Ex post evaluation – El Salvador

Sector: Basic drinking water supply and basic sanitation (CRS Code: 14030)
Project: Rural drinking water and sanitation II, BMZ No.: 2000 65 672*
Programme executing agency: Administración Nacional de Acueductos y Alcantarillados (ANDA)

Ex post evaluation report: 2014

		Project A (Planned)	Project A (Actual)
Investment costs (total)	EUR million	13.39	13.05
Own contribution	EUR million	3.16	3.16
Funding	EUR million	10.23	9.89
of which BMZ budget funds	EUR million	10.23	9.89

*) Random sample 2014

Description: The programme improved the drinking water supply and waste water disposal in twelve small rural towns and communities. As a consequence, it helped improve the health situation. The project measures included the rehabilitation and expansion of the piped water supply – and in two areas – waste water disposal systems along with associated consulting services as well as the construction of latrines and cesspit installations for grey water. Hurricane Ida devastated the country with floods and landslides in November 2009, killing 275 people and causing damage to property amounting to almost USD 1 billion. The hurricane also destroyed parts of the infrastructure funded by the programme, which were subsequently reconstructed from project funds.

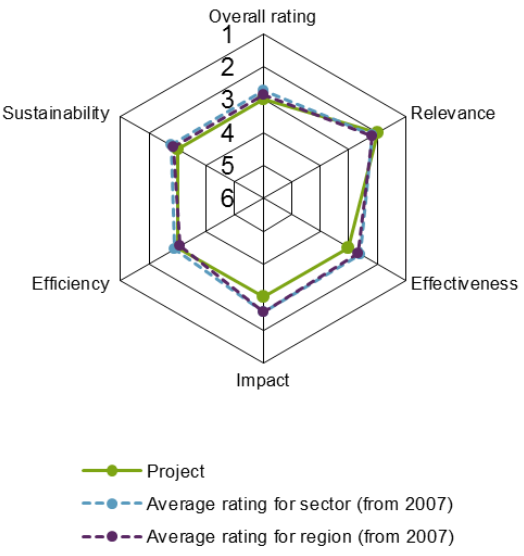
Objectives: The overall objective of the FC project appraised in 2000 was to contribute to reducing water-induced diseases and the consequential health risks for the predominantly poor population in 12 programme areas (regional centres and neighbouring zones). Accordingly, the programme objectives were to realise an all-year, continuous supply of high quality, safe drinking water in an adequate quantity, achieve hygienically/ecologically appropriate sanitation and guarantee the efficient and sustainable operation of the facilities through decentralised operating institutions.

Target group: The target group in the 12 programme areas was mainly composed of poor groups of the population in the regional centres and its adjacent zones (roughly 51,000 inhabitants).

Overall rating: 3

Rationale: Due to the project's high relevance at the time of the project appraisal, effectiveness, efficiency and overarching development goals were satisfactorily achieved. The sustainability of the project impact is rated satisfactory.

Highlights: Due to quantitative and qualitative improvements in the water supply, the health situation has improved significantly in at least 11 out of 12 communities. In terms of water quality appraisals, El Salvador leads the way by regional comparison. Project planning was disregarded in most of the communities in terms of waste water disposal systems on the one hand and the risk of natural disasters on the other, which had a negative effect.



Rating according to DAC criteria

Overall rating: 3

Relevance

The project aimed to resolve a core problem of development policy: improving the health of the population with hygienically safe drinking water. To achieve this, the water supply systems in 12 small urban and sometimes rather rural communities were expanded and modernised in El Salvador, while waste water systems including treatment installations were set up in two of the communities. Additionally, decentralised institutions were to ensure the sustainable operation of these facilities. The 12 programme communities are located within a two-hour radius of the capital San Salvador, and range from 1,100 to 17,000 inhabitants.

The development policy objective of the programme is consistent with the current aim of the 2010-2014 development plan, in which the main goal set by the government of El Salvador is to increase the water supply rate to 80 % in the 100 poorest communities. Having said that, a national water law which has been debated in parliament for many years is being revised again in 2014, and therefore the water sector along with the project-executing agency ANDA have no clear mandate or regulatory authority.

The water sector is not a high priority for other donors. Although BID, JICA, Cooperación Espanola and USAID are active in the water sector, there are no regular coordination meetings and no joint dialogue on sector policy.

While the programme was very relevant at the time of the appraisal in 2000 given the Millennium Development Goals, El Salvador achieved the goal of an improved supply of drinking water in 2012, and is also about to accomplish the goal of improved sanitation. The development policy objective of the programme is no longer consistent with the BMZ's current country strategy, which has evolved since 2008 towards cross-border and regional cooperation approaches. For example, a regional project in the northern border region of Trifinio contributes to forest protection, to safeguarding Salvadoran water resources and to preventing disasters. The modernisation of the waste disposal system is the only area where there is still country-specific cooperation.

Based on what we know today, the disposal of waste water in all 12 of the programme communities should have been subject to closer consideration at the time of the project planning. This is all the more relevant because some 90% of surface water resources are degraded in 2014. Consequently, waste water disposal and the protection of water resources are crucial from today's perspective. Additionally, the risks of natural disasters, such as flooding, were underestimated during the project appraisal and when planning the facilities, which resulted in damage to infrastructure even during the programme period. Although this damage was repaired, the funded infrastructure remains exposed to further risks – including those triggered by climate change.

The relevance of the project is good from today's perspective based on the high relevance at project appraisal, but the design can be marked down in relation to waste water disposal and the risks of regular natural disasters.

Relevance rating: 2

Effectiveness

The objectives/indicators set for the project are consistent with the current state-of-the-art, but the benchmarking is too strict for the local circumstances in some cases. For example, water losses of < 20 % are barely achievable, whereas a value of less than 30 % can be considered acceptable. A continuous supply of water can be considered achieved even if the supply is not guaranteed at all times. The indicators were met, with some limitations.

All told the drinking water supply improved markedly in the 12 communities, even though the objectives (24-hour water supply, seven days a week, unaccounted for water < 20 %, and a collection rate of 100 %)

were not achieved in every location. The number and length of disruptions vary between the individual places, but in most places the supply is constant.

The quality of water from the taps corresponds to the norm for El Salvador and is regularly checked by the Ministry of Health as well as ANDA at the source and in homes. The automated pump management and chlorination realised as part of the project only works in some locations. However, these procedures are carried out manually in a satisfactory manner, so it is more a problem with the project design comprising inappropriate technology rather than a problem of ensuring the water supply.

Two water treatment plants including waste water disposal systems operated mostly with a connection rate of 100 percent in the two urban centres at the time of the final inspection. The target of 65 percent was therefore exceeded. However, the connection rate is presumably somewhat lower because of the population growth and many new buildings. The evaluation mission examined some 5 percent of the 822 latrines, most of which were used as designed, compared to the target of 60 percent. In the other cases they were used as storerooms. The objective can be considered achieved in this case too.

ANDA as well as the decentralised operators have to continue their efforts with regard to reducing technical and administrative water losses. This means losses in water resources and in revenues from operations and maintenance.

Overall, the project's effectiveness is still satisfactory.

Effectiveness rating: 3

Efficiency

In terms of production efficiency (input relative to output), the unit costs for the water supply are around the estimate of EUR 108 per inhabitant made during the project appraisal, on average for all the beneficiary locations. The higher specific investment costs caused by the extra expense brought on by the significant delays in implementing the project and the additional measures triggered by Hurricane "Ida" are made up for by the greater number of beneficiaries. In terms of the waste water components in the two communities, the specific investment costs of EUR 127 per inhabitant are markedly lower than the estimated EUR 223 per inhabitant in the project appraisal report. Since water meters have now largely been installed everywhere but no longer work on some house-branch connections, it is difficult to bill based on consumption.

According to ANDA, roughly half of the running costs nationwide are covered by tariff revenues. An evaluation based on a dynamic unit cost calculation in the two project areas (San Juan Opico and San José Guayabal) produces a much more positive picture. The operating costs were covered in these two communities. Based on the water volumes billed, the average water consumption at the time of the ex-post evaluation was roughly 115 or 180 litres per person per day, which with an average tariff of 0.40 USD/m3 means a monthly cost of around USD 7 to 11 for a five-person household in both municipalities (consumption measured on water meters). This expense accounts for roughly 3 to 4.5 % of the Salvadoran minimum income of USD 246. Many consumers pay a minimum tariff of USD 2.29 as consumption is not measured, while in other places, e.g. Comasagua, there is an average monthly payment per household of USD 4. The tariffs are socially acceptable, but they do not cover costs across the country.

In terms of allocation efficiency (input relative to impacts) roughly 75,000 people currently enjoy a better supply of drinking water today, and two communities have a functioning waste water system, which has significantly reduced the prevalence of water-induced diseases.

Overall, the project's efficiency is considered satisfactory.

Effectiveness rating: 3

Impact

The overall developmental impacts of the project were achieved and are in line with current standards. Due to a quantitative and qualitative improvement in the water supply, the health situation has improved significantly in at least 11 out of the 12 communities, as confirmed by discussions with doctors in health

centres as well as local statistics on water-induced diseases in the last year. In one community, the volume of water produced is so low (lengthy disruptions in supply) that water-induced diseases remain a problem. Generally speaking, the improved access to water leads to higher productivity and to greater well-being among the population. Additionally, the project also contributed to the faster achievement of the Millennium Development Goal on access to better drinking water. In terms of water quality inspections, El Salvador leads the way by regional comparison.

Failing to take account of waste water disposal in most communities from the very beginning has a negative impact on hygiene in the communities. In these places, the waste water used to wash dishes and take showers is piped from the houses straight onto the roads, thereby polluting the already degraded surface water. Sanitary facilities comprise latrines, but draining them is still not regulated and this can represent a hygiene problem, at least in densely populated urban areas.

The decentralised operation agreed upon during the programme appraisal is only evident in 5 out of the 12 communities in 2014. The reason for this is that the government in power since 2009 spoke out against decentralisation in the water sector. According to the evaluation mission, a decentralised operating system was efficient with regard to small repairs given the short distances involved. ANDA is still responsible for the larger maintenance work though. This organisation wants to ensure that the funds earmarked for servicing pumps and water tanks are used for the intended purpose.

The overall developmental impacts of the project are considered to be satisfactory.

Impact rating: 3

Sustainability

Due to low tariffs and water meters that are out of order, it is not possible to cover operating costs from own revenues. That said, electricity costs and other running costs that are equally not covered are subsidised by the state. In this respect the programme seems sustainable, even though it is not achieved by covering operating costs with water tariffs.

ANDA's low budget for replacement or new investments could represent a problem in the long run for the sustainable operation of facilities.

Since the planning failed to take proper account of flooding risks and factors prompted by climate change, the recently completed project infrastructure was damaged in 2009 in 3 out of the 12 communities; the repair costs, however, were low. Furthermore, the treatment plant in San Luis Talpa is still exposed to a risk of undermining from a river that can alter its riverbed towards the plant in the event of flooding. The treatment plant in San Juan Opico was completely under water in 2012, which not only led to hygiene problems but also made the gas flaring installation there unusable. There is now generally a higher awareness of the risks of natural disasters in the communities though, and the mayor's offices spoke about vulnerability maps produced for the areas. In the Ministry for the Environment in San Salvador, all types of natural disaster are constantly monitored on large screens. A network of volunteer first-aiders is alerted by radio as soon as a risk emerges.

Maintaining the infrastructure funded by the project is difficult because the specifications for equipment and pipes used during the planning and implementation phases did not conform to customary standards in the country (e.g. metric measurements instead of inches, and bar instead of pascal). Replacement parts must therefore be purchased from Europe at high cost, or adapted by means of technical solutions offering a sub-optimal result. Moreover, reading meters is complicated because of the need to convert units.

The sustainable use of water resources in El Salvador requires a national strategy based on water catchment areas as the basis for technical planning - one that also takes account of the vulnerability caused by climate change and natural disasters. Initial steps have been taken here at a political level. Additionally, the water law referred to above should be implemented as an institutional framework in the sector as soon as possible.

The sustainability of the project is still satisfactory in our view from today's perspective.

Sustainability rating: 3

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

Projects (and programmes) are evaluated on a six-point scale, the criteria being **relevance, effectiveness, efficiency** and **overarching developmental impact**. The ratings are also used to arrive at a **final assessment** of a project's overall developmental efficacy. The scale is as follows:

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

Ratings level 1-3 denote a positive assessment or successful project while ratings level 4-6 denote a negative assessment.

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

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

Sustainability level 2 (good sustainability): The developmental efficacy of the project (positive to date) is very likely to decline only minimally but remain positive overall. (This is what can normally be expected).

Sustainability level 3 (satisfactory sustainability): The developmental efficacy of the project (positive to date) is very likely to decline significantly but remain positive overall. This rating is also assigned if the sustainability of a project is considered inadequate up to the time of the ex post evaluation but is very likely to evolve positively so that the project will ultimately achieve positive developmental efficacy.

Sustainability level 4 (inadequate sustainability): The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and is very unlikely to improve. This rating is also assigned if the sustainability that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

The **overall rating** on the six-point scale is compiled from a weighting of all five individual criteria as appropriate to the project in question. Ratings 1-3 of the overall rating denote a "successful" project while ratings 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" (rating 3).