

Bolivia: Earthquake Relief

Ex-post evaluation

OECD sector	72010 – Emergency Assistance	
BMZ project ID	1998 65 767	
Project-executing agency	Fondo de Desarrollo Campesino (FDC)	
Consultant	Local Consultant	
Year of ex-post evaluation	2005	
	Project appraisal (planned)	Ex-post evaluation (actual)
Start of implementation	09/1998	12/1998
Period of implementation	24 months	38 months
Investment costs	EUR 1.63 million	EUR 1.70 million
Counterpart contribution	EUR 0.10 million	EUR 0.17 million
Financing, of which Financial Cooperation (FC) funds	EUR 1.53 million	EUR 1.53 million
Other institutions/donors involved	Not applicable	Not applicable
Performance rating	1	
• Significance / relevance	1	
• Effectiveness	1	
• Efficiency	2	

Brief Description, Overall Objective and Project Objectives with Indicators

The intention of this emergency relief project was to eliminate damage caused by the earthquake on May 22, 1998 in rural areas in the Bolivian municipalities of Aiquile, Titora and Mizque (Departamento Cochabamba). The project-executing agency for the reconstruction measures was the Fondo de Desarrollo Campesino (FDC). The measures focused on the productive infrastructure (multi-purpose reservoir for surface water and small irrigation systems) in order to re-establish or improve the basis of livelihood of the rural population in the area affected by the earthquake. The overall objective was to improve the perspectives of these poor population groups in order to make them stay on in the region.

The following indicators were defined to measure the achievement of the project objectives and the overall programme objectives:

- (a) 90% of the multi-purpose reservoirs for surface water and small irrigation systems were rehabilitated.
- (b) At the time of the final evaluation at least 70 % of the projects were properly used and operated.

Project Design / Major Deviations from the original Project Planning and their main Causes

The programme was designed as an open programme and the measures focused on the reconstruction of the rural productive infrastructure. The following individual projects were implemented:

New construction: 293 Multi-purpose reservoirs with a total storage volume of 353,000 m³,
2 filter galleries,
Rehabilitation: 322 Multi-purpose reservoirs with a total storage volume of 482,000 m³,
1 filter gallery,
4 small-scale irrigation systems.

Further project measures comprised advisory services, operating costs and equipment for the implementing unit UIP (Unidad de Implementación del Programa) as well as training measures for the target groups. The provision of seeds, which had been envisaged at the time of the project appraisal, was cancelled because seeds were furnished from other sources.

The multi-purpose reservoirs have a volume of approximately 1.500 m³ each. They are constructed behind earth-fill dams and have an intake construction, a sand trap and an emergency overflow facility made from concrete or masonry. After completion ownership of the reservoirs was transferred to the peasants. Due to the reservoirs the irrigation period was prolonged by 3 to 4 months beyond the rainy season. Irrigation is practiced by sprinkling. The filter galleries are tunnels in the river bed. Due to their porous walls the groundwater, which also exists during the dry season, can seep into a canal. The technical design of the individual projects was oriented on local standards, however, the construction was somewhat improved. The design – just like the construction standards – was adequate and adjusted to the local conditions. In consequence the acceptance of the programme measures on the part of the users was high.

A largely autonomous implementing unit (UIP) was set up to ensure the swift implementation of the programme. UIP was directly subject to the FDC and could act largely autonomously. The project proposals made by the municipalities were evaluated by a commission, which selected those proposals that were given priority. The commission was composed of members of the democratically elected municipal representations and representatives of peasants' grass-roots organisations. According to statements made by the beneficiaries the individual projects were selected in a participatory manner and the selection was mostly in line with their needs. Non-governmental organisations were in charge of the actual implementation of the planned measures. In the course of the works the NGOs used the labour of the future beneficiaries (number of families that benefited: 1,379). To solve technical questions experts from the TC project PRONAR and other consultants were asked for advice.

After the acceptance of the individual project measures by UIP, the facilities were handed over to the peasants, who are now in charge of maintenance and repair. Usually one multi-purpose reservoir is used by one family and serves to irrigate around one hectare of land for three to four months. In addition, the dammed water is used in drinking troughs to water animals and, if sufficient water is available that is not needed for irrigation below the outlet of the reservoirs, it is also used for fish farming. The irrigation systems (canals, galleries) are being operated by irrigation associations composed of several peasants each. In turn, the irrigation associations are organised in so-called irrigation committees.

Key Results of the Impact Analysis and Performance Rating

Due to the measures implemented under the FC programme almost 100% of the multi-purpose reservoirs and small irrigation facilities that had been destroyed by the earthquake could be rehabilitated or newly constructed. At the same time it was possible to reassure the population living in the region that the Bolivian state would not leave them alone with their problems. From both a psychological and an economic perspective the project makes a substantial contribution to reducing the permanent migration pressure.

The operating and maintenance concept is well adjusted to the local conditions and to the long-standing experience that users have gained in the operation of irrigation facilities.

Interviews with the target group and on-site inspections on the occasion of the final evaluation in Bolivia give the following picture with regard to the achievement of the project objectives:

- The individual facilities are usually being used very intensively by the peasants. The improvement of the irrigation infrastructure enabled the introduction of new cultures mainly designed to be marketed. As a result the income situation improved substantially. The nutrition situation has also improved markedly.

- The measures implemented benefited not only the peasants directly affected by the earthquake but also other peasants. The individual project measures were selected with the participation of the population and met the needs of the population to a high degree.
- Due to fact that the multi-purpose reservoirs and small irrigation facilities are privately owned by the peasants, the facilities are usually being operated properly and the maintenance is also satisfactory.

Overall, the degree of achievement of the project objectives is high. On the basis of the information available to us we assume that at least 90% of the measures financed from FC funds are properly used and operated.

Based on a combined assessment of all impacts and risks described above, we have arrived at the following rating of the project's developmental effectiveness:

Effectiveness

The objective of the programme was the reestablishment or improvement of the basis of livelihood of the population in the areas affected by the earthquake. Altogether irrigation infrastructure facilities for approximately 1,400 families were newly built or rehabilitated under the project. Approx. 10,000 persons (of around 67,000 inhabitants) in the programme area benefited from the project measures. We assume that the multi-purpose reservoirs and irrigation facilities damaged in the course of the earthquake were rehabilitated in their entirety. The irrigation facilities are usually used intensively. The improvement of the irrigation infrastructure enables the introduction of new cultures mainly designed for sale. As a result the income situation and the nutrition situation of the population improved substantially. Overall, the project helped to strengthen the local economy and made a contribution to reducing income poverty. This improved income situation is reflected in a significant rise in the number of children who attend school, among other things. Still, a number of workers migrate to the near-by coca cultivation area (Chapare) to find temporary work. We do not see any sustainability risks. Overall, we classify the project's effectiveness as good (sub-rating 1).

Significance / Relevance

The overall objective of the project was to make a contribution to reducing migration tendencies of the population affected by the earthquake. It is plausible to deduce that by stabilising the income situation in the programme area the project made an important and substantial contribution to reducing the economic pressure for permanent migration. In addition, due to the relatively swift start of the project implementation the Bolivian government sent an important psychological signal to the population in the programme region that it will not let people down. This contributed substantially to reducing the pressure for permanent migration. This fact was clearly confirmed by the interviews conducted on the target group in the context of the final inspection in the programme area. Overall, we rate the significance/relevance of the project as very good (sub-rating 1).

Efficiency

We rate the technical design of the infrastructure measures as good. The facilities are optimally adjusted to local conditions. We consider the high ratio (29 %) of administrative costs for the project implementation to investment costs to be only sufficient. Owing to the relatively low unit costs, we consider the cost efficiency of the physical performance of the construction work in a narrow sense to be satisfactory. This also reflects the low level of expansion of the facilities. Due to the plausible advantageousness of the financed infrastructure measures we rate the allocation efficiency as satisfactory. Overall, weighing both the production efficiency and allocation efficiency, we rate the programme as satisfactory (sub-rating: 2).

With the project the Bolivian government succeeded in a relatively fast manner to rehabilitate the irrigation infrastructure in the region affected by the earthquake and, thus, to send a clear signal that it is actively trying to re-establish the economic basis of livelihood of the population affected by the earthquake. In this way, it made an important contribution to reducing the economic and psychological pressure for permanent migration in the programme area. Overall, in consideration of the sub-criteria mentioned above, we rate the developmental effectiveness of the project as good (**overall rating: 1**).

General Conclusions

If emergency measures are to be implemented in a fast and unbureaucratic manner the risks incurred are usually higher. In most cases it is possible to reduce the risks through the assignment of experts and/or cooperation with Technical Cooperation (TC).

A recurring experience with emergency assistance measures is that the financing instrument of social investment funds tends to be particularly suited to provide fast and unbureaucratic help.

When determining the indicators for the achievement of the project objective it has to be ensured that their achievement can be proven in a cost-efficient manner. For instance, in the event of emergency measures it is indispensable that in parallel with the implementation of the measures the original situation at the start of the project be described precisely (baseline survey) if the achievement of the objectives is to be measured by a percentage change in this original situation.

A consistent coordination of the activities of the different donors is a necessary prerequisite for an efficient emergency measure.

Legend

Developmentally successful: Ratings 1 to 3	
Rating 1	Very high or high degree of developmental effectiveness
Rating 2	Satisfactory 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 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 below 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, organisational and/or technical support has come to an end.