Bolivia: School infrastructure

Ex post evaluation report

OECD sector	11220 / Primary education	
BMZ project ID	1998 67 227	
Project executing agency	Fondo de Inversión Productiva y Social	
Consultant	-	
Year of ex post evaluation	2007	
	Project appraisal (planned)	**Ex post evaluation (actual)**
Start of implementation	Q3 1999	December 1999
Period of implementation	45 months	72 months
Investment cost	EUR 17.6 million	EUR 14.6 million
Counterpart contribution	EUR 5.8 million	EUR 2.8 million
Financing, of which FC funds	EUR 11.8 million	EUR 11.8 million
Other institutions / donors involved	World Bank, Sweden	World Bank, Sweden
Performance rating	3	
• Overarching developmental impact	2	
• Relevance	3	
• Effectiveness	3	
• Efficiency	3	
• Sustainability	3	

Brief description, overall objective and project objectives with indicators

Infrastructure measures and accompanying educational measures for around 590 schools were financed in the provinces of Oruro and Potosi in just under 230 individual projects. The focus of the infrastructure components was on rural capacity expansion. These measures were intended to contribute to improving primary school facilities in terms of both quantity and quality with a view to increasing enrolment and completion rates (programme objective). The overall objective was to achieve a quantitative and qualitative improvement in primary school education in the rural and peri-urban areas of the “departamentos” of Oruro and Postosi and thus to contribute to overcoming structural poverty in those regions. The direct target group in the project was primary school aged children (6-14 years) in the departamentos of Oruro and Postosi, priority being given to particularly poor people in rural areas and in peripheral urban areas and especially girls. The total cost was EUR 14.6 million, EUR 11.8 million of which was provided from the FC contribution and EUR 2.8 million from financing contributions by the Bolivian municipalities. The FC funds were provided as parallel financing to the project “Improving the quality of education and equal education opportunities” (Proyecto de Fortalecimiento de la Calidad y Equidad de la Educación – PFCEE).

Project design / major deviations from the original project planning and their main causes

In the planned implementation period for the PFCEE from 1998 to 2003 the donors provided around USD 57 million in financing, the World Bank with just under USD 30 million providing the largest share of the funding. The regional focus not only enhanced the significance of the FC measures, but also limited the risk of double financing. All in all, the design approval by the various donors went smoothly, whereas not all aspects of the procedures were harmonised (parallel financing).

In 228 individual projects, infrastructure measures and supplementary educational projects were financed for around 590 schools, with all individual measures in one school district being combined in one project. As required, the projects consisted of an infrastructure component (classrooms, teaching material centres, multipurpose sports grounds, toilets and showers, teacher accommodation, furniture) and/or a supplementary educational component intended to implement the new curriculum and to increase pupils' learning opportunities (equipment such as computers, photocopiers, televisions, radios, cameras, looms, paper cutters; learning materials for the oral or written transmission of subject matter, e.g. by theatrical performances, pupil or wall news-sheets; teacher training by educational consultants with a view to conveying and deepening the understanding of educational processes; and incentives for teaching activities).

The Bolivian education ministry (Ministerio de Educación y Culturas – MEC) was put in charge of the standard design and coordination of the investment measures in the field of primary school education and did so in connection with the project. This provided the basis allowing de Bolivian social fund FPS (Fondo de Inversión Productiva y Social) to support the implementation of the measures. These were in line with MEC rules and were carried out largely in accordance with standardised building plans. In the course of implementation the school building plans were adapted to the MEC rules, moving from a classical square classroom design to octagonal shaped classrooms. A point worthy of note was how quickly and comprehensively these new designs were accepted by all parties. This type of classroom, which was originally designed primarily to cater for several different classes being taught in one room, became the standard throughout the country; it also was actively requested in locations where, owing to the large numbers of pupils, other designs may well have been appropriate. The advantage of the design is that it supports active teaching methods. Little use was made of the possibility of adjusting the standardised building plans to topography, available building materials or opportunities for the local people to participate, as envisaged at the project appraisal (especially building in adobe). However, the local conditions did not vary greatly and the standardised measures can be considered appropriate. The municipalities were more closely involved in the procedure than originally planned. For example, the construction work was supervised by the municipal authorities under contract.

Key results of the impact analysis and performance rating

The overall project objective was to contribute to the quantitative and qualitative improvement of primary education in the rural and peri-urban areas of the "departamentos" of Oruro and Potosi and thus to overcoming the structural poverty in those areas. At project appraisal, the improvement in the enrolment rate and educational achievements in the two "departamentos" was taken as the indicator of achievement of the overall objective. The enrolment rates developed in the programme provinces as follows:

- Net enrolment at project appraisal (1996) – Potosi 83%, Oruro 86%, Bolivia 87%
- Net enrolment rates (1999) – Potosi 83.5%, Oruro 96.8%, Bolivia 87.0%
- Net enrolment rates (2003) – Potosi 87.3%, Oruro 92.8%, Bolivia 88.8%
- Net enrolment rates (2004) – Potosi 86.1%, Oruro 91.1%, Bolivia 85.8%

The net enrolment rate in Potosi was increased, while it declined in Oruro from 1999 onwards (although it remained at a relatively high level). With regard to the improvement in the educational achievements in the programme provinces, it can be seen that this indicator was sustained to an insufficient degree only and there are no conclusive and extensive analyses of the influence of educational reform and the associated infrastructure measures and accompanying educational measures on the educational achievements. According to some results of the "Sistema de Medición de la Calidad de la Educación (SIMECAL)" and data provided by teachers, parents and experts from the education sector, there has been an improvement in the individual elements of the educational reform, especially the self-confidence of the schoolchildren, participatory skills and reading and expressive skills. It can therefore be assumed that the overall objective will be achieved at least in part.

The programme objective was defined as making a contribution to a quantitative and qualitative improvement in primary school facilities with a view to increasing the enrolment and completion rates (1999-2003). The relevant indicators were the reduction in the repeat and drop-out rates in the programme provinces and active participation by the "juntas escolares" in project planning, implementation and follow-up. The reduction in repeat and drop-out rates in the programme provinces was partly achieved. The drop-out rate in the eighth grade declined significantly in both programme provinces – in Oruro to 7.9% (1995: 11.7%) and in Potosi to 8.6% in 2004 (1997: 11.6%). The repeat rates for the first grade declined to around nil at present, which indicates that pupils will virtually automatically move up a grade. By contrast, an increase in the repeat rates in the eighth grade is observed in both provinces (in Oruro from 8% to 10% and in Potosi from just under 5% to just under 7%). The "juntas escolares" participated actively in project planning, implementation and follow-up and a very high degree of activity by the "juntas escolares" was also observed in the final evaluation. The parents were also to contribute around 4%. However, the social fund FPS operating as the project executing agency did not keep a record of the amount of counterpart contributions (in kind and work) and it cannot therefore be verified. Given the generally active "juntas escolares", however, it can be assumed that the counterpart contribution was not below the original target.

The use made of the classrooms can be taken as an additional indicator of the effectiveness of the programme. According to the results of the final evaluation conducted on site and the statistical data of the MEC/FPS, an appropriate capacity utilisation of the infrastructure can be assumed. In the schools visited there were around 20-25 pupils per classroom, which is below comparable international (40) and national (30) figures and the statistical average of the two "departamentos" (Oruro: 27, Protosi: 34 – both figures being influenced by the high figures from state schools). Given the intentional focus on rural areas, however, this is in line with expectations and the octagonal classrooms were designed to take account of the lower rural need and sized accordingly. With a surface area of just under 50 m^2, these classrooms are designed for a maximum of 30 pupils (1.6 m^2 per pupil). During the final evaluation 11 individual projects (of a total of just under 230) were visited in two programme provinces. In addition, the project executing agency was given consultancy support in preparing the final evaluation, in which a local expert visited a further 20 individual projects. A further 19 individual projects were visited during the final inspection in 2004. In the total sample of around 20%, there were only two schools (Marcarani and Toraquiri im Munizp Turco, Oruro) that had to be closed because of migration. Most of the buildings and classrooms were structurally sound but there were some maintenance deficiencies. There is almost always a sufficient supply of schoolbooks and other school materials and all schools have enough teachers, although the low level of teacher qualifications is often a problem. In sum, we consider the programme objectives to have been achieved.

During the project appraisal the quantitatively and qualitatively inadequate school infrastructure was identified as a key problem in the sector. In the rural areas (in relation to the FC project in Oruro and Potosi) this was mainly apparent, given the generally lower enrolment rates and higher drop-out rates, in the lack of access to sufficient schooling; many schools had limited their teaching provision to the first three school years (first cycle). Account was taken of this

situation in the PFCEE and the number of schools used for primary education was increased. Since the project appraisal the number of strictly primary schools throughout the country was increased from 12,000 (1996) within six years by just under 17% to 14,000 (2002); in 2002 around 930 of these schools were in Oruro and 769 in Potosi. In addition, there were 8,500 combined primary and secondary schools, 850 of which were in Oruro and 390 in Potosi, as well as other schools combined with primary schools. In 2002 the capacity utilisation of the classrooms was around 30 pupils per classroom throughout the country in the purely primary schools. In Oruro there was an average of 27 pupils in a classroom and in Potosi around 34. Both are relatively low figures, which at first do not suggest that there are any major quantitative problems in classroom availability, but they are due to the topography and the rural regions in Bolivia and were taken into account accordingly in the project design.

The direct project target group defined in the project appraisal report – the children of primary school age (6-14 years) in the "departamentos" of Oruro and Potosi, with priority being given to the particularly poor people in rural areas and in peripheral urban areas and girls – was reached. Overall, more than 130,000 pupils (around half of whom were girls) benefited from the new classrooms and supplementary educational projects (50,000 children) or simply from the supplementary educational projects (a further 80,000 children). In addition, indirect beneficiaries were the teachers, parents and municipalities. There are active parents' councils ("juntas escolares") in most of the programme schools. At some of the schools, the classrooms are used for literacy courses for parents and other adults in the afternoons and evenings.

The mostly poor target group was reached and an improvement achieved in their working and learning conditions – and thus indirectly also their living conditions. The programme had the potential to improve the educational situation of girls. Overall, it contributed to a reduction in social and economic discrimination against women. Good governance and participation were not promoted as part of the programme's system of objectives. However, through its decentralised implementation approach via the regional education authorities and the active participation of the parents and school communities, the programme has boosted the decentralisation of the education sector in Bolivia and firmly embedded possibilities for participation at the local level.

The risks anticipated during the appraisal occurred only in part. However, the low management capacities at the municipal level, particularly with regard to the supplementary educational processes, were responsible for delays in implementation and accounting and inadequate supervision by the MEC. In addition, sluggish progress in educational reform and performance deficiencies at the Education Ministry affected the quality of the supplementary educational processes. The feared low sensitivity to the issue of schooling for girls and the promoton of school locations with migration tendencies did not occur. Risks at the level of the overall programme were identified during appraisal (insufficient management capacities at the municipal level, sluggish progress in educational reform, performance deficiencies at the MEC). These risks occurred and meant that it took longer to implement the measures than originally anticipated.

Three main weaknesses in the infrastructure measures were noted: (i) regular maintenance is not carried out everywhere, (ii) most of the sanitary facilities were poor or not used at all and (iii) there were no improvements to the rest of the school area (especially the playground).

Assessed on the basis of the sub-criteria of relevance, effectiveness, efficiency, overarching developmental impact and sustainability, the developmental efficacy of the FC project is considered satisfactory (rating 3).

1 The relevance of the project is considered satisfactory (sub-rating 3). The provision of a new school infrastructure and accompanying supplementary educational projects made the project design appropriate to help to achieve, in part, the overall objective (improvement in the enrolment rates and educational achievements) and hence to

address a key problem in the programme provinces. The project thus contributed to solving the sectoral problems that still exist today (throughout the country: low quality of education, especially in rural areas and still insufficient school infrastructure). As part of the project “Improving the quality of education and equal education opportunities”, the programme contributed to donor harmonisation.

2 The effectiveness of the project is rated as satisfactory (sub-rating 3). The sustainable reduction in repeat and drop-out rates can currently also be expected over the entire duration of the measures. The project also created an additional school infrastructure which is used regularly and, despite slight under-utilisation of capacities, in a generally appropriate manner. Sufficient teaching staff are available; school furniture and schoolbooks are provided. Given the rural nature of the target regions and the infrastructure measures adapted to it, the pupil-classroom ratio is acceptable. However, to an extent, the supplementary educational projects are not being used.

3 The project efficiency is rated as satisfactory (sub-rating 3); the programme objectives have been achieved with an appropriately used volume of funds. We rate the technical design of the infrastructure measures and the specific investment costs as satisfactory overall and well adapted to the local conditions (low-maintenance construction). The unit costs of the school infrastructure (production efficiency) are appropriate (e.g. approximately EUR 5,700 – EUR 7,600 per classroom). Bearing in mind the sanitation component and the partly unused equipment, we rate the allocation efficiency as low, even if, given the poverty perspectives, the projects were largely selected in a participatory manner and comply with sectoral distribution criteria and standards.

4 The overarching developmental impact of the project, particularly the contribution to improving the enrolment rates and the educational achievements, is good (sub-rating 2). The participatory and flexible programme approach was greatly appreciated by all and the new government also wishes to continue with this programme design. However, the limited use of the supplementary educational projects must be addressed. It supported structure building at a central and decentralised level and has become an important part of educational policy. The programme helped to improve the learning environment and to increase participation in primary school education in the programme provinces. The successful decentralised implementation method also made a structural and broadly effective contribution to supporting decentralisation in the education sector (significance).

5 The sustainability of the project is satisfactory (sub-rating 3). Despite partly insufficient maintenance and repair work, the infrastructure can operate over an appropriate period. Of the risk factors identified during the final inspection regarding the sustainability of the measures, the limited facility maintenance and the uncertainty of the accompanying educational measures continue to be important. Owing to the observed poor maintenance, it remains questionable whether the infrastructure established can be used over the long term and sustainably. However, the main running costs, i.e. payment of the salaries of the teachers and school directors and provision of teaching materials, will borne by the state in the future, too. The educational equipment is largely available but is not always used sufficiently.

General conclusions and recommendations

– Active participation by the parents’ councils chaired by a responsible school director are success factors leading to ownership, a maintenance scheme that works and hence to sustainable school operation. Regarding the selection of sites, a commitment of that kind – which is not least an essential precondition for increasing girls’ enrolment rates targeted in many countries – ought to be given greater emphasis as a selection criterion. In the context of mobilising a municipality with regard to construction projects, support by parents' councils can also lead to further improvements in schools (appropriate sanitary facilities, security and appropriate school playgrounds) and in maintenance.

- Greater need for secondary education became clear at the schools visited during the final evaluation (classrooms, materials, boarding houses, teacher accommodation, qualified teaching staff). Owing to a change of policy and insufficient strategic planning and implementation capacities at the MEC, no progress is being made. It is therefore important for other countries to ensure that what is at first probably a necessary focus (e.g. given the EFA initiative) on primary school education is succeeded at an appropriately early date by support for the entire education sector. Continuing to pursue a sub-sectoral approach for too long can ultimately be counterproductive (e.g. by the secondary level being unable to absorb the greater numbers of primary school leavers resulting from the increase in primary school enrolment, causing the final year of primary school to become less attractive).

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

Projects are evaluated on a six-point scale, the criteria being relevance, effectiveness, "overarching developmental impact" and efficiency. 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 shortcoming
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

A rating of 1 to 3 is a positive assessment and indicates a successful project while a rating of 4 to 6 is a negative assessment and indicates an unsuccessful project.

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 an improvement is very unlikely. 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.