

Ex post evaluation

Municipal Infrastructure II, Albania

Title	Municipal Infrastructure II		
Sector and CRS code	14020 Water supply and sanitation - large systems		
Project number	BMZ no. 2010 65 705/2010 66 315		
Commissioned by	German Federal Ministry for Economic Cooperation and Development		
Recipient/Project-executing agency	Albanian Ministry of Infrastructure and Energy		
Project volume/ Financing instrument	EUR 14.0 million		
Project duration	2012–2019		
Year of report	2022	Year of random sample	2020

Objectives and project outline

The objective at outcome level was to ensure a reliable, hygienically safe water supply at cost-covering and socially affordable prices and to guarantee acceptable residential hygiene through proper sanitation. At impact level, the aim was to contribute to the efficient use of water as a resource, to environmental protection and to improve the living, working and health conditions of the population. The aim was to create a structural impact for the sector by professionalising the utility service providers (UKs).

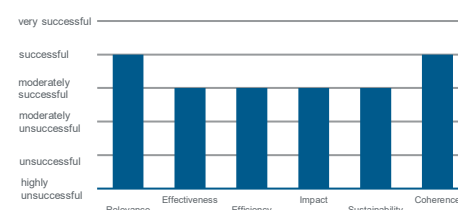
NB: From the point of view of PM/TE, the main impact was the professionalisation.

Key findings

Overall, the project largely achieved its objectives, even though high levels of unaccounted for water continue to be observed at the project locations. The project was rated as being “moderately successful” for the following reasons:

- The selected project design properly identified the deficiencies in the water supply and was suitable for addressing them. Furthermore, the improvement of water supply and sanitation is of significant importance in the context of Albania’s process of alignment with the EU (Relevance)
- German DC is a leader in the Albanian water sector and contributes to synergy effects, for example by taking on mandates or co-financing from other donors. In addition to FC, the present programme also included significant contributions from the EU and SECO (Coherence)
- The objectives regarding improved access to the water supply at the project locations were achieved, and the key figures for cost coverage and loss reduction also show improvements for the most part (Effectiveness)
- At all project locations (except Saranda), water losses of over 65% (non-revenue water) are at a very high level, which impedes an efficient supply and the careful use of resources (Efficiency)
- Like the majority of Albanian water utility companies, the UKs at the project locations cannot meet their operating costs with income from tariffs (exception: Berat-Kucova). Shortfalls are covered in particular by non-payment of energy costs.

Overall rating:
moderately successful



Conclusions

- Local utilities services providers had to qualify to finance the investments by achieving profitability metrics (milestone approach). In addition to the actual improvements, according to several executing agencies, this has also led to increased awareness of the cost-covering design of the supply
- Consistent measures to reduce losses are also expedient in regions with a sufficient supply of water, as they improve the economic situation of utilities and thus contribute to the sustainability of the supply.
- Since 2013, binding wastewater standards (alignment process with the EU) have applied in Albania, but compliance with them is not possible with the existing infrastructure.

Rating according to DAC criteria

Overall rating: 3

Ratings:

Relevance	2
Coherence	2
Effectiveness	3
Efficiency	3
Overarching developmental impact	3
Sustainability	3

Relevance

At the time of the project proposal (PP, 2011), improving Albania's water and wastewater disposal was already one of the priority concerns of both the Albanian government and the international donor community. In addition to improvements in the living conditions of the Albanian population, progress in the sector is also of particular importance in terms of bringing the country up to the standards of the European Union (candidate status since 2014). Accordingly, the project was in line with the development policy objectives of both the Albanian and the German government, formalised by the priority area strategy paper adopted as part of the 2010 intergovernmental negotiations. In terms of content, the evaluated phase follows on from the first phase of the programme. In the first phase, comparable investment measures were implemented at other locations in Albania (with overlaps in the cities of Fier and Saranda, where both phases of the programme were active).

Prior to the start of the measures, the water supply in the project cities was characterised in part by low connection rates to the pipeline network, a few (two to four) hours of operation per day, high technical and administrative losses, in part due to the largely dilapidated infrastructure. The commercial operation of the utility service providers was also hampered by low tariffs and deficits in collection rates, meaning that they – like virtually all other water suppliers in the country – were dependent on government subsidies to finance their operating costs. At the time of the project proposal, none of the project cities had a functioning wastewater treatment plant, so that all collected wastewater was discharged untreated, with correspondingly adverse environmental impacts.

There are no indications of water- or wastewater-induced diseases in the project cities; according to information from employees of health authorities and public utility corporations, corresponding cases of illness have not occurred in the last 25 years. A demonstrable and immediate positive impact on the health situation was therefore not achievable with the project measures. Nevertheless, due to the considerable deficiencies in the drinking water supply and in connection with wastewater disposal, there was significant potential for improving the living and health conditions of the population, especially since it cannot be assumed that low-threshold diseases associated with the drinking water supply would be recorded by the health authorities.

In particular, the further improvement of sanitation is of particular importance for Albania's alignment process with the EU. In point of fact, the EU standards for sanitation were incorporated into Albanian legislation back in 2005, according to which the standards were to be met after a transitional period of eight years (2013), but the country is still far from this today, as many places still have to be equipped with wastewater treatment plants.

The project design was suitable for addressing the core problems. From today's point of view, these have also been properly recognised and continue to exist in some cases, with the evaluated project at present only representing the second of five phases. In particular, the construction of wastewater treatment plants was not planned in the phase being evaluated; only preparatory steps (identification and fencing of suitable building plots) were to be carried out.

The impact chain envisaged ensuring a reliable and hygienically safe supply by improving infrastructure (outcome), in particular by rehabilitating fragile pipeline areas and initially reducing unaccounted water and energy consumption, and continuing to increase the connection rate (in particular Kamza) and duration of supply and thus overall achieving a structural improvement in the economic efficiency of the public utility corporations. The improved supply situation was intended to improve the living conditions of the population and ensure the effective use of water as a resource (impact). The interdependencies are also plausible from today's perspective.

The relevance of the project is rated as good, taking into account the critical initial situation in the sector, the high need for investment, the comprehensive approach of the multi-phase programme and the importance of further sector development in the context of Albania's alignment process with the EU.

Relevance rating: 2

Coherence

The strong German DC commitment in the Albanian water sector also culminated in an investment master plan, which was derived from a nationwide needs analysis. Although this master plan was not yet available at the time of the project appraisal, it was taken into account for the selection of measures later in the programme. Even from today's perspective, the project continues to rank among the priorities of DC, which is reflected in particular in the DC programme "Drinking water, water resource management, wastewater and waste disposal" set up in Albania in 2018.

TC advises the relevant ministry at policy level and supports the design and execution of structural reforms. At times, employees at the FC project locations also benefited from TC interventions, for example in the context of training sessions for employees of UK Saranda.

German DC is a leader in the Albanian water sector and coordinates with other donors and contributes to synergy effects, for example by taking over mandates or co-financing from other donors. In addition to FC, the present programme also included significant contributions from the EU and SECO (EU: phases I, II and V; SECO phases I, III and IV).

From today's perspective, both internal and external coherence are rated as good.

Coherence rating: 2

Effectiveness

The achievement of the objective at outcome level can be found in the following table:

Indicator	Status PP, target PP	Ex post evaluation
1. Technically sustainable coverage of operating costs		
1.1 Fier	47%, 100%	93%, largely achieved
1.2 Saranda	77%, 90%	90.5%, achieved
1.3 Kamza	69%, 100%	113% (2020), 74% (2021) currently not met
1.4 Lushnja	70%, 75%	87% (2021), achieved
1.5 Berat-Kucova	74%, 100%	143%, significantly exceeded

2. Improved access to drinking water through increased supply duration	-; Target value aggregated for all locations: 75,000 inhabitants	achieved ¹
2.1 Fier Operating time per day:	see above 18–20 hours; 20–22 hours	134,565 inhabitants 24 hours
2.2 Saranda Operating time per day:	see above n.a.; 5.5–10 hours	37,650 inhabitants 17–22 hours
2.3 Kamza Operating time per day:	see above 2 hours; 2–4 hours	30,284 inhabitants 4 hours
2.4 Lushnja Operating time per day:	see above 5 hours; 12 hours	40,844 inhabitants 12 hours
2.5 Berat-Kucova Operating time per day:	see above 6–8 hours; 22.5 hours	116,815 inhabitants 22.5 hours
3. Improved connection rate with clean drinking water through new connections	-; Target value aggregated for all locations: 25,000 inhabitants	approx. 25,300; achieved. ²
4. (New) Supply of drinking water that is harmless to health; periodic checks are carried out		Achieved at all locations.
5. (New) Reduction of unaccounted for water - Total losses (NRW)	Original – 40%	
5.1 Fier	NRW: 72.43% Techn. losses are reported at 25% at both points in time – not very plausible	NRW: 67.8% (-6%) High losses, only slight proportional reduction. Not achieved.
5.2 Saranda	No baseline data available, therefore no development observable	NRW: 48%, development not observable due to lack of baseline data
5.3 Kamza	NRW: 63%	NRW: 70.2% (+11%)

¹ Assuming that all people in the target group who already had a service connection at the start of the project benefited from longer operating times as part of the project implementation, this corresponds to over 300,000 people in mathematical terms. However, this number is excessive in that not all connections are used (e.g. due to temporary or permanent emigration) and in some cases no improvement was achieved in some parts of the pipeline networks. Nevertheless, it can be assumed that the rather conservative target of 75,000 people was significantly exceeded.

² In contrast to the other indicators, the number of people supplied via new connections can be directly related to the phase under consideration. For example, 6,327 new connections were created in Kamza, which, with an average household size of 4 people, is around 25,300 newly connected persons.

		Proportional losses have increased. Not achieved.
5.4 Lushnja	NRW 79%	NRW 67% (-15%) Not achieved
5.5 Berat-Kucova	NRW 85%	NRW 66% (-22%) Not achieved

In principle, it should be noted for the majority of indicators that it is not possible to allocate the results precisely to the evaluated phase, as in some cases the effects of several phases and the investments of other donors or the municipality itself overlap in the project cities (exception: indicator 3).

The quantitative targets set during the project appraisal with regard to improving the drinking water supply – on the one hand through increased operating times and on the other hand through new connections to the drinking water network – were consistently achieved. Operating times improved significantly, particularly in Lushnja and Berat-Kucova.

This also applies to the indicator for water quality and its comprehensive monitoring. The development of operating cost coverage, for which the targets were mostly achieved or at the very least significant progress has been made since the project appraisal, also paints a positive picture. When evaluating the indicator for the development of unaccounted for water (non-revenue water), it must be taken into account that the project’s measures were only aimed at the partial rehabilitation of the network system in each case. Against this background, the target figure for loss reduction defined at the project appraisal (equal to a decline in losses of around 40%) is considered too demanding. The impact of the project on the loss rates is limited, especially as increasing losses in non-rehabilitated network sections can more than offset any progress made. Nevertheless, from the evaluation’s point of view, the development of unaccounted water at the project locations is unsatisfactory, especially since the available data and observations imply a still significant level of administrative losses. From a very high loss level, significant improvements were only achieved in Berat-Kucova and Lushnja, while losses increased in Kamza in the period under review. In principle, the loss rates in the project cities are roughly at the same level as the national average (2020: 65%).

Tariffs are set specifically for each local utility service provider. Tariff increases are subject to the approval of the Albanian regulatory authority (ERRU), which first reviews internal efficiency indicators prior to consent. ERRU is thus critical of the usually excessively high levels of unaccounted-for water and the high staffing intensity among utilities. Overall, the tariffs for water and wastewater are at a low level and are less than 2% of an average income for a four-person household.³

The selection and implementation of the project measures met the specific requirements in the project locations and thus contributed significantly to improving the water supply, particularly with regard to the daily operation period. The close monitoring of the project not only at ministerial level, but also at the level of the individual UKs on site also seems positive. However, in view of the high level of unaccounted-for water, a stronger focus on reducing losses would have been indicated from today’s perspective, including by identifying significant loss points in network sections that were not rehabilitated. It can be assumed that a significant part of the losses can be attributed to illegal connections to the pipeline network.

However, the beneficial effects of the project, particularly from the rehabilitation, only affect part of the network, as the economic viability of the UKs should not be overloaded. At the time of the evaluation, the UKs continue to face problems that stand in the way of a further improvement in the supply and disposal situation. This meant that the setup of sectioned pressure zones (DMA) could not be successfully

³ However, the data situation regarding income is challenging, with large variations depending on the source consulted.

implemented at all locations (Fier). According to the operator, there are still problems in Kamza with the insufficient water allocation on the part of UK Tirana in terms of time and quantity.⁴

At the time of the evaluation, the utility service providers see further urgent needs in the rehabilitation of the network sections that have not yet been rehabilitated (both in the drinking water and wastewater network), the construction of wastewater treatment plants (Fier, Kamza and Lushnja) and the procurement or upgrade of further technical infrastructure (additional wells, storage capacity, pump stations).

Effectiveness rating: 3

Efficiency

The procedure of linking the investments to be carried out at the various locations to the previous achievement of in-house milestones was also rated favourably by the UKs themselves compared with the evaluation mission of AKUM (National Authority for Water Supply, Wastewater Disposal and Waste Disposal) – despite initial difficulties. In particular, the analysis carried out by taking stock of the situation of water suppliers has proven to be helpful. In conjunction with the services of the institutional consultant, cost coverage at all locations was improved considerably in some cases (see Effectiveness section). From today's perspective, it also makes sense to define the target levels with regard to good accessibility and not for example, to insist on 100% cost coverage. Firstly, this avoided long preliminary phases in the individual projects and, secondly, the project measures were intended to contribute to improving the operating parameters.

The phased implementation (the programme is currently in phase V) also seems sensible from today's perspective, if not necessary, in view of the comprehensive scale of the programme in terms of the absorbing capacity of the executing agency and the necessary parallel further development of the UKs.

If the total number of populations in the project cities (around 615,000) are compared to the costs of the evaluated Phase II, the per capita investment volume works out at EUR 56. The intensity with which the sector is supported under the overall programme can be seen by including all five project phases that have been or will be carried out in the total of 12 municipalities. Including the funds provided by SECO and the EU (around EUR 48 million and EUR 21 million respectively), investments totalling EUR 225 million were funded. This benefited just over 1 million inhabitants in the 12 project locations – or just over one third of Albania's total population – with a per capita investment amount of EUR 225.

Nevertheless, there is still considerable potential for improvement at the sites, not only with regard to further investment measures (see Effectiveness section), but also with regard to efficient operation by the UKs. The central problem here continues to be the very high level of unaccounted-for water, which, with the exception of Saranda, is over 65% at all locations in the evaluated phase. These water volumes, which are pumped and treated but do not lead to revenue for the UKs for technical reasons (e.g. pipe losses) or because of administrative problems (e.g. illegal connections), cannot be reconciled with efficient supply operations and equally efficient and thus sparing use of resources.

Operational efficiency also suffers from problematic aspects of the staffing situation. The available data from the regulatory authority ERRU shows a typical high staffing intensity of the utilities (9.0 employees per 1000 drinking water connections; 5.1 when including wastewater connections), which is in line with the observations on site. However, the project locations are still significantly better positioned in this regard than the average of the UKs in Albania (12.5 and 8.6 employees per 1000 connections, respectively).⁵

The collection rate is generally satisfactory and usually above 90%, but the situation deteriorated in the pandemic years 2020 and 2021. The UKs offer their customers instalment payments for accrued debt.

Taken together, the following picture emerges from the aforementioned factors:

In the five beneficiary UKs, 47.7 million m³ of water were produced in 2021 with 1,223 employees,⁶ of which an average of 31% or 14.7 million m³ were sold (billed). These sales generated revenues of the

⁴ Despite several coordination meetings with moderation from AKUM in the past

⁵ Some data diverge depending on the source. The data presented here corresponds to the sector data from AKUM.

⁶ Including the amount of water supplied by UK Tirana to UK Kamza (2021: 6.9 million m³)

equivalent of approximately EUR 10.9 million, but at a total cost of EUR 11.9 million (before taxes, interest payments and depreciation). This results in an immediate operational deficit of around EUR 1 million, which the state had to offset by means of subsidy payments or by taking on debt. However, taking into account depreciation, interest and taxes, the total costs are EUR 19.1 million. The high depreciation in particular only produces a realistic picture to a limited extent, as the supply infrastructure often has to be depreciated over a period of only 20 years, which is generally is not in line with the actual period of use.

In the 2020 annual report, ERRU criticises the common practice of politically motivated employment in utilities service providers (controlled by municipalities). On the other hand, filling vacancies with qualified specialists is very difficult. The already insufficient supply of skilled workers in Albania (see migration problem) and the low salaries in the public sector have a negative impact here.

On average, around a quarter of all drinking water connections across all locations are inactive (i.e. no water consumption), which in many cases is likely to be associated with temporary (or permanent) migration. However, this infrastructure hardly generates any income for the supplier, which also has a negative impact on profitability.

The allocation efficiency of the project is difficult to assess. In principle, there seem to be no alternatives to the measures carried out under the project in order to achieve the desired overarching objectives. Pre-selection of the locations based on the definition of milestones with regard to the cost coverage level is likely to have had a positive effect.

In view of the improvements achieved, efficiency is still rated as satisfactory despite the still very high level of unaccounted-for water.

Efficiency rating: 3

Overarching developmental impact

The project's development policy objective was to contribute to the efficient use of the scarce resource of water, to environmental protection and to improving the living, working and health conditions of the population. The structural impact for the water sector was also an implicit priority area of the programme (implementation linked to binding performance criteria) and is likely to be one of the main project impacts at impact level. The professionalisation of water utilities – which, despite the positive developments, leaves plenty of room for improvement – is crucial to guarantee the sustainability of security of supply and quality of supply. For this purpose, the selected phased approach of long-term support for the UKs is undoubtedly more expedient than a selective investment project. It may be that the forthcoming sector reform and the UK's aggregation into larger units can also provide further impetus.

According to consistent information, the problems with water quality have significantly reduced after the implementation of the measures, in particular with regard to the ingress of dirt and bacteriological pollution. Although serious water-borne diseases have not been recorded in the past, it can be assumed that the improved quality and increased operating times have also reduced the frequency of low-threshold water-related diseases (e.g. diarrhoea). In addition, in the municipality of Kamza, which previously had undergone rapid growth and was completely underserved at the time of the project appraisal, a rapid improvement in the drinking water supply was required to protect the health of the population.

Another positive aspect is the improvement in the supply situation. In a country that is under severe migration pressure, an additional motivational factor for migration is counteracted.

On the other hand, the efficiency in the use of water resources enshrined in the target definition must be considered to have been clearly missed (see Effectiveness and Efficiency sections), although the majority of the UKs were able to achieve at least slight improvements.

A relevant contribution to environmental protection cannot be determined, especially with regard to the wastewater situation in relation to the evaluated project phase, as only preparatory measures for the later (possible) construction of wastewater treatment plants were carried out here (identification and fencing of building plots). Although some measures were also carried out to improve the sewerage system (Fier), with the exception of Saranda, the wastewater is discharged untreated into the environment. In addition to the corresponding pollution of receiving waters and groundwaters and the environment as a whole, this is also contrary to the legislation in force, which has been adapted to EU provisions as part of the EU

convergence process. Although this meets the requirements of DC at legislative level, the legal situation created as a result, which has been binding since 2013, is frequently violated as Albania does not yet have the necessary infrastructure for comprehensive wastewater treatment.

This problem is likely to have been exacerbated by the sharp rise in water production volumes (except in Berat-Kucova). However, it must be taken into account that the wastewater volume is not congruent with the additional water production volume, as in some cases water volumes that were previously taken from private wells are also substituted. It should also be noted that there are no deficiencies at the sites with regard to wastewater discharge.

Overall, the overarching developmental impact is rated as satisfactory, despite the largely unchanged inefficient use of water resources and the necessary further development of the UKs into efficient and economically viable utility service providers.

Overarching developmental impact rating: 3

Sustainability

The project's intention to professionalise water utilities is fundamentally a long-term and structural impact. However, their actual sustainability will also depend on the relevant people remaining in the UKs, in particular as regards leadership positions. The relatively high staff turnover – also in combination with Albania's typical migration pressure, especially for trained specialists and the often politically motivated appointment of management positions – may jeopardise the progress achieved in the medium term.

Even though most of the targets set during the project appraisal for covering operating costs were achieved, it should still be noted that at the time of the EPE, operating costs were only covered by fee-based income at the Berat-Kucova site (in Kamza, they were covered in 2020, see Effectiveness). As a result, the financial capacity of the utilities at the locations that do not cover costs is limited and is not least reflected in increasing liabilities to the state energy supplier. According to the regulatory authority ERRU, the UKs' debts from unpaid electricity bills, accumulated nationwide, amount to EUR 160 million.

It should be borne in mind that the utility companies have also suffered losses in revenue due to the pandemic in the last two years. However, it is to be feared that the rise in energy costs since the start of the year will have an even greater impact on the earnings situation of the UKs than Covid-19. According to ERRU, energy costs – which account for more than a quarter of operating costs and represent the second largest cost pool after personnel costs – rose by 64% for the Albanian UKs in the first half of 2022.

It cannot be assumed that large-scale supply restrictions will occur in the foreseeable future due to the lack of coverage of operating costs. Nevertheless, despite significant progress, the still insufficient economic efficiency is an obstacle to the further development of the UKs, which usually lack the opportunity to invest (or maintain their operations) from their own funds. The forthcoming reform may be able to achieve further professionalisation and profitability in the sector by merging utilities into larger, supra-regional units.

Deficiencies tend to be evident in all companies when using electronic monitoring and control systems. To this end, a lack of spare parts availability is claimed, but the actual cause may be primarily due to the limited financial possibilities of the companies in the procurement of spare parts and lack of qualifications of the operating staff. The effort required to repair and maintain the systems, including the newly constructed parts, can be improved overall.

The problem at all locations is the non-polluting and environmentally safe discharge of the collected wastewater. With the exception of Saranda, none of the cities currently have a wastewater treatment plant. Due to a lack of alternatives – and ultimately contrary to Albanian law – wastewater is discharged into the environment largely untreated (see Overarching developmental impact). Although the construction of wastewater treatment plants is planned at a later date, the economic efficiency of the sites is also important here. The question arises as to how public utility corporations, which from today's perspective are already operationally and financially challenged with the operation of drinking water infrastructure, will be able to guarantee the operation of more complex and more cost-intensive wastewater treatment plants in the future. Difficult recruitment of qualified personnel will also be an important factor.

Ultimately, unaccounted-for water is still far too high at all locations. This increases maintenance and energy costs, as well as lost revenue from illegal connections. The high losses make it more difficult to cover costs and thus reduce the economic efficiency and financial sustainability of the public utility corporations. Moreover, they lead to unnecessary use of existing water resources.

Nevertheless, from today's perspective, it can be assumed that the project's beneficial effects – in particular the improvement of the drinking water supply and the professionalisation of utility services providers – are essentially long-lasting, even if significant progress in reducing losses remains necessary.

Sustainability rating: 3

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

Projects are evaluated on a six-point scale, the criteria being **relevance, coherence, effectiveness, efficiency, overarching developmental impact** and **sustainability**. 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.

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).