KfW

Ecuador - Basic Sanitary Programme Loja / Zamora

Ex-post evaluation

OECD sector	14030 / Water supply / Sewage disposal for the poor	
BMZ project number	1980 66 275	
Project-executing agency	Secretaria de Gestión de Agua Potable y Saneamiento (SGAPS) (Department for Water Supply and Sewage Management)	
Consultant	Consortium Consulting Engineers Salzgitter (CES) / Hidroestudios (Water studies)	
Year of evaluation	2002	
	Project appraisal (planned)	**Ex-post evaluation (actual)**
Start of implementation	Q I 1985	Q I 1992
Period of implementation	18 months	96 months
Investment costs	EUR 9.3 million	EUR 6.3 million
Counterpart contribution	EUR 4.2 million	EUR 1.2 million
Financing, of which Financial Cooperation (FC) funds	EUR 5.1 million	EUR 5.1 million
Other institutions/donors involved	None	None
Performance rating	4	
• Significance / relevance	3	
• Effectiveness	4	
• Efficiency	4	

Brief Description, Overall Objective and Project Purposes with Indicators

The purpose of the project was to improve the living conditions of the population in the southern provinces of Ecuador, Loja and Zamora-Chinchipe (in short: Zamora), and to reduce the rural exodus (Loja province) and/or to provide incentives for further settlements (Zamora province).

The project that was carried out comprised the construction of 24 water supply and 18 sewage disposal systems in a total of 36 small villages and rural towns. Furthermore, the project included the construction of latrines in these and other villages of the region. The beneficiaries in the villages were to contribute to the construction and installation works by providing unpaid labor and, after completion, by managing the operation and maintenance of the systems on their own, the project-executing agency assisting them when required. For this purpose, user groups, so-called “Juntas Administradoras de Agua Potable y Alcantarillado (JAAP)

(Administrative Bodies for Water Supply and Sewage Disposal) were to be founded. The operation of the water supply and sewage disposal systems in the rural towns was to be carried out by the competent communal authorities (Municipios).

The executing agency was the IEOS (Instituto Ecuatoriano de Obras Sanitarias - Ecuadorian Institute for Sanitation), which was given a new name, “SGAPS-Secretaria de Gestión de Agua Potable y Saneamiento” (Department for Water Supply and Sewage Management) and new functions during the implementation of the project. It was integrated into the Ministerio de Desarrollo Urbano y de Vivienda, MIDUVI (Ministry for Urban Development and Housing). A loan of EUR 5.11 million was allocated to the project, designed as an open programme. Overall costs amounted to some EUR 6.29 million.

When the construction works were nearly completed, a follow-up measure funded out of the Studies and Experts Fund was carried out in order to enhance the sustainable operation of the systems. Under this measure, rural JAAPs and staff of the local authorities received training in technical, organizational and financial matters. Administratively, SGAPS was in charge of the follow-up measure. Furthermore, SGAPS gave advice to the local authorities, whereas the JAAPs were trained by three local NGOs which were supervised by an international short-time expert (intermittent assignment) as well as by two local experts.

As this is an old project, neither explicit overall and programme objectives nor corresponding indicators were formulated during the programme appraisal. The project aimed at improving the health situation and the living conditions of the target group, thereby reducing the rural exodus (from the Loja province) and/or giving an incentive for settlement (in the Zamora province), which, according to the current terminology, can be seen as the overall objective of the project. This objective was to be reached by improving the highly deficient basic sanitary situation in the programme region which can therefore be considered a project objective. Whether the achievement of this objective is sustainable can me measured by the usual indicators for this kind of programme, such as the number of connections, water quality, consumption and cost coverage.

Project Conception / Major Deviations from the original Project Appraisal and their main Causes

The project, which was designed as an open programme, comprised the construction of

- 24 central water supply systems (planned at programme appraisal: 28)
- 18 central sewage disposal systems (planned at programme appraisal: 15)
- 1,716 latrines
- 2 maintenance centers

The selection of the villages was made on the basis of the selection criteria agreed on with the project-executing agency which, among others, aimed at the needs, the cost efficiency and the willingness of the beneficiaries to actively participate in the project. One part of the programme, entitled “Improvement/Enlargement of existing drinking water supply systems” was not carried out because no applications were submitted. It was ensured, however, that for all new installations, the existing storage tanks were integrated into the systems. Simple systems of the type ”Agua Entubada” (gravity systems without water treatment) were not constructed within the programme. With regard to the sewage disposal systems, community septic tanks with connected seepage facilities or non-aerated sewage ponds were built in twelve villages for the treatment of the collected sewage water. In the other six villages, the collected sewage was

channeled without treatment into the receiving water body. Wherever central sewage disposal systems made no sense due to the low population density, latrines were built.

Originally, one part of the programme was to be implemented as force-account works (pipe-laying in the smaller villages with the participation of the local population) and the project-executing agency was to support the JAAPs during the operation and maintenance of the project. Thus, as complementary measures several vehicles and other equipment for the construction works (about 20% of the overall costs) were financed and two operation and maintenance centers were built and equipped (one in the provincial capital Loja and another in Zamora). The envisaged concept, however, was not carried out because of a reorganization of the sector. As a result of this reorganization, SGAPS no longer assumes any implementation and consulting functions, so that the complementary measures are to be considered inefficient in hindsight. At least, the respective equipment and materials could be put to a beneficial use, partly within the framework of the programme. Both centers were used temporarily as storage facilities for the materials supplied within the FC programme, as well as for new projects of other donors and shall now be sold. By the end of 2001, the laboratory equipment of the maintenance centre in Loja was transferred to the Technical University of Loja requiring it in exchange to carry out analyses of drinking water samples for the JAAPs and the Municipios at favorable conditions. At the time of the final evaluation, however, no analyses had been carried out.

After completion of the construction measures it turned out, that the sustainable operation of the systems was jeopardized, especially because of the lack of support which initially was supposed to be provided by IEOS. Therefore, the JAAPs and the staff in charge in the seven Municipios received training in technical, organizational and financial matters of the operation in the framework of the follow-up measure mentioned above.

Key Results of the Impact Analysis and Performance Rating

Half of the costs of the project were incurred by systems operated by the Municipios and the other half by the systems operated by the JAAPs.

The operation of the water supply systems administered by the JAAPs functions quite well. There are deficits, however, in preventive maintenance and in monitoring important performance indicators, like production and water losses. The operation of the sewage disposal systems leaves large room for improvements. Especially in the smaller villages, the JAAPs do not feel responsible for the operation of the sewage disposal systems. Generally, the water supply tariffs are quite low. If required, however, special collections are made in order to cover current expenditures. For the sewage disposal usually no fees are charged at all.

The operation of the water supply and sewage disposal systems by the Municipios is highly deficient. The operation is being carried out solely by departments within the communal administrations which neither have sufficient personnel and material resources nor do their own accounting. Generally, the maintenance of the systems is being neglected. The water supply systems are in poor technical condition and the operators are not capable of connecting new customers to them. The sewage disposal systems are hardly ever maintained. There is no systematic monitoring of the operating conditions; details of important performance indicators like production and consumption quantities, water losses and operating costs are not known. Tariffs are very low and cover only a small portion of the current expenditures.

By the project the connection rate to central water supply systems in the Loja province rose by 3.2% and in Zamora province by 8.6% (planned values at programme appraisal: Loja about 4% and Zamora about 3.5%). The connection rate to central sewerage systems rose, in purely quantitative terms, by 2.3% in Loja and by 8.8% in Zamora (planned values at project appraisal:

Loja about 1.5% and Zamora about 10.0%). At the time of the final evaluation, specific consumption varied between 50l/cd and 90l/cd, and thus remained within the scope of assumptions established in the project appraisal report. No data on water quality is available. Considering the nature of the sources of raw water (mostly spring water from the mountains) as well as technical aspects (water is chlorinated in most of the water supply systems) it can be assumed that water quality is satisfactory, also taking into consideration that no problem cases were reported during the final evaluation. Up to now, most expectations of the project appraisal have been fulfilled. However, a reduction in the performance of the systems can already be noted. Especially because of the low cost recovery ratio of most of the financed systems, the sustainability of their impacts is in jeopardy. This holds especially true for the systems operated by the Municipios.

Reflections on plausibility suggest that the project makes a positive contribution to the health situation of the beneficiaries. Because of technical deficiencies and/or improper use in some villages, qualifications have to be made concerning the quality of sewage disposal and therefore, of health impacts. The rural exodus from Loja province was not reduced by the project. In hindsight, this objective was not very realistic, for a better water supply system / sewage disposal system is not sufficient to encourage a region's population to stay. Economic factors (income opportunities), on which the project did not have an impact, are far more decisive. This holds true as well for Zamora province, as its high population growth surely cannot be traced back to the programme, but rather to the agricultural potential not yet exploited and to the income opportunities involved.

The project's target groups are low-income families in a marginal and not easily accessible region in Ecuador. The per capita income in the programme region amounts only to approximately one third of the national average, and the percentage of poor people in rural areas is very high (about 84%, national average: 77%). Therefore, the project clearly has direct poverty relevance.

The operating risks identified during project appraisal were to be tackled by strengthening the IEOS, which was to be obliged to monitor the JAAPs more closely. For this purpose, two maintenance centers were constructed and equipped. The reorganization of the water and sewerage sector has made this approach obsolete. The only and late reaction to the reorganization was the implementation of the follow-up measure, which, of course, could not fill the arising institutional vacuum. From a current perspective, the major risk is the expected lack of financial and technical sustainability of the financed systems. Moreover, it is to be feared that in connection with the reorganization of the sector, the JAAPs may get under the control and political influence of the local authorities, and that the concept of self-administration may be undermined.

Although up to now, most of the programme objectives have been reached and most of the financed facilities are being used, it is to be feared that this will not hold true for long because of the high risks to sustainability. While at least the water supply systems are operated by the self-administered JAAPs in an acceptable way, the Municipios, which account for half of the beneficiaries and costs, are not capable at present to perform their tasks satisfactorily. Considering this situation, the effectiveness of the project is rated as slightly insufficient (partial evaluation rating 4).

The project noticeably improved the quality of living of the poorer population in a peripheral region in both quantitative and qualitative terms. Part of the developmental objective has been reached. From today's perspective, the conception of the programme was adequate for solving the problems only to a certain degree (no participation of the beneficiaries in the construction works, underestimation of the organizational deficiencies of the Municipios, few innovative

aspects). The developmental relevance and significance are given, however, to an overall sufficient degree (partial evaluation rating 3).

Measured in terms of the specific investment costs, the objectives were reached with an appropriate amount of funds. The use, however, of a significant portion of the programme funds (complementary measures) is inefficient. For this reason, cost efficiency is clearly reduced. The criterion of allocation efficiency is not fulfilled, due to the in part utterly insufficient cost coverage, especially of the bigger water supply systems in the Municipios (about 48% of the costs of the water supply component) as well as of the whole sewage disposal system (partial evaluation rating 4).

As a result, the overall developmental effectiveness of the project is evaluated as slightly insufficient (rating 4).

General Conclusions applicable to all Projects

In retrospect, it would have been more reasonable from a conceptual point of view, if the project had concentrated on the segment of smaller villages, with the JAAPs as the operator. Further, it would have been more reasonable if this already established and relatively successful mode of operation had been supported by means of complementary measures, aiming at corroborating the position of the JAAPs. Then, the project would have possibly had an innovative effect beyond the scope of the project. Alternatively, it would have been possible to restrict the project to the segment of rural towns, whose operators were, however, quite weak at the time of the project appraisal and are still weak at present. Therefore, it would have been necessary to implement considerable additional measures in order to introduce sustainable operating structures in this segment.

Legend

Developmentally successful: Ratings 1 to 3	
Rating 1	Very high or high degree of developmental effectiveness
Rating 2	Satisfactory degree of developmental effectiveness
Rating 3	Overall sufficient degree of developmental effectiveness
Developmental failures: Ratings 4 to 6	
Rating 4	Overall slightly insufficient degree of developmental effectiveness
Rating 5	Clearly insufficient degree of developmental effectiveness
Rating 6	The project is a total failure

Criteria for the Evaluation of Project Success

The evaluation of a project's "developmental effectiveness" and its assignment during the final evaluation to one of the various levels of success described below in more detail concentrate on the following fundamental questions:

- Are the **project objectives** reached to a sufficient degree (aspect of project **effectiveness**)?
- Does the project generate sufficient significant **developmental effects** (project **relevance** and **significance** measured by the achievement of the overall development-policy objective defined beforehand and its effects in political, institutional, socio-economic and socio-cultural as well as ecological terms)?

- Are the **funds/expenses** that were and are being employed/incurred to reach the objectives **appropriate** and how can the project's microeconomic and macroeconomic impact be measured (aspect of efficiency of the project conception)?
- To the extent that undesired **(side) effects** occur, are these tolerable?

We do not treat **sustainability**, a key aspect to consider for project evaluation, as a separate category of evaluation but instead as a cross-cutting element of all four fundamental questions on project success. A project is sustainable if the project-executing agency and/or the target group are able to continue to use the project facilities that have been built for a period of time that is, overall, adequate in economic terms or to carry on with the project activities on their own and generate positive results after the financial, organizational and/or technical support has come to an end.