

Ex-post Evaluation

Water and Sanitation Sector Development Programme – Lake Victoria South, Kenya

Title	Water and Sanitation Sector Development Programme – Lake Victoria South
Sector and CRS code	OECD funding area: 14030 Drinking water, sanitation and wastewater supply
BMZ number	2010 65 861 (investment) 2010 70 457 (accompanying measure)
Commissioned by	Federal Ministry for Economic Cooperation and Development (BMZ)
Recipient and executing agency	Ministry of Finance Kenya Lake Victoria South Water Works Development Agency (LVSWWDA)
FC financing volume and instrument	EUR 33 million (investment, budget loan) EUR 1 million (accompanying measure, grant)
Project duration	2011-2023
Reporting year	2025
Year of random Sample	2025

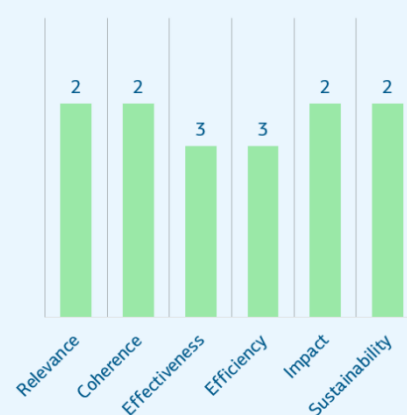
Project objectives and implementation

The objective at the outcome level was to ensure that the improved water supply was used by the urban and peri-urban population in the selected project locations. At the overarching development policy level, the objectives were to improve the health situation of the target group. To achieve these objectives, the drinking water infrastructure and, to a limited extent, the sanitation infrastructure were rehabilitated and expanded in selected secondary towns in south-western Kenya (mainly Kericho, Kisii and Nyamira).

Key findings

- The programme was implemented to a high technical and constructional standard: the design and implementation of the measures (including new/expanded water treatment plant, reservoirs, pipe networks and raw water abstraction points) and the construction supervision resulted in very good execution quality and high operational reliability.
- The water supply coverage increased in all towns – especially in Kisii and Nyamira – while in Kericho the water supply coverage did not increase, remaining at around 55%; a major reason for this is likely to be the strong population growth during the extended project period. The water quality fully complies with WHO standards. At the same time, non-revenue water values remain high (approx. 50–60%). Operating cost coverage, supply reliability and operational processes are developing positively.
- The impact of the programme and its sustainability is at times affected - either positively or negatively - by the selection and casting of water utility management personnel by political actors (county governors).

Overall rating successful



1: very successful – 6: completely unsuccessful

Conclusions

- Focusing on a smaller number of medium-sized towns might have further improved the effects per location.
- The influence of the political sphere supporting a professional selection of management personnel for water suppliers is of considerable importance for the future sustainability of this and similar programmes.

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Imprint

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List of abbreviations

ADB	African Development Bank
AFD	Agence française de développement
AM	accompanying measure
BMZ	Federal Ministry for Economic Cooperation and Development
DAC	Development Assistance Committee
DC	Development Cooperation
EIB	European Investment Bank
EPE	Ex-post Evaluation
EUR	Euro
FC	Financial cooperation
GIS	Geographic Information System
GIZ	German Society for International Cooperation
GWASCO	Gusii Water and Sanitation Company
HDPE	High-density polyethylene
Inv.	Investments
KEWASCO	Kericho Water and Sanitation Company
KPI	Key Performance Indicators
LVSWSB	Lake Victoria South Water Service Board
LVSWWDA	Lake Victoria South Water Works Development Agency
MOWSI	Ministry of Water & Sanitation and Irrigation
NRW	Non-Revenue Water
NWASCO	Nyamira Water and Sanitation Company
OECD	Organisation for Economic Co-operation and Development
PCR	Project Completion Report
SOP	Standard Operating Procedure
TC	Technical Cooperation
WASREB	Water Services Regulatory Board

Overview

General conditions and classification of the project

The programme is complex comprising a wide range of different measures. Most of the activities were implemented in the three central project locations of Kericho, Kisii and Nyamira. Water and sanitation services in these towns are provided by the respective water supply companies: KEWASCO in Kericho, GWASCO in Kisii and NWASCO in Nyamira. As part of the accompanying measure, KEWASCO and GWASCO received technical support to strengthen their management and operational structures. In addition, smaller immediate measures were carried out in the towns of Litein and Sotik.

Brief description

The investments made as part of the programme (Inv.) comprised limited immediate measures at the start of implementation and, in the main phase of implementation, extensive measures to rehabilitate and expand existing water supply systems and construct additional components. A smaller investment was made in a sewage system in the project area. In addition, materials and equipment were procured. The main measure was supported by an accompanying measure (AM). This aimed to strengthen the capacities of mainly two large local water supply companies that operate the infrastructure created by the programme and included components in the areas of institutional strengthening, governance, standardised operation and maintenance processes and monitoring.

According to the programme proposal, the programme was also to include measures to support sanitation. However, at the request of the Kenyan government, it was decided in the initial phase of the programme that only measures in the area of water supply would be implemented (with the exception mentioned above). The corresponding support in sanitation is being provided in a follow-up project (Lake Victoria Wastewater, BMZ No.: 2013 65 352).

The target group of the FC-programme was primarily the urban and peri-urban population of the selected secondary cities of Kisii, Kericho and Nyamira (and, to a very limited extent, the population in the towns of Litein and Sotik; in Litein, selective investment measures were implemented, and in Sotik, only individual emergency measures were carried out). The project was planned as an open programme, which means that detailed feasibility studies were only carried out after the programme had started and the scope of the measures was determined in detail on this basis.

The financing agreement was signed with the Ministry of Finance on behalf of the Republic of Kenya. The budget loan for the investment measure and the grant for the accompanying measure were forwarded to the implementing agency, Lake Victoria South Water Service Board (LVSWSB) (as a result of the water sector reform in 2016, the implementing agency became Lake Victoria South Water Works Development Agency (LVSWWDA)). The project measures were implemented in the above-mentioned medium-sized towns in the Lake Victoria South region.

Breakdown of total costs

	Investment (plan)	Investment (actual)	Accompanying measure (plan)	Accompanying measure (actual)
Investment costs (total) in EUR million	36.3 and	35.7 and	1.0	1.1
Own contribution in EUR million	approx. EUR 3.3	3.3 (*)	0.0	0.1
External funding in EUR million	33.0	32.4	1.0	1.0
of which BMZ funds in EUR million	33.0	32.4	1.0	1.0

Table 1: Cost breakdown – as of 7 October 2025: EUR 0.6 million not yet disbursed.

Note: *In addition to the contribution provided by the Kenyan government, the district government in Kericho purchased the building plot for the new water treatment plant.

Map of the project region

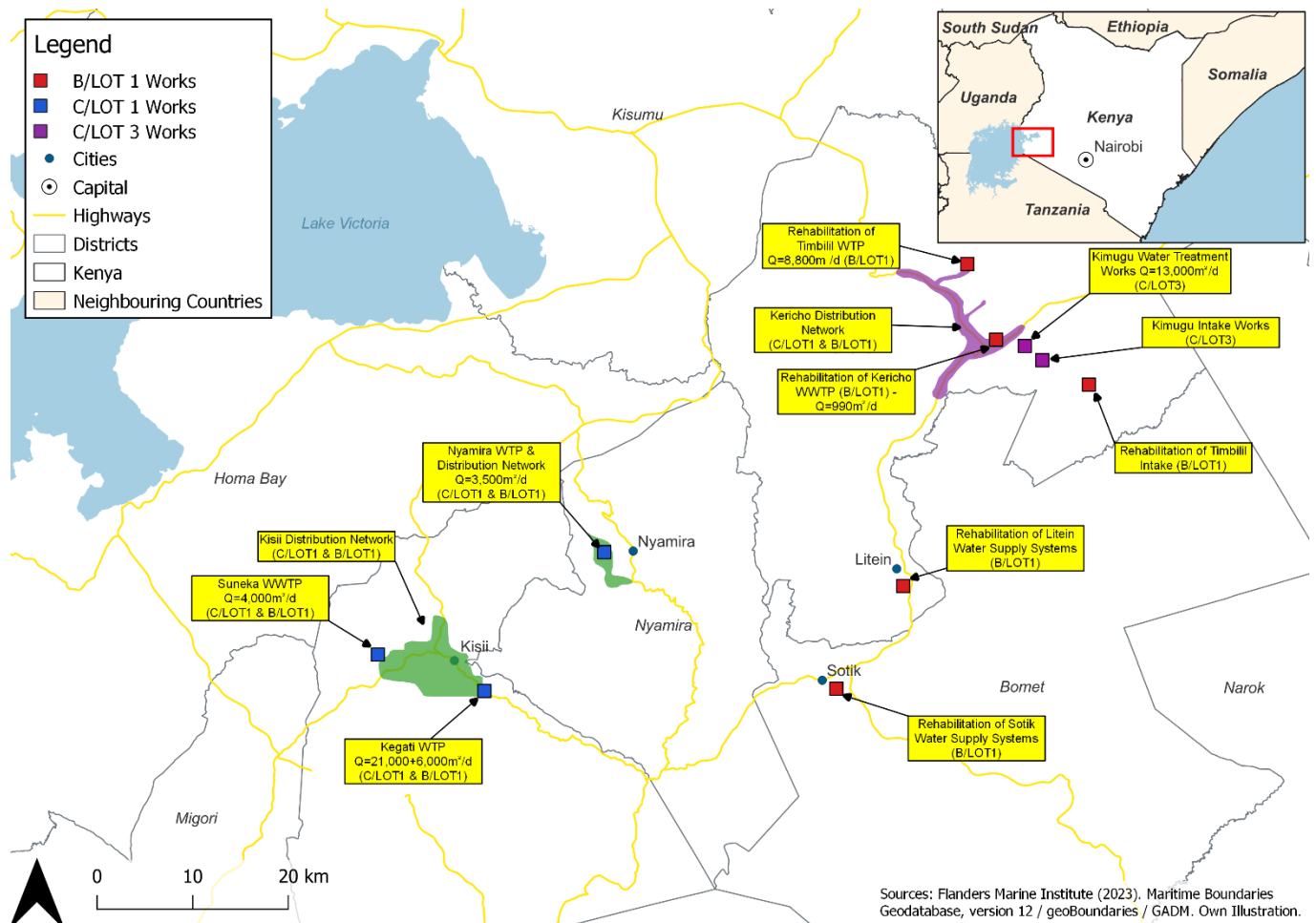


Figure 1: Map of the project region including project locations and main project measures.
Source: Own Illustration.

Project-specific strengths and weaknesses of the project

The strengths include in particular:

- The open programme approach provided the necessary flexibility to select and tailor the various infrastructure components to the needs of the individual medium-sized towns on the basis of a multi-stage feasibility study.
- The quality of the technical design and planning of the various infrastructure components can be appraised as very good. Despite the challenging terrain conditions throughout the region, all new infrastructure components were efficiently integrated into the existing water supply and sanitation system. For example, the newly built water treatment plant in Kericho, including the supply and distribution system, operates on the principle of gravity, which largely eliminates the need for pumping. In addition, the individual measures were implemented to a very high standard overall: the design and execution were of very good quality, and operation and maintenance are also guaranteed to a very high standard. However, overall performance is limited by the still relatively high water losses. Although it is expected that the measures to reduce water losses will take effect over time, the overall appraisal of the operation at this point in time is that there is room for improvement.
- Good maintenance and upkeep of infrastructure components by water suppliers, which is also attributable to the effectiveness of the accompanying measures.
- The target values of some key performance indicators (KPIs) were achieved in full or to a large extent (increasing collection efficiency to over 90%, covering 100% of operating and maintenance costs, water quality in line with WHO standards).

The weaknesses include in particular:

- One weakness of the programme is the very broad distribution of numerous measures across a total of five different locations. This widespread distribution meant that the available resources and capacities were spread across many locations, which limited the focus and effectiveness of the measures in individual locations. A stronger focus on two locations with more intensive and concentrated implementation could possibly have improved the project's success (in terms of a higher degree of achievement of the target indicators) by making better use of synergies and strengthening the impact of the measures. This strategic focus would also have facilitated management and monitoring and could have contributed to greater sustainability.

General conclusions/lessons learned

- The influence exerted by governors at county level on the selection of water utility management personnel is of considerable importance for the success of projects/programmes. The intended effects and sustainability of the programme depend, among other things, on the professional experience and expertise of this management personnel. This is a phenomenon that can also be observed in other sectors in Kenya. In this respect, it is advisable both in Kenya and in other countries where similar circumstances exist to provide greater support through political dialogue between BMZ and the partner government in order to positively influence appointments at county/water utility level.
- Some of the target values for the indicators should be set rather conservatively by KfW after careful consideration, even if they are applied nationwide by the Kenyan government. In addition, it is advisable to allow sufficient time reserves when estimating the implementation period for complex programmes.

Assessment according to OECD DAC criteria

Relevance

1. Alignment with policies and priorities

The Kenyan Water Act of 2016 defines the structures of the sector, the institutions operating in the sector, their roles and the regulations. The Kenyan Ministry of Water & Sanitation and Irrigation (MoWSI) is responsible for all overarching and strategic issues in the water supply and sanitation sector. In addition to the Ministry, the Water Services Regulatory Board (WASREB) is the regulatory authority in Kenya. The Lake Victoria South Water Works Development Agency (LVSWWDA, executing agency) is the government institution responsible for the project region, coordinating and supporting water suppliers at county level (water and sanitation companies). The concept and individual project measures of the evaluated programme (emergency measures, repairs, rehabilitation and construction of various water and sanitation infrastructure components in five medium-sized towns, as well as training for management, administrative and technical staff, primarily in Kericho and Kisii) were developed and selected in cooperation with and with the approval of the above-mentioned Kenyan institutions. The detailed feasibility study prepared by the consultant was a key basis for the selection. Overall, this ensured alignment with Kenyan policies and priorities in the water and sanitation sector and the compatibility of the newly built components with the existing infrastructure system.

2. Alignment with the needs and capacities of stakeholders and beneficiaries

Around 80% of all illnesses and around 50% of all hospital admissions in Kenya are linked to inadequate water and sanitation services. The most vulnerable sections of the population suffer particularly from this. In the absence of access to formalised and regulated water and sanitation services, the population often resorts to hygienically unacceptable alternatives or is dependent on informal suppliers who offer water at disproportionately high prices. In this context, the programme's objective was appropriately set to contribute to improving the health situation of the population.

The rehabilitated, expanded and newly built infrastructure components were based on the technical standard of the water supply and sanitation infrastructure existing in the project region and in other regions of Kenya. As a result, the management staff and technical employees of the water suppliers are enabled to operate the infrastructure components without restriction. The training courses for management, administrative and technical staff carried out as part of the accompanying measure were tailored to their capacity and received positive feedback from them.

3. Appropriateness of design

The technical design of the project measures can be appraised as very good. The selection of rehabilitation and expansion measures and the configuration of the newly constructed infrastructure components fit efficiently into the existing supply structure. This applies in particular to the design, local positioning and hydraulic interconnection of the components in topographically challenging, partly hilly to mountainous locations. In several cases, optimised route alignments and adapted plant designs have significantly reduced the pumping requirements over longer connection distances.

During the project appraisal, it was assumed that a sufficient number of additional household connections would be implemented shortly after the handover of the rehabilitated and expanded infrastructure. This assumption has only been partially confirmed: at the time of the evaluation, new connections had been implemented to a limited extent. The reasons for this include a lack of subsidies for last-mile connections, delays in the post-project phase and financial restrictions on the part of households. In the medium term, however, the number of connections is expected to increase further, as the operators are gradually pushing ahead with the expansion using their own funds and with the support of the districts. From an evaluation perspective, the assumptions made at the time regarding connection dynamics were too optimistic. However, it can be assumed that, as observed in other water supply projects in other countries, the number of connections will increase over the years. It should also be noted that the evaluation was carried out at a relatively early stage (three years after the completion report) and that the improvements expected in the medium to long term could only unfold to a limited extent so far. The issue of last-mile connectivity will be specifically addressed in the follow-up project and supported by specific financing and connection promotion measures.

The programme was based on the following impact chain: improved water supply leads to improved water quality and quantity and thus also to improved living conditions for the population – in particular for women and children, who are traditionally responsible for water procurement and caring for sick relatives in Kenya. In addition, the incidence of water-related diseases and thus the health situation – primarily that of children and infants – will be improved.

4. Adaptability – response to change

Four and a half years after the project began, a fundamental restructuring of the water sector in Kenya took place in 2016. Among other things, the mandates of the Water Services Boards, which were previously responsible for water/sanitation services at regional level, were greatly reduced. These are now referred to as Water Development Agencies. Their power of intervention vis-à-vis water suppliers at county level has been severely restricted. At the same time, decentralisation transferred the task of municipal service provision to the counties. This strengthened the role of local water suppliers. But some of the Kenyan water suppliers lacked the necessary capacity to fulfil these tasks. The project responded to this by tailoring the components of the accompanying measure to the respective capacities of the water suppliers. In this way, targeted capacity building took place for the respective water suppliers.

The programme was an open programme. It was originally agreed with the Kenyan partners that it would provide support in both the water and sanitation sectors. However, during the initial phase of the programme – while the extensive feasibility study was being carried out – the Kenyan partners suggested that the project measures should focus primarily on water supply. The rationale behind this was that an adequate water supply for the population should be established before wastewater services are improved. This change was approved, also in view of the fact that the planned follow-up project "Wastewater Lake Victoria" will focus on sanitation measures. From an evaluation perspective, this change was appropriate. The two-phase nature of the project also made it possible to adapt the programme design of the follow-up project, incorporating the lessons learned from the project currently being evaluated.

Due to a number of factors, the implementation of the programme took much longer than originally planned (lengthy tendering process for consulting services, complex feasibility study and coordination of measures with all relevant partners (open multi-phase programme), lengthy land purchase process for the expensive plot of land for the new water treatment plant to be built in Kericho, delays in clarifying tax issues, significant delays in the processing of payment requests for services provided by construction companies by the Kenyan government, implementation delays during COVID-19). All parties involved had to respond to and address these changes.

Rating summary of relevance: **successful (2)**

From an evaluation perspective, the design and combination of the various measures (selection and tailoring of measures as well as individual technical interpretations) were well aligned with the current situation (needs of the target group, implementing organisations and partners) and the programme's objective. It should be noted that the design had to take into account a large number of smaller, simple, medium-sized and large-scale complex project measures. Given the high number, it is not possible to illustrate these individually within the scope of the evaluation. The overall rating of the design of the majority of the measures – both individually and in combination – can be summarised as fully satisfactory. The relevance of the programme meets expectations.

Coherence

5. Internal coherence

The objectives and corresponding indicators of the wider DC Water Programme were set in 2010 and updated in 2014. The DC Water Programme provided the framework within which TC and FC projects/programmes were planned and implemented. The indicators of the Programme were designed in such a way that the target values were to be achieved jointly by the TC and FC projects/programmes. The Water Programme was completed in 2018. GIZ has not been active in the water and sanitation sector in Kenya since then. In addition, a comprehensive water sector reform was implemented in Kenya in 2016. The DC Water Programme was created several years before this reform and was tailored to the water sector as it was at that time. In summary, it can be said that an appraisal of the contribution of the programme under evaluation to the achievement of the DC Water Programme cannot be made in this evaluation.

A water treatment plant was built in the Kericho region back in the 1990s with FC funding. This water treatment plant is part of the extended regional water infrastructure which was rehabilitated and expanded by the programme under evaluation. One of the various newly built reservoirs was constructed on the site of this water treatment plant. This has resulted in increased internal coherence.

The multi-phase programme "Water Sector Development Programme" in the Lake Victoria North region (Phase I, Stage 1: BMZ No.: 2003 66 633) was previously implemented and completed in 2011. However, a comparison of the two projects/programmes makes little sense in the context of this evaluation. The sectoral framework conditions, local circumstances and dynamics at county level were very different. A follow-up FC project is currently being implemented that primarily finances measures in the

sanitation sector (Lake Victoria wastewater, BMZ No. 2013 65 352). This focus arose, among other things, from the fact that in the initial phase of the evaluated programme, water supply infrastructure was given priority funding at the suggestion of the Kenyan government.

GIZ supported the capacity development of the water supplier KEWASCO through an on-site technical advisor. The training courses, which were carried out as part of the accompanying measures on the FC project side, were coordinated with the deployment of the GIZ technical advisor.

6. External coherence

In 2011, the former Lake Victoria South Water Services Board was institutionally strengthened by a project financed by AFD and the EU. In addition, the European Investment Bank (EIB) expanded the water supply in Kisumu. However, these projects were not related to the programme under evaluation.

Apart from FC support, no other donors are active in the water and sanitation sector in the region. The only exception is a project by the African Development Bank (ADB) to rehabilitate a sewage treatment plant that operates independently of other infrastructure components. There are no links to other parts of the water or sanitation infrastructure in the region.

The project region in western Kenya was selected jointly by MoWSI, WASREB, BMZ and KfW. At least from the perspective of BMZ and KfW, the fact that none of Kenya's past presidents came from this western region and that it therefore might have been disadvantaged in terms of support from the Kenyan government played a role in this decision.

Rating summary of coherence: successful (2)

The main task of the programme was to rehabilitate, expand and rebuild the existing water supply infrastructure in medium-sized towns in the Lake Victoria South region. The need for the corresponding project measures in the region was and remains high. As no other donors/institutions have supported the development of water supply infrastructure in this region, the programme can be appraised as fully coherent in terms of the selection of the region. In addition, there is coherence due to the link to the previous FC measure from the 1990s.

Effectiveness

7. Achievement of objectives

The objective at outcome level was for the improved water supply to ensure the improved water supply was utilized by the urban and peri-urban population in the selected project locations. The support originally planned in the area of sanitation was not implemented as part of the programme, with the exception of a single component (expansion of the capacity of a pond treatment plant). Its impact is not assessed in this appraisal because this component has not yet led to any change in sanitation, as the relevant networks and connections have not yet been expanded (see the follow-up project mentioned above).

The following indicators were used to measure the outcome objective:

Indicator	Status at time of review	Target value at EPE (review)	Actual value at PCR	Actual value at EPE
(1) The water supply level has increased.	Kericho: 60% Kisii: 25% Nyamira 15%	80	Kericho: 48% Kisii: 50% Nyamira: 37%	Kericho: 55% Kisii: 48% Nyamira: 40% Target value not achieved
(2) Water losses are reduced.	> 50%	< 35%	Kericho: 48% Kisii: 78% Nyamira: 72%	Kericho: 55% Kisii: 58% Nyamira: 57% Target value not achieved
(3) Collection efficiency has been increased.	80%	> 90%	Kericho: 92% Kisii: 98% Nyamira: 79%	Kericho: 78% Kisii: 99% Nyamira: 98% Target value partially achieved
(4) Operating and maintenance costs can be fully covered.	Kericho 80% Kisii 60% Nyamira (no data)	100%	Kericho: 97% Kisii: 93% Nyamira: 89%	Kericho: 129% Kisii: 81% Nyamira: 83% Target value partially achieved
(5) The water quality complies with WHO standards.	No information available.	100%	Kericho: 100% Kisii: 70% Nyamira: 88%	Kericho: 100% Kisii: 100% Nyamira: 100% Target value achieved

Table 2: Outcome indicator achievement.

Source: Own research, information from operators and final inspection report.

8. Contribution to the achievement of objectives

The achievement of the indicators was supported in particular by (i) extensive technical expansions and upgrades – including the construction of new water treatment plant and the expansion of existing ones, the increase in storage capacities, the expansion of the main supply lines and the construction of new raw water intakes/catchments (including the Kericho river water intake). In addition, performance enhancement equipment (pumps, high-density polyethylene pipe material, measurement and laboratory technology) was installed and, at the start of the programme, individual urgent immediate measures were implemented in all five towns. (ii) Improved operational management (network zoning, GIS integration, customer consultation hours) in Kericho and Kisii and (iii) institutional strengthening of the utilities in Kericho and Kisii complemented the technical measures.

Despite technical capacity expansions, the water supply coverage – i.e. the proportion of the population with reliable access to public water supply – increased only moderately (Kericho 55%, Kisii 48%, Nyamira 40%), as the strong population growth during the extended project period, particularly in Kericho, partially offset the expansion in supply that had been achieved. In contrast, the number of households actually newly connected increased in all cities, but fell short of the target values (measured as a percentage of the population), as the last-mile connection was not part of the financed construction contracts and has to be implemented downstream by the utilities. In Kericho, a daily supply of up to 23 hours has been guaranteed since then; in Kisii, water production has almost doubled. In Nyamira, too, the new treatment capacity has led to a noticeable improvement in supply in the urban area.

At the same time, old infrastructure in the pipe network, delayed tariff adjustments and inadequate pressure management hampered further growth in the connection rate and the reduction of water losses (non-revenue water). The ongoing reduction measures – in particular the establishment of district metering areas, the installation of pressure reducing valves, systematic leak detection and the implementation of a metering policy – will take some time to show measurable effects. It is expected that the level of water supply will increase and non-revenue water will be reduced in the coming years.

As part of the accompanying measure, key elements such as institutional strengthening and governance, standardised operating and maintenance processes (SOPs), and monitoring and evaluation were successfully implemented by the LVSWWDA. Training, new billing systems and, in some cases, higher operating and maintenance cost coverage improved operational management; poverty-oriented approaches (e.g. staggered connection fees, water sales outlets) were appraised positively. Employees clearly emphasised the accuracy and motivational effect of the training.

In Kisii, wastewater treatment was strengthened by doubling the capacity of the sewage treatment plant, while in Nyamira, public sanitation facilities were also built. Overall, the programme focused primarily on water supply.

9. Quality of implementation

The quality of the construction work was assessed as very high. New buildings, extensions and renovations of water treatment plant, storage facilities, pipe networks and raw water intakes were carried out professionally and in accordance with technical standards. The consultant's construction supervision was structured, documentation-based and professional. Acceptance tests and quality controls ensured durability and operational safety.

In operation, both the high quality of the design of the expanded and newly built infrastructure components and the procurement/use of high-quality equipment (e.g. pumps and control devices from leading international manufacturers) are reflected in high reliability and ease of maintenance. Operation and maintenance are very good: standardised SOPs, digital recording, clear responsibilities and preventive maintenance are established. The locally trained staff are qualified, motivated and able to handle routine tasks and malfunctions independently.

10. Unintended effects (positive or negative)

No serious negative unintended effects were identified. Positive side effects include greater technical independence of staff and more stable operating processes with less downtime. In addition, visible quality standards and reliable operation increased confidence in the public water supply. In some cases, effects such as increased demand for house connections were observed as a result of improved overall performance.

Rating summary of effectiveness: **moderately successful (3)**

Overall, water quality and economic indicators were (partially) improved. The ambitious targets for water supply rates and water loss rates were not achieved. Structural network deficits and regulatory conditions had a dampening effect. The problem of missing house connections has been identified and addressed in the follow-up programme. As mentioned above, an improvement in water losses is also expected. Therefore, the effectiveness can be appraised as moderately successful.

Efficiency

11. Production efficiency

The implementation period was extended from the originally planned four years to almost ten years, due to lengthy procurement and approval processes, the unexpectedly time-consuming two-year land purchase process for the new water treatment plant in Kericho, administrative delays in tax exemptions, and massive logistical restrictions during the COVID-19 pandemic. Furthermore, given the complex structure of an open programme – with multi-stage feasibility studies conducted not before but after the start of the implementation phase, detailed site assessments and the need for technical harmonisation between several cities, the political coordination processes within the Lake Victoria South region regarding the distribution/selection of water suppliers to be supported – the initial four-year duration of the programme appears unrealistic. Given some of the factors/risks known at the time of the programme appraisal, an estimated implementation period of up to six years would have been entirely justified. The unforeseeable challenges that resulted in delays make the delays, which were not foreseeable at the start of the programme, understandable in part.

Despite the extended duration, cost discipline remained high: all construction phases were implemented within the budgeted funds. The technical design of the plants was efficient and future-oriented. The use of high-density polyethylene (HDPE) pipes reduced long-term operating costs through lower leakage rates and easier maintenance. Modular water treatment plants enabled flexible capacity expansion, while energy-efficient units and gravity-fed systems significantly reduced energy requirements.

At the time of the appraisal, the population consisted of approximately 212,000 people. This figure is expected to rise to approximately 450,000 to 500,000 by 2025 (as no reliable data is available, these are rough estimates). With an investment of approximately EUR 36.0 million, this amounts to approximately EUR 72 to 80 per person. These per capita costs are considered reasonable.

The total costs amounted to EUR 36.8 million (investment plus accompanying measures). The costs for the investment amounted to EUR 35.7 million – of which EUR 32.5 million was for supply and construction contracts and EUR 3.2 million for the implementation consultant (corresponding to 9% of the investment costs). The costs for the accompanying measures consultant amounted to EUR 1.1 million.

Examples of highly efficient implementation include the complete integration of the new water treatment plant in Kericho into the existing network, the precisely coordinated expansion of the reservoirs and the high-quality network renewal in hilly terrain during ongoing operations. These measures contributed directly to greater operational reliability and continuity of supply.

The measures were implemented in a technically efficient manner and the solutions chosen are durable and resource-efficient. However, the high water losses and delays in project implementation (approx. 3-4 years) mean that production efficiency is appraised as moderately unsuccessful.

The table below summarises the additional evaluation criteria for efficiency developed as part of the evaluation, as well as their appraisal and implementation status:

Evaluation criterion	Status at evaluation	Appraisal	Actual value at EPE
(1) Timely implementation	Project duration extended by six years. The planned project duration was too short from the outset. The delays are understandable. However, this means that the results are available to the target group later than planned.	Low	☐ Target value achieved ☐ Target value partially achieved ☒ Target value not achieved ☐ Insufficient data
(2) Cost control/budget compliance	Construction costs within budget limits	High	☒ Target value achieved ☐ Target value partially achieved ☐ Target value not achieved ☐ Insufficient data
(3) Technical adequacy	Efficient and adapted to local conditions	High	☒ Target value achieved ☐ Target value partially achieved ☐ Target value not achieved ☐ Insufficient data
(4) Service reliability after completion	Kericho ~23 hours/day; Kisii significantly higher production	Average	☒ Target value achieved ☐ Target value partially achieved ☐ Target value not achieved ☐ Insufficient data

Table 3: Evaluation criteria for efficiency.

12. Allocation efficiency

Overall, the use of funds was targeted and coherent. It was decided to concentrate the available resources on the biggest bottlenecks in the area of water supply – in particular on increasing production capacities, network stability and water quality. The sanitation components originally planned were postponed in favour of the follow-up project "Lake Victoria Wastewater" in order to effectively pool the limited funds in the programme being evaluated here.

This strategic focus proved to be efficient and impact-oriented: investments in water treatment plant, pipe networks, storage facilities and metering systems led to measurable improvements in supply security and high water quality in accordance with WHO standards. The proportion of functional and operational facilities is very high, and operating costs are increasingly being covered by the water suppliers themselves (operating cost coverage between 81% and 129%).

However, allocative efficiency is limited by the continuing high water loss rates, which range between 50% and 60% in most supply areas. This means that a proportion of the water produced is not used effectively. The causes are old infrastructure in the networks, inadequate pressure management and illegal connections. The countermeasures currently being implemented will lead to efficiency gains in the medium term.

Taking these factors into account, allocation efficiency is appraised as very good overall, but limited by structural losses. Concentrating resources on the most technically and socially relevant bottlenecks proved to be the right approach; the remaining inefficiencies are beyond the scope of project implementation and are primarily operational in nature.

Rating summary of efficiency: **moderately successful (3)**

The programme is impressive due to its consistent cost discipline, high-quality technical implementation, efficient plant design (including the use of plastic pipes, modular treatment and gravitational systems) and cooperative and efficient implementation, which was well coordinated with all parties involved. Nevertheless, it is appraised as only partially successful in terms of efficiency due to high water losses and the overall long implementation times.

Impact

13. Overarching developmental changes

The impact-level objective was to contribute to improving the health situation of the urban population. Specific impact indicators were not defined at project appraisal (2011), as corresponding impact indicators were not yet systematically defined at that time and reliable health data was presumably not available.

14. Contribution to overarching intended developmental changes

The programme proposal establishes a plausible and appropriate link between the availability of safe drinking water and improved sanitation services and the general health conditions of the population, particularly with regard to cholera and diarrhoea. Other diseases associated with drinking water include typhoid, amoebiasis, dysentery and gastroenteritis. However, no impact-level indicators were specified in the programme proposal. The programme proposal states in general terms that improved drinking water and wastewater infrastructure can reduce frequent waterborne diseases by up to 50%. Like some of the outcome-level indicators, this potential reduction in frequent waterborne diseases appears overly ambitious in retrospect.

The data on waterborne diseases for Kericho and Kisii (for the period 2020–2025) analysed as part of the evaluation are not meaningful. There is no clear trend with regard to the various waterborne diseases – neither between the individual diseases nor in a comparison between cities. A significant decrease in the various waterborne diseases cannot be observed at this point in time (three years after project completion). It should also be noted that the data from the period 2020–2023 is most likely to be highly distorted. This was the peak period of the COVID pandemic, during which many sick patients (whether suffering from COVID, waterborne diseases or other illnesses) were denied treatment in hospitals. Furthermore, the necessary health data is not available for the specific areas covered by the project (data is only available for entire cities); hygienic practices and discipline among the population are not influenced by the project measures; other disease-promoting aspects such as local food production/processing/transport, cleanliness of local markets, etc. are not affected by the project measures.

Due to the extended project duration, the number of people to be served by the infrastructure has increased. However, given the complexity, it is hardly possible to quantify and reliably demonstrate the effect of the respective population growth in the individual cities as the overall impact of the project in the evaluation. Nevertheless, it can be argued that the impact of the project is demonstrated by the fact that water-related diseases have remained at a similar level over time despite the higher population. This can be considered a success, but cannot be reliably quantified.

In summary, taking the above aspects into account, no clear quantitative statement can be made regarding the extent of the project's direct impact on improving the health situation of the beneficiaries. However, it can be said that the stabilisation of waterborne disease figures alongside population growth during the extended project period demonstrates the positive impact of the project.

15. Contribution to overarching unintended developmental changes

The ex-post evaluation did not identify any contributions to overarching unintended developmental changes.

Rating summary of impact: **moderately successful (3)**

In summary, we appraise the development policy impact as positive, even if it is not possible to quantify the health effects precisely. The programme's objective also indirectly includes improving the living conditions of the local population in the selected medium-sized towns. The improvement in the water supply has improved living conditions for the population (increased availability of hygienically safe drinking water; the time-consuming task of fetching water has been reduced, particularly for women and children).

Sustainability

16. Capacities of beneficiaries and stakeholders

The institutional and technical capacities of the water suppliers have improved significantly during the course of the project. Targeted training, the introduction of SOPs and new digital components for operational management, billing and monitoring have professionalised management and maintenance processes. Operating cost coverage has improved positively: KEWASCO (Kericho) now achieves around 129%, GWASCO (Kisii) around 81% and NWASCO (Nyamira) around 83% (excluding depreciation in each case).

The operating personnel are professionally qualified, motivated and capable of acting independently. Technical competence has been strengthened in particular through on-the-job training as part of the accompanying measure. Nevertheless, there are still gaps in preventive maintenance management, particularly in spare parts management, budgeting and strategic asset management. Administrative capacities – particularly in procurement, cost accounting and tariff analysis – have room for improvement, but have been placed on a solid footing through the introduction of billing and GIS systems.

Overall, the capacities of the institutions involved can be appraised as significantly strengthened and functional, although long-term consolidation and personnel stability remain necessary. The fact that the county governors (who are re-elected every five years) are responsible for appointing the management and key personnel of the water utilities is also significant. This often determines the performance of the water utilities and thus, in some cases, the success or failure of programmes. The programme evaluated here was also influenced by such dynamics. In the case of KEWASCO, its performance deteriorated in the final phase of the programme and in the years that followed, partly due to politically motivated appointments to top management positions. At the same time, thanks to advantageous management appointments, GWASCO's previously weak performance stabilised and improved. It can be assumed that repeated clear objections by KfW and the BMZ to the Kenyan government in the event of inadequate performance by the management of water suppliers will, over time, lead to a reduction in the sometimes counterproductive appointment practices of some governors.

17. Contribution to supporting sustainable capacities

The accompanying measures made a significant contribution to establishing structures of sustainability. Management, technical and administrative processes were permanently improved through practical training, coaching and on-the-job training. The integration of monitoring, reporting and governance elements into routine operations strengthened the utilities' own responsibility.

Further steps are recommended to ensure long-term institutional and technical resilience, in particular the expansion of climate and risk analyses, comprehensive pressure management, systematic network monitoring (district metering areas) and the continuation of the GIS. This will enable the increased performance currently achieved to be stabilised in the long term and adapted to growing loads.

18. Durability of impacts over time

All of the rehabilitated, expanded and newly built infrastructure components inspected on site during the ex-post evaluation were in a very well-maintained and technically excellent condition. This is due firstly to the very good construction quality already mentioned and secondly to the positive effects of the accompanying measure. The operation and maintenance of the infrastructure components by the water suppliers is carried out to a high standard. The technical and operational improvements in water quality, security of supply and service times have largely stabilised since the completion of the construction work. In Kericho, a water supply of 23 hours per day is guaranteed almost continuously, and in Kisii and Nyamira, supply times and water quality also show consistently improved values. The financial figures show increasing self-sufficiency and cost recovery. To this end, the water suppliers have gradually adjusted their tariffs to cover rising operating and maintenance costs.

In Kisii and Nyamira, water losses were reduced between the final inspection and the ex-post evaluation. Nevertheless, the high level of water loss remains a constraint on long-term impact. This is caused by leaks, illegal connections and inaccurate metering. Technical countermeasures have been initiated. However, these will take time to translate into reduced figures.

One risk factor arises from the political arena at county level: the appointment of key positions in water utilities, which is partly politically motivated, impairs the performance capacity of management and leads to poor corporate governance, reduced employee motivation and institutional instability. This risk should be increasingly addressed in the context of political dialogue with the Kenyan government.

Overall, it can be said that, even though not all objectives had been achieved at the time of the evaluation, the programme has laid the foundations for improvements and set them in motion. Overall, there are signs of consolidation, indicating a solid institutional structure and increased personal responsibility on the part of the operators. The programme measures have also had a

very positive effect in terms of improving staff qualifications and increasing their motivation. It can be assumed that the critical issues will be gradually improved by the water suppliers.

It should also be mentioned that, in retrospect, this ex-post evaluation could also have been carried out at a later date. It is to be expected that by then the processes set in motion by the programme will have had a positive effect and will be reflected in better indicator values.

Rating summary of sustainability: successful (2)

The sustainability of the effects achieved was fundamentally ensured by the programme measures. Improved operating and maintenance structures, positive financial development, stable service quality and strengthened institutional capacities contribute to the sustainability of the project results. Risks from water losses (non-revenue water) and governance factors are actively managed and are controllable in the medium term.

Overall assessment: successful (2)

The design and combination of the various programme measures were coherent and directly aligned with the priorities of the Kenyan partners and the target group. The measures were geared towards local and regional needs and the lack of support from other development organisations. Despite an understandably longer duration, cost discipline remained high, the structural quality of the facilities is excellent, and the operational and maintenance structures have been demonstrably strengthened. The outcome targets for water quality (WHO compliance) and economic indicators were significantly improved, but the targets for supply coverage and water loss reduction were not achieved, mainly due to unfunded last-mile connections and dynamic population growth in Kericho. A positive contribution to development policy and sustainable consolidation trends can be clearly identified thanks to improved processes, finances and operational reliability.

Overall, the clear strengths and qualities in the design, planning, implementation, operation and impact of the programme clearly outweigh the remaining deficits (water losses, governance risks). The programme can therefore be appraised as successful (2) overall.

Contribution to Agenda 2030

The programme contributes directly to Sustainable Development Goal No. 6, "Clean Water and Sanitation" (SDG 6 – Ensure availability and sustainability of water and sanitation for all; in particular, target 6.1 – Achieve universal and equitable access to safe and affordable drinking water for all by 2030). In addition, there is an indirect link between the desired improvements in drinking water and sanitation and the overarching goal of improving the health situation of the population in the selected medium-sized towns. The project measures thus contribute to the achievement of the overarching goal.

Methodology

Evaluation methodology

The ex-post evaluation follows the methodology of a rapid appraisal, i.e. a data-based, qualitative contribution analysis, and represents an expert opinion. The project is attributed effects based on plausibility considerations, which are based on a careful analysis of documents, data, facts and impressions. Where possible, this also includes the use of digital data sources and modern techniques (e.g. satellite data, online surveys, geocoding). The causes of any contradictory information are investigated, attempts are made to resolve them, and the assessment is based on statements that are confirmed by several sources of information (triangulation), where possible.

The analysis of the effects is based on assumed causal relationships, documented in the impact matrix developed during the project appraisal and updated during the ex-post evaluation, if necessary. The evaluation report sets out arguments as to why certain influencing factors were identified for the effects observed and why the project under review probably made a certain contribution (contribution analysis). The context of the development measure is taken into account in terms of its influence on the results. The conclusions are put into relation to the availability and quality of the data basis. An evaluation concept serves as the reference framework for the evaluation.

The method offers a balanced cost-benefit ratio for project evaluations, on average, with a balance between knowledge gain and evaluation effort, and allows for a systematic assessment of the effectiveness of DFG projects across all project evaluations. Individual ex-post evaluations cannot therefore meet the requirements of a scientific assessment in the sense of a clear causal analysis.

The main objective of the evaluations (knowledge interest) is to measure impacts, provide accountability, promote transparency and enable institutional learning.

Type of evaluation:

Trip to the project area.

Key questions of the evaluation according to the evaluation concept:

- Were the construction measures carried out as planned (type, number, quality)?
- Why were there significant delays?
- Why did the measures achieve different levels of success at the various locations?
- Why are water losses still so high?
- In retrospect, would the same measures have been chosen? What additional measures should have been added?

Non-public (internal) documents

Internal project documents, secondary specialist literature, strategy papers, context, country and sector analyses, feasibility study, consultant's final report, presentations and annual reports from water suppliers, 2025 report from the Kenyan water regulator WASREB, data series from health authorities.

Directory of public sources

Republic of Kenya (2016): The Water Act, Kenya Gazette Supplement No. 164 (Acts No. 43) Kenya, Nairobi

Data sources and analysis tools

The evaluation used a mix of quantitative and qualitative approaches, combining primary data from ongoing operations, technical and administrative project documentation, field visits and stakeholder interviews. By combining KPI analyses and benchmarking, it was possible to achieve a robust appraisal of the programme's OECD DAC criteria. The following sources and tools were used:

Data sources

Primary data (KEWASCO, GWASCO, LVSWWDA, WASREB)

- Operating statistics on water production, consumption, connection numbers, non-revenue water, collection efficiency
- Annual performance reports from water suppliers
- Data from the WASREB impact report

Secondary data and statistical sources

- 2009/2019 census, health statistics on water-related diseases and municipal development plans of the counties

On-site surveys and field observations

- Results of the final inspection (October 2022)
- Visual inspections of structures, water treatment plant, network sections and public facilities.

Stakeholder interviews and user feedback

- Discussions with representatives from KEWASCO, GWASCO, LVSWWDA, county governments and WASREB.

Analysis tools

- Analysis of key performance indicators. Comparison of target and actual values (water supply coverage, non-revenue water, cost recovery, collection efficiency, etc.).
- Appraisal of the coherence between target achievement, cash flow and construction progress.
- Comparison of technical, institutional and financial information from various sources to validate the results.
- On-site appraisal of completed infrastructure components as part of the ex-post evaluation

Project sites visited

Methodological note: The programme was an extensive programme involving the implementation of a large number of different individual measures in four separate medium-sized towns in one region. These ranged from the rehabilitation and expansion of existing infrastructure components to the construction of new ones. These included individual smaller components (pipe sections, reservoirs, pump houses, water meters), extensive extensions to existing water treatment plant and even a newly built water treatment plant. In addition, the water suppliers were provided with different materials and equipment/machinery. During the evaluation trip, the evaluation team limited itself to visiting the following central locations and selected individual components:

Kericho: KEWASCO administration building, intake, water treatment plant (new), water treatment plant (old), reservoir, public wash-rooms (ablution block), water sampling at primary school

Kisii: GWASCO administration building, intake, water treatment plant including pumping station, reservoir, pond treatment plant

Nyamira: Water treatment plant, reservoir

Kisumu: LVSWWDA regional office

Interview partners and modality (in person, virtual/by telephone, in writing)

Management discussions with the four water suppliers, interview with the water regulator WASREB.

The following aspects limited the evaluation

The 2025 ex-post evaluation was limited by the following factors:

- The health impact can only be reliably appraised in the medium term.
- The politically influenced appointment of management positions in the water suppliers limited the clear attribution of governance effects to the programme.
- Optimistic assumptions about the timely increase in house connections proved to be unsustainable, as the last-mile connection was outside the scope of the financed construction and will only be addressed downstream.

Assessment methodology

A six-point scale is used to assess the project according to OECD DAC criteria, with the exception of the sustainability criterion. The scale values are as follows:

- Level 1** Very successful: results significantly above expectations
- Level 2** Successful: results fully in line with expectations, without significant shortcomings
- Level 3** Moderately successful: results below expectations, but positive results predominate
- Level 4** Moderately unsuccessful: significantly below expectations and negative results dominate despite recognisable positive results
- Level 5** Unsuccessful: despite some positive partial results, the negative results clearly dominate
- Level 6** Highly unsuccessful: the project is useless or the situation has deteriorated

The overall rating on the six-point scale is based on a project-specific weighting of the six individual criteria. Levels 1–3 of the overall rating indicate a ‘successful’ project, while levels 4–6 indicate an ‘unsuccessful’ project. It should be noted that a project can generally only be classified as "successful" in terms of development policy if both the achievement of objectives at the outcome level (effectiveness) and impact level, as well as sustainability, are rated at least as "moderately successful " (level 3).

The annex to this report is available upon request (German only)

Imprint

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