Albania: Water Supply and Sanitation Kruja I, Water Supply and Sanitation Kruja II

Ex post evaluation report (final evaluation)

OECD sector	(1) + (2): 14030 / Water supply and sanitation – small-scale systems	
BMZ project ID	(1) 1996 65 407 (sample 2009) (2) 2001 66 769 (3) 1997 70 330	
Project executing agency	Municipal utility of the town of Kruja	
Consultant	IncoWest	
Year of the ex post evaluation report	**2009**	
	Project appraisal (planned)	**Ex post evaluation (actual)**
Start of implementation	(1) Q II 1998 (2) Q II 2002	(1) Q IV 1998 (2) Q I 2003
Period of implementation	(1) 32 months (2) 23 months	(1) 43 months (2) 23 months
Investment costs	(1) EUR 6.2 million (2) EUR 2.9 million	(1) EUR 6.6 million (2) EUR 1.9 million
Counterpart contribution	(1) - (2) EUR 0.3 million (3) EUR 0.3 million	(1) EUR 0.4 million (2) EUR 0.2 million (3) EUR 0.3 million
Financing, of which Financial Cooperation (FC) funds	(1) EUR 6.2 million (2) EUR 2.6 million (3) EUR 0.3 million	(1) EUR 6.2 million (2) EUR 1.7 million (3) EUR 0.3 million
Other institutions/donors involved	-	-
	(1) 1996 65 407	**(2) 2001 66 769**
Performance rating		4
• Relevance		3
• Effectiveness		3
• Efficiency		5
• Overarching developmental impact		4
• Sustainability		4

Brief description, overall objective and project objectives with indicators

The development intervention on the water supply and sanitation in Kruja and the supplementary intervention Water Supply and Sanitation Kruja II embraced the renewal and repair of the drinking water supply system in the town of Kruja and major sections of the urban wastewater collection and disposal system. In this way a contribution was to be made to reducing water-related health risks and to promoting the efficient use of drinking water resources (overall objective). The project objectives were to ensure an adequate supply of drinking water for the urban population and the environmentally

appropriate and resource-conserving disposal of wastewater. The executing agency was helped to operate the system correctly within the framework of a back-up measure.

The objectives system was defined for the two development interventions together as follows:

Overall objective	Contribution to reducing water-related health risks and to promoting the efficient use of drinking water resources
Indicators	Water quality and water losses
Project objective	Continuous and adequate supply of drinking water for the urban population and environmentally appropriate and resource-conserving disposal of wastewater
Indicators	For drinking water supplies: - 95% of households connected to the system - Continuous (24h/day) supplies of drinking water ensured - Water consumption of no more than 120 l/cd - Compliance with WHO quality standards - 95% of drinking water consumed will be billed For sanitation: - 65% of households connected to the sewage system Discharge from the treatment plant (contamination of receiving body of water) of less than 30 mg BOD_5/l

The overall objective targets both health and the efficient utilisation of drinking water resources. The efforts to reduce losses were intended to ensure an uninterrupted water supply. Since Albania has no shortage of water resources, this aspect is not taken into account within the assessment of the achievement of the overall objective. Instead, it will be dealt with indirectly within the scope of the above indicator of a continuous water supply. The indicator 'reducing water losses' is itself part of the efficiency considerations. This approach is intended to prevent the criterion being assessed twice. Given the environmental problems identified during the project appraisal[1] and the planned sanitation measures, the overall objective has, however, been extended to include a 'contribution to reducing contamination of the soil and groundwater as well as soil corrosiveness'.

The indicators for the project objectives also cover an efficiency criterion with the indicator on billing efficiency. As above, this has not been included in the assessment of achievement of the project objectives but has been incorporated in the assessment of efficiency.

[1] "Wastewater seeps out of the system at various points in the town, in some cases entering small watercourses. At four places on the edge of town, the wastewater collected is discharged into open ditches or small watercourses (the lion's share into the Zidolli stream), which carry little or no water during the summer months. This all results in high exfiltration rates and has contributed to an unacceptable hygienic situation in the town and to contamination of the soil and increased soil corrosiveness." Also, "The overloading of the receiving body of water with contaminants is jeopardising the country's most important groundwater reserves."

Design of the development intervention / major deviations from the original project planning and the main reasons for these

Project activities for drinking water supplies include, for instance, the building and rehabilitation of two spring tappings, 3.5 km of water pipes, a total of 6 containers, 3 chlorination stations, 37.6 km secondary and tertiary pipelines and the installation of 2,590 domestic water meters. Within the framework of the sanitation component, 2.1 km mains collectors and a surface waste water system were built; 1,170 households connected to the system, including the required lines; and 550 dirt collectors installed. For the project executing agency, a new operating building was built and the technical equipment required for operation was supplied (workshop equipment, spare fittings, 2 channel cleaning plants, 2 high-pressure cleaners, 1 leak identification appliance). The originally planned sewage treatment plant was not realised because the executing agency failed to meet the preconditions stipulated (stable and adequate economic and financial capacities).

To support the project executing agency and ensure the sustainable achievement of the project objectives, back-up measures were implemented. This included advisory services relating to the technical and commercial management, as well as support to the executing agency regarding the design and implementation of awareness campaigns to encourage the population to become more aware in its use of drinking water. A first reliable record of customers and a register showing all newly installed domestic water supply and sewage connections was drawn up. Inside the executing agency a division was established for customer services, drinking water fees were increased and sewage charges introduced. Moreover, special advisory services were planned which were aimed to reduce technical and administrative water losses (inadequate billing and collection). In order to improve the planning and controlling capacities of the management, a management information system (MIS) was prepared.

We consider the design of the development intervention, with strict complementarity of investment measures and targeted back-up measures, to be in principle appropriate. However, the investment measures were not suited in their entirety to achieving the overall objective (see below). This applies in particular to the sewage treatment plant, which was not realised, and the inadequate measures taken to prevent water theft.

Major findings of the results analysis and performance rating

At the time the ex post evaluation was conducted, a few major shortcomings in the operation of the plants were identified:

- Due to inadequate maintenance, sediments carried in the water penetrate the filter layer in one tapped spring and enter the pipe system. The cause is probably erosion in the catchment area, which has been aggravated by deforestation. The connecting break pressure shaft has been circumvented since autumn 2008, with the result that the volume of water passed on is not recorded. It is thus no longer possible to control the delivery of the spring or to take stock of the water volumes.
- Below the Shkreta tapped spring, part of the supply pipeline has been replaced by a larger-diameter pipe. The ditch in which the pipe runs was not filled in, however, with the result that the pipeline is completely exposed and unprotected. Corrosion and damage to the pipeline caused by stones falling into the ditch can already be seen clearly. Damage caused by erosion of slopes has not been properly repaired, with the result that the pipe is now hanging unsupported in the air.
- The chlorine dosing plant with special dosage pump supplied is not in use.
- The break pressure shafts, which had to be repaired as a result of incorrect use, have been taken out of operation, allegedly because they are responsible for increased losses. This cannot be the case, since the shafts are correctly built and

installed. It appears more probable that the personnel is simply not aware of their technical and administrative importance.

- Large-scale water meters were installed at the entry points for the individual supply zones, to allow for the measurement of water use by zone. Since the break pressure shafts have been circumvented, however, some of these water meters are not in use, making it impossible to balance water supply and water consumption properly by zone.
- In spite of the fact that the drinking water network is practically new, a disproportionately high number of pipe breaks was recorded in the first three months of 2009.
- 37% of meters installed in 2008 were destroyed by the owners or by frost, and most of these have not been replaced.
- The intermittent operation of the network is not only unpleasant for users. It is an inherent risk for the network itself. The opening and closing of the in-valve produces surges of pressure which put additional pressure on pipes and fittings. The vacuum created can also cause groundwater to enter the pipes and potentially contaminate supplies. The still widespread private water tanks are also sources of potential contamination of the pipe network.

Given the high level of technical and administrative losses, it must be noted that the aim of achieving an efficient handling of water resources has not been achieved.

The management information system established within the framework of the back-up measure with the most important parameters for correct technical and commercial management is used only in part, in order to overcome bottlenecks. This is particularly apparent in the time required to repair defective domestic water meters, to disconnect customers who fail to pay bills and in the inadequate production of clear water balances to identify illegal tapping, leaks, etc.

Although the drinking water system has been almost entirely overhauled and is a gravitational-flow drinking water supply system which generally has low maintenance costs, the executing agency is unable to ensure adequate maintenance.

All in all the operational shortcomings represent significant risks to the sustainability of the intervention.

Summary and assessment of risks to the sustainable development-policy effectiveness of the intervention and the KfW vote

All the risks identified by the project appraisal to realising the efficient operation of the water supply and sanitation plants by the municipality and in terms of introducing cost-covering tariffs have become reality.

The interventions have made available social services to a primarily poor population. While they had no real potential to achieve gender equality, they are helping strengthen municipal self-government by fostering the decentralised management of water-related services and anchoring the concept of economic efficiency within the municipal authorities.

In conclusion we assess the development-policy effectiveness as follows:

Relevance

The improvement of the drinking water supply and sanitation systems continues to enjoy high priority in Albania. The underlying results chain, which involved reducing hygienic, health and environmental risks by improving water supply and sanitation services, also remains valid. The core problems in the project region (inadequate supply of safe drinking water and a high level of health risks as a result of the incorrect disposal of domestic sewage in particular, as well as the contamination of soil and water resources) appear to have been correctly identified, as things stand

today. The development interventions tackled a major bottleneck in the field of water management for human settlements. The planned investments were in principle suited to contribute to resolving the problems. The loss of the sewage treatment plant, however, meant that an important element for the reduction of environmental risks, was never realised. Donor coordination was relatively satisfactory. The objectives of the interventions were in line with the development-policy objectives and guidelines of BMZ, and with the strategy of the Albanian Government to improve the economic and social life of the Albanian people. In conclusion, the relevance is deemed to be satisfactory (sub-rating 3) .

Effectiveness

To sum up the extent to which the objective has been reached for drinking water supplies and sanitation, it should be noted that the desired level of connections to the mains water supply was almost achieved and the planned level of connections to the sewage system was achieved in full. Water consumption is unacceptably high. It has not proved possible to ensure a continuous water supply, but this is not commercially desirable, given the high level of water wastage by consumers. The quality of water supplied is better than at the time of the project appraisal because of the improved technical framework, and in terms of coli bacterial contamination the water is safe. Overall we deem that the level of achievement of objective is just satisfactory. The discharge volumes of sewage treatment plants are no longer relevant. (sub-rating 3)

Efficiency

The specific investment costs are comparatively high. Given the shortcomings in service quality, managerial weaknesses on the part of the executing agency and the unresolved problem of downstream residents in the case of the sewage system, the high costs are difficult to justify for a gravitational-flow system. Major efficiency factors (technical water losses, billing efficiency, tariff-collecting efficiency) remain at a very low level in spite of the improvements achieved by the project, and are well behind expectations. Only 22% of operating costs are covered (taking into account assured subsidies), a level which is unacceptable. Because of the major importance of covering operating costs, we deem the efficiency overall as clearly inadequate (sub-rating 5).

Overarching developmental impact

For the achievement of the health-relevant overall objective both the quality of drinking water delivered by the mains system and the need to store water in roof-top tanks as a result of the only intermittent supply with all attendant hygienic risks are important. Reports indicate a drop in the incidence of water-related diseases, however. This would appear plausible, given the improved technical framework conditions and the current water quality. The failure to build the sewage treatment plant and the pertinent supply pipelines as well as the concentrated release of untreated sewage into the receiving watercourse (the Zidolli stream), however, entails major health risks for the downstream population in the neighbouring town of Fushkruja, who must be considered part of the target group in a wider sense. A sewage treatment plant originally planned for the town was not built. In terms of the environmental overall objective it must be noted that the orderly channelling of wastewater has made a significant contribution to reducing the exfiltration rate in the urban area, as a result of which the soil quality has improved and the risk of corrosion has dropped. The Zidolli stream, which flows through the most important groundwater extraction area in the whole of Albania, probably carries an unchanged level of contaminants, which means that the groundwater extraction area is still at risk. This must be assumed as the relevant environmental conditions have remained unchanged since the project appraisal was conducted, because the planned sewage treatment plant was not built. One should mention, however, that the discharge of waste water from Tirana represents the single largest source of contamination of the stream. At the time of the

project appraisal it was estimated that discharged wastewater from the project area would lead to a 20% increase in contamination by 2010. Because the population has remained smaller than originally forecast during the project appraisal, the actual figure can be assumed to be lower. In this regard the project can be seen to have had a negative environmental impact. In conclusion it must be said that, on the one hand the development interventions have made a contribution to achieving the health-related and environmental overall objective, yet they have at the same time had negative impacts in both areas. As a result the degree of achievement of the overall objective must be deemed unsatisfactory (sub-rating 4).

Sustainability

The sustainability of the investment is not assured. The critical factors are the tariffs which fail to cover costs, the managerial shortcomings on the part of the executing agency and its inadequate financial capacities. The latter is the result of tariffs that do not cover costs, which is further aggravated by the low level of tariff collection. Although the executing agency receives state subsidies to ensure its continued liquidity, its revenue is not adequate to ensure the proper operation and maintenance of the plant. Neither is the ecological sustainability assured. High levels of water losses, the high hygiene and health risks for the population living downstream on the Zidolli stream and the additional contamination of a groundwater carrier as a result of the discharge of untreated sewage into the receiving body of water are the main causes. We thus deem the sustainability of the project to be inadequate (sub-rating 4).

When the above impacts and risks are collated and weighed up, the development interventions must be given an overall rating of 4 (inadequate).

General conclusions and recommendations

None

Notes on the methods used to evaluate project success

Assessment criteria

Projects are evaluated on a six-point scale, the criteria being relevance, effectiveness, 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:

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

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

Rating 1	Very good sustainability	The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.
Rating 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.)
Rating 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.
Rating 4	Inadequate sustainability	The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and an improvement that would be strong enough to allow the achievement of positive developmental efficacy is very unlikely to occur. This rating is also assigned if the developmental efficacy that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

Criteria for the evaluation of project success

The evaluation of the developmental effectiveness of a project and its classification during the ex-post evaluation into one of the various levels of success described in more detail above focus on the following fundamental questions:

Relevance	Was the development measure applied in accordance with the concept (developmental priority, impact mechanism, coherence, coordination)?
Effectiveness	Is the extent of the achievement of the project objective to date by the development measures – also in accordance with current criteria and state of knowledge – appropriate?
Efficiency	To what extent was the input, measured in terms of the impact achieved, generally justified?
Overarching developmental impact	What outcomes were observed at the time of the ex post evaluation in the political, institutional, socio-economic, socio-cultural and ecological field? What side-effects, which had no direct relation to the achievement of the project objective, can be observed?
Sustainability	To what extent can the positive and negative changes and

	impacts by the development measure be assessed as durable?