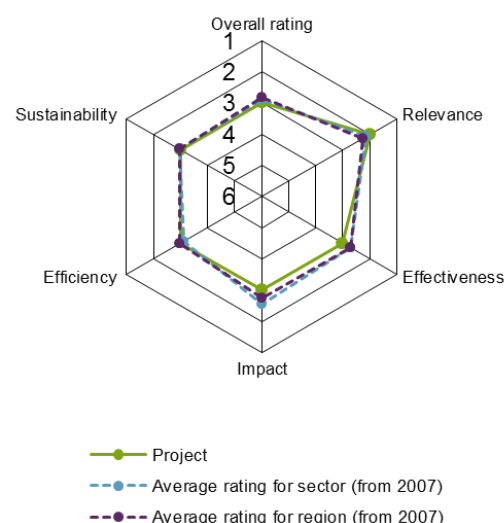
Objectives: Ultimate objective: reducing the health risk of water-borne diseases and improving the living standards of the rural population in the North-Western province of Zambia. Project objective: improving the supply of hygienic drinking water to the rural population in the North-Western province all year round within reasonable distances.

Target group: 100,000 people living in rural areas in the North-Western province of Zambia.

Overall rating: 3

Rationale: Key goals of the project were reached, but the programme's sustainability (lack of income generated by the communities) has failed to meet expectations. Additionally, no reliable statements can be made about the quality of water at the wells nor at the point of use.

Highlights: The quality of the built wells both acknowledged and appreciated by the communities should be emphasised as a positive development. The communities interviewed described the selected design as very good and functional. The design, material and type of construction are considered "best practices" in the context of Zambia. The unsatisfactory results of the accompanying measures are in stark contrast to this.



Rating according to DAC criteria

Overall rating: 3

Overall, the rural water supply project North-Western province is rated satisfactory.

Relevance

About 62 % of the Zambian population had access to hygienic drinking water in 2010. The respective values for urban and rural areas are 74 % and 57 % according to the national urban regulator NWASCO and the Zambian government¹. This aggregate data conceals significant regional differences, particularly with regard to the supply situation in rural areas. Depending on the province, the average supply level ranges between 35 % and 75 % (Lusaka: 89 %). At the time of the project appraisal (2002) the supply level in North-Western province was 35 %, while in 2010 it was on a par with the national average (rural areas).

The combination of insufficient water supply and inadequate waste water disposal is directly reflected in the Zambian population's health. Up to 80 % of all registered cases of illnesses are directly or indirectly water-borne (UNICEF 2014). Diarrhoeal diseases in particular are seen as one of the main causes of the high child mortality rate in Zambia (in 2010: 138 deaths under the age of 5 in 1000 births, MDG objective for 2015: 64), and better access to drinking water and sanitary facilities is seen as the key to combating them.

German DC has supported the reform process in Zambia from the beginning, and the water supply as well as waste water disposal are still a priority sector for German DC in Zambia. In 2014 Germany took over the chair in the troika with the African Development Bank (ADB) and the World Bank (WB) in the "water supply and sanitation" sector, and together with the European Union (EU) the chair of the "public financial management" field.

From today's perspective the problem analysis and the chosen design seem correct and coherent, taking into account the supply situation, the political framework and the positioning of German DC. The results chain of a continuous, adequate water supply and the use of drinking water for hygienically sensitive purposes (especially drinking, personal hygiene) leading to the assumed health effect is plausible.

Relevance rating: 2

Effectiveness

The project objective of the FC measures was to improve the supply of hygienic drinking water to the rural population in the North-Western province all year round within reasonable distances.

The following six indicators were defined to measure the project objective. During the course of the project a seventh indicator was defined, which took the gender aspect of the programme into account. The project objective indicators and their achievement are listed in the following table.

Indicators for FC measure objectives	Measurement parameter	Status at FI appraisal (2010)	Status at ex-post evaluation ²
Supply of drinking water within reasonable distances for approximately 100,000 villagers who previously had no or only an insufficient supply of water	Number of people	Largely achieved (87,518)	Largely achieved (like FI)

¹ The LCMS (Living Conditions Monitoring Survey) provides different figures, where an access rate of 84% is assumed for urban centres and 49% in rural areas.

² Except for indicator 1, all statements from the test sample (6% of all wells) conducted as part of the ex-post evaluation are extrapolated.

Average specific water consumption = roughly 15l/p/d ³ (hand pumps)	Litres	Achieved (average consumption was 15l/p/d)	Achieved
The water quality in 90 % of the programme wells meets Zambian quality standards for drinking water.	%	Achieved (99 %)	Achievement plausible, but no documentation since FI
85 % of programme wells ready for operation at EPE	%	Achieved (100 %)	Achieved (100 %)
In 50 % of all the programme villages no faeces or rotten waste was found within a radius of 50 metres from the residential dwellings (AM indicator).	%	Achieved (73 %)	Not achieved (Roughly 30-35 %)
85 % of all programme villages still operate with a functional well committee as of the EPE	%	Achieved (100 %)	Achieved (95 %)
The share of women in the well committees is at least 50 % in most cases.	%	Not achieved (45 %)	Not achieved (women only represented in 2 out of 21 WPCs)

Overall we can conclude that at the time of the ex-post evaluation three out of seven indicators are fulfilled without any reservations. However, the provision of drinking water and the water quality, two essential indicators for the programme, are only nearly fulfilled or not documented. Water tests were only carried out in the course of the project (including the final inspection) by the commissioned implementation consultant. However, inspections of the wells and their surrounding area as well as the intensive use of the wells lead to the conclusion that the water quality is good. In conducted interviews, the water quality was rated good to very good by members of the community. Water tests at the FI confirmed these positive results. The targeted improvement seems plausible if water quality in the wells is seen as a proxy indicator for the improvement of the health situation.

On a positive note, all of the visited programme wells were in a good to very good condition and fully functional. It was observed during the inspections that an average household fills 5-6 water cans (jerry cans) per day. This tally with the values determined at the final inspection in 2010. The location of the wells in the vicinity of the village communities promotes their intensive use and an improvement in living conditions. None of the visited wells was more than 100 metres from the centre of the community. Overall we assess the effectiveness as satisfactory.

Effectiveness rating: 3

Efficiency

The project aimed to improve the supply of hygienic drinking water to the rural population in the North-Western province all year round within reasonable distances.

The project's implementation concept largely complied with the general guidelines in the programme appraisal report. The planning and implementation of the measure took place between March 2005 and

³ According to calculations from FI 2010 and household survey data at EPE

June 2009. Construction work was initiated 3 years later than planned at the appraisal. The reason for this was the tendering process for consulting services, which lasted over a year until the contract could be signed. In addition, construction work was delayed by about another 18 months because of the complicated awarding process by the Zambian contracting entity (Zambian National Tender Board), necessary changes to construction services and finally because of weather conditions in the rainy season.

The total cost of the project added up to EUR 7.37 million, of which EUR 1.88 million was used for accompanying measures. The proportion of direct foreign exchange costs (import and consulting services) accounted for approximately 90 %. Consulting costs (planning and construction supervision) accounted for EUR 2.18 million (amounting to 40 % of the total costs without accompanying measures) and were thus above the usual level. The primary cause was the significantly extended implementation period, the intensive planning and supervision of the project itself, and the spatial expansion of the programme area or rather the scattered settlement structure.

Based on the total costs, the specific investment cost per user is EUR 82. This value is below the value of a programme with a similar concept, “Water supply in North-Western province II” (BMZ No. 1995 65 060). The average specific investment cost per user in this project amounted to EUR 86. Considering the settlement structure we still rate this value as appropriate. The capacities created are well dimensioned and fully used. Communities are expected to pay a monthly “water contribution” to maintain the facilities. Collection efficiency totalled 15 % as of the FI, and has decreased further since then. Operating costs and smaller repairs are covered by ad hoc fundraising in the community. The minimum requirements for economic efficiency are therefore fulfilled. However, there will probably not be sufficient means available in future for larger replacement measures (after approximately 8-12 years). The programme does have a particular socio-political significance (influence of the programme on health) because of the distinctly low supply of hygienic drinking water in the North-Western province. Altogether we assess the efficiency of the project as just satisfactory.

Efficiency rating: 3

Impact

The developmental objective of the FC measure was to reduce the health risk for the rural population in the North-Western province in Zambia brought on by water-borne diseases. From today's perspective it also contributes towards an improvement in the target group's living conditions. No indicators were determined. The appraisal report assumed that developmental objectives would be met if the project objective of the FC measure is fulfilled. This assumption is only partly true from the perspective of the EPE.

The project measures were obviously necessary based on the high prevalence of water-borne diseases and tackled the identified supply bottleneck first. As a result of this programme, many people have direct access to clean drinking water within a reasonable distance for the first time. The effects of the accompanying measures (hygienic management of drinking water) are a mixed bag. Wells and their surrounding areas are kept rigorously clean. However, the jerry cans used for transport and storage often display significant traces of use and dirt.

The positive effects on health in the respective population can only be inferred, not proved. Water tests, which can prove the impact at least to some extent, were last conducted as part of the final inspection (2010). During the programme implementation, tests were carried out by the commissioned implementation consultant in cooperation with the RWSSUs (Rural Water Supply and Sanitation Units). The RWSSUs are maintenance teams at district level, which report to the MLGH administration of the respective district. Tests carried out at this time (point of sale) documented drinking water quality in accordance with WHO standards.

According to the programme planning, RWSSUs took over the responsibility for carrying out water tests at a local level after the programme ended. At the national level, responsibility for water quality remained with the MLGH and the Ministry of Health. Both institutions lack financial resources as well as trained staff and facilities – a fact that was not properly taken into consideration in the project planning phase. However, inspections of wells and interviews with users during the EPE reveal that there has been no deterioration in water quality since the FI. A positive health effect can be assumed overall, even though this is impaired by contamination during transport and storage.

As a result of the project's plausible health effects as well as the appropriate distance between all wells and the respective village centres, we should emphasise the significant improvement in living conditions for the people thanks to the construction of the wells. We therefore assess the overall developmental impact as satisfactory.

Impact rating: 3

Sustainability

The following programme elements (investment measure, IM, and accompanying measure, AM) were specifically taken into account to evaluate sustainability:

RWSSUs (AM): RWSSUs are active and staffed, but are in a wretched state. The vehicles and transport options provided by the project are not operational. The computers that were handed over were only used in one RWSSU. Produced databases are useless in all RWSSU because the software was destroyed by viruses or computer crashes. There are spare part stocks, but no inventory lists are kept. No RWSSU was able to give detailed information about the collection of contributions for procuring spare parts.

WPCs (AM): An essential component of the programme was to strengthen the local WASHE (Water, Sanitation, Health Education) committees and WPCs (water point committees). The WPCs are responsible for operating the wells as well as collecting contributions. It was determined that with one exception, all the WPCs were active. Only 2 out of 21 WPCs featured at least one female member.

APMs (AM): area pump minders (APMs) were trained as part of the project for each district, who maintain wells at the request of the community and repair them if necessary. It was observed that all the APMs are active and inspect wells regularly.

Wells (IM): During the inspections it was found that all wells are in a good or very good state. According to the WPCs only minor repairs have been carried out to date. On a positive note, with the high operational availability and good condition of the visited facilities it should be emphasised that no breakdowns were recorded for the facilities in operation in the past 5-6 years. In terms of maintaining the area around the wells there is a large quality gap between the individual districts. The areas around wells in Mufumbwe and Kasempa were particularly clean and neat, but they were very neglected in the district of Kabompo. Water quality was described to be very good in all of the wells.

Well contributions (AM): The lack of cost coverage for larger repairs or new purchases of hand pumps is seen as particularly critical. Costs for a pump replacement are about USD 2,000. It was planned that water committees would collect a fixed amount of money each month from the community members and pay this into a community account. This money was supposed to pay for larger repairs and buy replacements. The objective was to make the community capable of paying for future purchases out of its own financial resources. At the final inspection the generation of income stood at about 15 % of the intended amount, and has reportedly deteriorated since. According to the RWSSUs and their account books, collection efficiency has deteriorated since then. Inspected documents of accounts that can only be used jointly by the community and RWSSU indicated just isolated payments until 2011 or 2012.

Thus it has to be assumed that there would be insufficient financial resources available in the event of an equipment breakdown, nor can it be taken for granted that communities will be able to provide the necessary amount through ad hoc fundraising because rural areas especially have the highest poverty index (>70 %).

Sustainability is considered critical, especially because of the lack of financial resources for larger repairs or procuring replacements. However, it seems plausible that pumps will be able to reach their usual economic life (8 to 12 years) thanks to the good maintenance conditions.

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 **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:

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 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. 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 overall objective ("overarching developmental impact") and the sustainability are rated at least "satisfactory" (level 3).