Ex Post-Evaluation Brief

GUATEMALA: Rural water and basic sanitation programme IV

Sector	14030 Drinking water, sanitation and waste water	
Programme/Client	Rural water supply and basic sanitation programme IV – BMZ no. 1998 66 013*; Accompanying measure (AM) - BMZ no. 2000 70 094	
Programme executing agency	Instituto de Fomento Municipal (INFOM)	
Year of sample/ex post evaluation report: 2013/2013		
	Appraisal (planned)	Ex post-evaluation (actual)
Investment costs (total)	EUR 10.2 million (Inv) EUR 1.5 million (AM)	EUR 8.4 million (Inv) EUR 1.4 million (AM)
Counterpart contribution (company)	EUR 3.1 million	EUR 3.1 million
Funding, of which budget funds (BMZ)	EUR 7.2 million (Inv) EUR 1.5 million (AM)	EUR 5.3 million (Inv) EUR 1.4 million (AM)

* random sample 2013

Short description: The project was the fourth Financial Cooperation programme in rural water supply and basic sanitation in Guatemala. It spanned the construction and rehabilitation/expansion of water supply systems (pipe systems), the construction of latrines and infiltration pits for household waste water, and consulting services in the Baja and Alta Verapaz provinces. The scope of an accompanying measure included (i) training of the community water committee on the operation and maintenance of the water supply and sanitation systems; (ii) advising the executing agency on how to set up a water association and (iii) hygiene education measures.

Objectives: The overall objective of the project was to lower the health risks of the population living in the programme area. A second overall objective, i.e. improving living conditions, was introduced for the ex-post evaluation. The programme objectives were to sustainably meet basic needs for hygienically safe drinking water and lasting improvements in sanitation conditions.

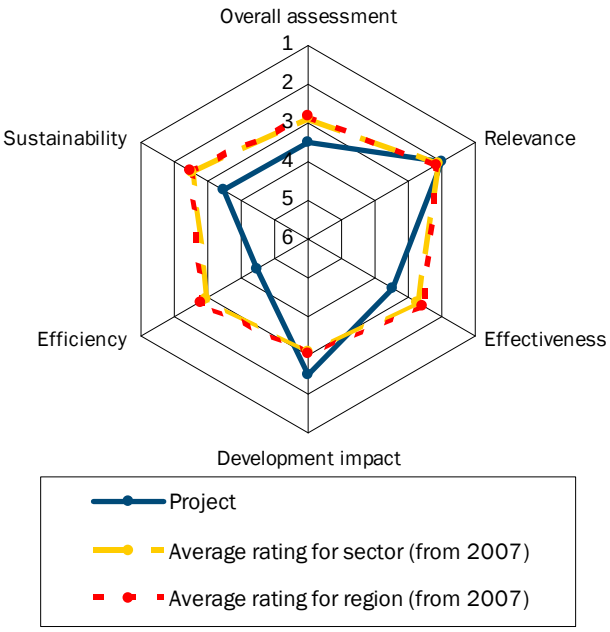
Target group: The target group was primarily members of the socially disadvantaged Maya population, who live in small, rural communities in the Baja and Alta Verapaz provinces and mainly earn their living as small farmers, farm workers, day labourers and craftsmen.

Overall rating: 4

Despite some positive impact on the target group, the programme overall was found to be not satisfactory. The reasons for this are that more than half of the programme villages neither disinfects the water nor charges adequate usage fees. The lack of coordination of the stakeholders involved in the programme also led to enormous delays and several weaknesses in implementation. Finally, the user groups did not receive adequate follow-up support.

Points to note: The evaluation mission was supported by chemists from the water laboratory of INFOM, the project executing agency. In every village visited, water samples were taken at the water source, the distribution tank and at the house connections. In addition, a visit was made to a "control village" without a water supply system, where a water sample was taken.

Rating by DAC criteria



EVALUATION SUMMARY

Overall rating: 4

Relevance

The Baja and Alta Verapaz provinces are among the poorest in the country and have large indigenous populations. The civil war, which formally ended in 1996, was fought in both of these provinces. Water supply coverage is very low in both provinces (approx. 50%). The lack of water supply to the individual households gives rise to health problems (unclean water caused by contaminated sources and contamination during transport and storage), and adversely affects the quality of life, particularly of women and children who, depending on where they live, have to walk 5 times a day from between 20 minutes up to one hour to get drinking water, to wash their clothes or to take a shower.

The project aimed to ease these problems by building and rehabilitating/expanding water supply systems with disinfection (chlorination is mandatory under Guatemalan law), constructing latrines and infiltration facilities for household waste water, training local water committees, carrying out measures for hygiene education and creating a water association.

A total of 6 parties were involved in the programme: (1) The main office of INFOM, the project-executing agency, in the capital, (2) the regional office of INFOM in Cobán, the provincial capital, (3) an implementation consultant, (4) the private material procurement agency in the capital (to bypass the complicated and lengthy Guatemalan procurement law), (5) the municipal administrations (provision of more basic building materials such as sand, gravel, etc.) and (6) the Comunidades (municipalities), which were slated to provide their manpower.

It makes sense that a consultant supported the programme-executing agency because INFOM did not have its own resources and expertise to select the Comunidades and plan the systems. From today's perspective, however, this kind of complex project structure, particularly in light of the unclear responsibilities for the rural water supply in Guatemala (a water law, for example, does not yet exist) is too complicated and resulted in considerable delays. In addition, the local character of the programme could have supported the regional economy more if the materials had been purchased in the regions themselves instead of in the capital. Moreover, the problem of transporting the materials could have been solved more easily as a result.

The water sector in Guatemala is no longer a priority sector in German development cooperation. The programme objectives, however, continue to be consistent with the sector objectives of German development cooperation. Donor cooperation was also not ideal. It did not appear that the various programmes in the water sector were coordinated. But despite weak-

nesses in the programme concept and the overall sectoral conditions, our rating of relevance is good due to the high significance of the project for the target group.

Sub-Rating: 2

Effectiveness:

The programme objectives were to sustainably meet basic needs for hygienically safe drinking water and achieve lasting improvements in sanitation conditions. The following target indicators were defined, with slight changes for the purposes of the ex-post evaluation, to determine whether programme objectives had been achieved: (a) average increase in the water supply coverage in the programme communities to 80%; (b) average water consumption 30-50l/day depending on the climate in the programme communities; (c) hygienically safe water: the quality standards for drinking water valid in Guatemala (COGUANOR) are complied with; (d) at least 60% of beneficiaries use the latrines for their intended purpose; (e) there are water committees that charge water fees in all programme communities; (f) the water supply systems are available for operation 24/7 in at least 80% of the communities; (g) the water losses do not amount to more than 25% of production. The following indicator was added following a PWC audit in 2010:

(h) Percentage of properly operated grey water disposal facilities (drainage pipes, grease traps, infiltration wells) >75%;

In addition, the following indicator was added during the ex-post evaluation:
(i) Percentage of functional water systems >75%.

Indicator (a) was not fulfilled. The reason for this is that some of the systems had a very low connection rate at the beginning and that since the water systems were constructed, (almost) no new users have been connected to the system and the population has grown. The coverage rate has increased only in relation to the actual population at the project start (2002). However, if the supply rate is applied to the current population in the village communities (figures from 2013), the supply rate falls to 70%. The supply rate will fall considerably to 56% in relation to the projected population in 2022. There are virtually no new connections: the members of the Comunidades have all invested up to 100 working days in constructing the systems under extremely challenging conditions. Now they are demanding the equivalent in monetary units from all new households, which, in most cases, the new households cannot afford. Some new village inhabitants, however, also have access to the water supply through their neighbours, meaning the actual supply rate might be slightly higher. Indicator (b) is fulfilled. Consumption per person is around 30-50 l/day. Indicator (c) is not fulfilled because only 36% of the Comunidades chlorinate the water with a sufficient dosage on a regular basis. Indicator (d) is fulfilled for all systems of Lots I+II, whereas Lot III did not receive any sanitary systems. Indicator e) is not fulfilled. Not all Comunidades have an effective water committee. The quality of the individual committees also varies considerably. Indicator (f) is fulfilled for all systems: the water flows continuously in gravity systems while the distribution tank compen-

sates for fluctuations in the pump systems. The water losses (Indicator (g)) cannot be quantified. As a result of a design flaw, none of the primary water meters for supplying water into the overall systems is suitable for measuring total water production or the water losses calculated on the basis of metered consumption. At the same time, the inspected systems appear to be in a relatively good structural condition, leading us to conclude that the indicator will (still) largely be fulfilled overall. Indicator (h) is just barely met at this time, as 20% of the grey water systems are no longer in operation and this will likely also be the case for another 50% in the future due to poor maintenance. Indicator (i) is fulfilled: overall, approx. 80% of the systems were still functional at the time of the ex-post evaluation.

As a result of budgetary problems of the programme-executing agency, no sanitation or grey water systems were built in 18 of the 57 village communities (approx. 30%). Water meters were not installed in 15 communities (approx. 25%). Hygiene training was also not held in 18 of the 57 communities.

The project appraisal identified the establishment of a water association as a key factor to the success of sustainable operation of the systems. However, this idea was quickly abandoned because the distance between the villages was too great, the users were not sufficiently willing or able to actively structure this type of association, and the delays in the implementation of the programme made it virtually impossible to establish them. The hygiene training and setup of the water committees could also not be carried out satisfactorily due to lagging implementation.

Overall, 5 of the 8 target indicators are fulfilled, but a number of objectives were not achieved. Due to the slightly negative overall impression, we rated the achievement of the objectives as not satisfactory.

Sub-Rating: 4

Efficiency

Even though the costs per inhabitant supplied with water are relatively low, production efficiency is rated unsatisfactory due to the long duration of 12 years. The considerably longer duration was caused by the following:

(i) Selection of the Comunidades: the contract was based on INFOM's assurance that 44 Comunidades had already been selected and that construction measures could begin immediately. However, it quickly became apparent that none of the Comunidades selected by INFOM could be included in the programme (in some cases, because a water system already existed or the Comunidad was not interested). It took the consultant two years to select suitable Comunidades. A total of 57 were selected from 466 Comunidades.

(ii) Contribution of the municipalities: due to budgetary bottlenecks and for political reasons, delays, some of which lasted up to a year, were common in the provision of construction materials by the municipalities. This led to repeated construction delays.

(iii) Procurement: a private company was contracted for procurement to ensure faster implementation. However, the company was not paid, as in Phase I and Phase II, directly by the Financial Cooperation, but directly by INFOM. This meant, in turn, that internal INFOM approval processes were necessary, which delayed the whole procurement process. In addition, central procurement in the capital (instead of local procurement from suitable suppliers in the provinces) sometimes resulted in quality deficiencies (no final responsibility for delivery acceptance) and to considerable delays transporting materials to the project region.

(iv) Bureaucracy and centralisation of INFOM: INFOM is an institution with a centralised structure. The regional administration does not have any decision-making autonomy. This delayed local decisions time and again for the projects. One example of this is that supplying leftover construction materials from the project to the Comunidades for repairs still requires significant correspondence between the main office and the regional administration, including the signature of the INFOM director.

(v) Stakeholder coordination: because no party was ultimately and clearly responsible for finishing a project, the stakeholders were also not well-coordinated: water committees were formed and sanitation measures were carried out even though the actual construction measure only began several years later. By this time, the water committees had often already been dissolved.

(vi) Self-organisation of the Comunidades: a project could be subject to ongoing delays depending on the structure and character of the village communities as well as the legal access to the water source.

The rating of allocation efficiency is much more positive. After all, the programme supplied very remote and poor communities with water. Moreover, a functioning water supply is an important basic need and makes a significant contribution to improving living conditions.
But due to the considerable delays and weaknesses in implementation, our rating of efficiency is not satisfactory overall.

Sub-Rating: 4

Impact

The overall objective of the project was to lower the health risks of the population living in the programme area. No overall objective indicators were defined.

Since the health centres in Guatemala do not collect data about illnesses in the programme villages, an attempt was made to estimate the improvement in the health situation of the tar-

get group by conducting water tests for e.coli bacteria. The water tests generally show that the water at the water supply point is often contaminated and it is thus important to disinfect the water with chlorine. This is only the case, however, in 36% of the project villages because many communities do not have money to buy chlorine. Even though one source of contamination was successfully eliminated by connecting the houses to the water supply (contamination during transport from the water source to the household), the effects still fall short of expectations. This is also due to the lack of coordination in the implementation of the accompanying measure, meaning that many of the hygiene trainings were carried out before the water systems were functional.

Aside from health aspects, other impacts were accomplished in the Comunidades: (i) time savings for women and children who can now use the free time for work in the fields, school and free time, (ii) less wood used for fires (and thus monetary resources) because the water in communities with clean drinking water now no longer has to be heated for 13 minutes before consumption, and (iii) promotion of self-organisation through the formation of water committees.[1]

Despite several weaknesses in the design of the water systems, the plans presented by the consultant for rural water systems within INFOM are considered exemplary and will be further improved by on-site engineers. All in all, the programme is a model for other water projects in rural areas and sets new standards in the sector. Our overall rating of the achieved developmental impacts is satisfactory.

Sub-Rating: 3

Sustainability

The structures built are generally appropriate from a technical standpoint, and more than 80% of the water supply systems are functional. The sanitary systems have been constructed in a solid manner and will remain intact for a long time. The grey water systems are poorly maintained in more than 50% of cases and approx. 20% are no longer functional. Depending on the Comunidad, maintenance of the water systems varies significantly. Some communities charge consumption-dependent fees, others only charge fees independent of consumption (in particular, in almost all projects of Lot III where no water meters were installed for cost reasons) and, in some communities, no fees are charged at all. Adequate fees are charged in only 42% of the Comunidades overall. Sometimes, in the event of damage, a repair is made by collecting money, even if maintenance could be improved in the Comunidades that are not well-organised. Follow-up support by INFOM is insufficient due to a lack of personnel. Problems arise particularly when transferring knowledge from one committee to another. Follow-up support was included in the project concept in the form of a water association, but this could not be carried out. Taking into account the complexity of the systems which, in many

[1] These effects vary greatly in different locations depending on the condition of the water supply systems as well as maintenance and chlorination.

cases of possible technical damage could not be repaired through an ad-hoc collection of money from users, the combination of the poor maintenance situation and the inadequate water fees charged create a high risk for the long-term operation of the supply systems. We therefore rate sustainability as unsatisfactory.

Sub-Rating: 4

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:

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

Ratings 1-3 denote a positive or successful assessment while ratings 4-6 denote a not positive or unsuccessful 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).