

Yemen: Construction and Rehabilitation of Elementary Schools in the Provinces of Ibb and Abyan (CRES I)

Ex-post evaluation

OECD sector	11220 – Elementary education	
BMZ project ID	1997 65 231	
Project-executing agency	Ministry of Education	
Consultant	Dorsch Consult, Munich	
Year of ex-post evaluation	2005	
	Project appraisal (planned)	Ex-post evaluation (actual)
Start of implementation	Q1 1998	Q3 1998
Period of implementation	30 months	36 months
Investment costs	EUR 6.75 million	EUR 7.01 million
Counterpart contribution	EUR 0.61 million	EUR 0.80 million
Financing, of which Financial Cooperation (FC) funds	EUR 6.14 million	EUR 6.21 million
Other institutions/donors involved	GTZ	GTZ
Performance rating	3 (sufficient developmental effectiveness)	
• Significance / relevance	3	
• Effectiveness	3	
• Efficiency	3	

Brief Description, Overall Objective and Project Objectives with Indicators

Under this cooperative project, a total of 272 new classrooms were built and 659 were rehabilitated at 35 schools in Ibb Province and at 72 schools in Abyan Province. According to the project appraisal report, the original goals were to build approx. 200 new classrooms and to rehabilitate approx. 400 classrooms. The elementary schools built, expanded or rehabilitated were equipped with the necessary auxiliary facilities (toilets, exterior walls etc.). All of the classrooms that were built or rehabilitated were equipped with school furniture and blackboards.

The overall objective of the project was to contribute to improving the quality and quantity of the elementary school facilities in Ibb and Abyan Provinces. The quantitative targets 'number of classrooms in Ibb 10,800 and 2,700 in Abyan in the year 2001' were defined as the indicator to measure achievement of the overall objective. The project objectives were actual use of the classrooms that were built or rehabilitated under the project and adequate maintenance of the created capacities. The following indicators were defined: "In over 90% of the classrooms between 35 and 60 pupils are receiving instruction on a regular basis 3-5 years after completion of the project measures" and "over 90% of the classrooms that were built or rehabilitated are in acceptable condition, i.e. clean and not in need of repair, 35 years after completion of the project measures."

The following aspects of the defined goals and indicators are critical from today's point of view:

- The indicator measuring achievement of the overall objective no longer satisfies current standards for measuring achievement of the overall objective of a elementary education project. Rather, today indicators such as an increase in the gross enrollment rate and the school completion rate or a decrease in the number of pupils who drop out of school or repeat a grade are necessary to measure a project's contribution to achieving Millennium Development Goals (MDG) 2 (elementary education for all) and 3 (school enrollment for all girls). Yet, no data on enrollment, completion, repeating and dropout rates over time is available for the two governorates of Ibb and Abyan. As a result, the achievement of the project objectives cannot be measured using these indicators.
- The basis stated during the project appraisal for measuring quantitative achievement of the objectives is no longer comprehensible in view of the data material still available today. Since the data available during the project appraisal was uncertain and conflicting, the purpose of a purely quantitative indicator of achievement of the overall objective supported by an uncertain data basis is questionable.

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

The FC project was carried out in cooperation with the Technical Cooperation (TC) project 'Health and Environmental Education at Elementary Schools,' which also focused on Ibb and Abyan Provinces. The TC activities mainly comprised strengthening the competences of education authorities, providing further training for teachers and mobilizing school communities. TC was supported by two development workers from the German agency DED. The experiences gained with the help of TC in the areas of mobilization and inclusion of school communities in project implementation could be put to good use in the implementation of the FC project. The mobilization of the parents that was achieved by the TC project served as the basis for the successful participatory execution of the FC project on the local level. However, the desired synergy effects could not be achieved in full, in part because the goals of the TC project changed repeatedly and could not be attained in full.

The FC project comprised the following activities (actual situation):

	Ibb	Abyan	Total
Construction of new classrooms	143	129	272
Rehabilitation of classrooms	234	425	659
Construction and rehabilitation of auxiliary facilities	213	163	376
Furniture and equipment for classrooms	377	554	931
Number of schools (number of participation agreements between the school communities and the school authorities)	35	72	107

Under the project, the plans at the time of the project appraisal were to construct approx. 200 new classrooms, to rehabilitate some 400 classrooms and to build around 100 auxiliary facilities. All classrooms were to be equipped with school furniture and blackboards. In fact, these plans were exceeded by a wide margin due to the use of cost-saving materials and a high counterpart contribution by the parent committees. Altogether 659 classrooms (+ 65%) were rehabilitated and 272 new classrooms were built (+ 36%). New auxiliary facilities were initially constructed at locations where the need was particularly great. Instead of 100 as planned, a total of 376 auxiliary facilities were either built or rehabilitated, including 223 toilets, 153 other rooms (faculty rooms, health rooms, storage rooms etc.) as well as exterior walls and rainwater channels at 15 locations. Under the follow-up project the majority of the remaining schools were turned into 'fully functional schools', i.e. they were equipped with needed auxiliary facilities

(exterior walls, toilets, faculty rooms). In addition, mobile workshops were financed in Ibb and Abyan. As agreed, all new and rehabilitated classrooms were equipped with school furniture out of own funds provided by the Ministry of Education (MoE).

The design of the project, above all the approach involving participatory planning and implementation on the local level (governorates and districts) via the school authorities with the help of an international consultant and assisted to a significant degree by parent committees and communities has proven itself, and continued to be applied in the FC follow-up projects.

Key Results of the Impact Analysis and Performance Rating

The overall objective was to be considered achieved once the total classroom capacity of the governorates of Ibb and Abyan increased by 20% between 1996 and 2001. The target limit for this indicator was set at '10,800 classrooms (Ibb) and 2,700 classrooms (Abyan) in the year 2001.' Owing to conflicting data and problems with clearly quantifying the use of the classrooms, measuring this indicator was difficult. Owing to the criticism stated above, a replacement indicator of achievement of the overall objective was applied, namely an increase in the gross enrollment rate or in the absolute number of pupils. No data is available in relation to the enrollment rates in the two governorates. Accordingly, only a significant increase in the absolute number of pupils attending elementary school and a disproportionately high rise in the number of girls attending school can be noted (1998: Ibb 390,493 pupils in total, 125,757 – or 32.3% - of whom were girls; Abyan 73,754 pupils in total, 25,109 - or 34.0% - of whom were girls. 2002: Ibb 472,769 pupils in total, 176, 839 – or 37.4% - of whom were girls; Abyan 89,592 pupils in total, 34,203 – or 38.2% - of whom were girls). Therefore, it can be assumed that the project contributed to increasing the number of pupils attending elementary school in the project region. For these reasons, at least the quantitative part of the overall objective was achieved. Noticeable improvement in the quality of elementary education as a result of the project cannot be ascertained, however.

Both indicators are needed to assess the achievement of the project objectives. According to the results of the local evaluation mission and the statistical data of the MoE, the first indicator defined for the project objectives ('In over 90% of the classrooms between 35 and 60 pupils are receiving instruction on a regular basis 3-5 years after completion of the project measures') is fulfilled. The second indicator ('Over 90% of the schools [classrooms] that were built or rehabilitated are in acceptable condition, i.e. clean and not in need of repair, 3-5 years after completion of the project measures') was fulfilled only in part. The building substance of the schools and classrooms is in good condition in most cases. However, at times there are considerable deficiencies with regard to maintenance, and fewer than 90% of the schools that were visited are clean and not in need of repair (approx. 70% in the random sample). The assumptions regarding achievement of the project objectives that were made at the time of the project appraisal were correct only in some cases: most parents are now willing to send their children to a public school; parent committees and pupils identify with their school, and sufficient teachers are available for the project schools. Yet, not all schools have enough teachers to instruct girls in upper grades. The regional maintenance funds that were presumed to exist during the project appraisal did formally exist, yet they were endowed with so few funds that the schools were practically unable to use them.

The defined target group, i.e. the parents and pupils in those areas where classrooms were built or rehabilitated, was reached. Altogether over 41,000 pupils (approx. 37% of them girls) can benefit from the rehabilitated and new classrooms and auxiliary facilities. Most of the project schools have active parent committees as well as fathers' and mothers' councils that cooperate closely and well with the education authorities and consultants and that played an active role in implementing the measures. At some of the schools literacy courses are offered for parents and non-parents in the afternoons and evenings. The project schools are situated in both urban and rural parts of Ibb and Abyan Provinces. These two governorates are the poorest in the country.

According to figures provided in the PRSP, 55% of the population in Ibb and 53% of the people in Abyan are living below the national poverty line (nation-wide average 45%). Since the school communities are dispersed throughout nearly all regions of the two governorates, it can be assumed that poor people benefited from the project in accordance with their share of the overall population in spite of (very low) school tuition fees and opportunity costs. As both governorates are quite homogenous in ethnic terms, it can be assumed that no social groups are denied the opportunity to attend school.

The project improved the school infrastructure for over 41,000 pupils, and the construction of 272 new classrooms enabled 30% of them to attend school for the first time. The number of pupils increased between 1998 and 2004 at nearly all of the project schools (over 85% of the schools included in the random sample), and the number of girls was especially significant. Therefore, it can be assumed that the project made a positive contribution to increasing the enrollment rate, above all that of girls, in the governorates of Ibb and Abyan. The project schools that were visited have a very high girls' enrollment rate compared to the average for the respective governorate. Based on international experience, it can be assumed that pupils who attended school at least through fourth or sixth grade have better chances of finding work and/or can put their knowledge to better use for their future families. However, no data or analyses are available. One indicator of this is the higher number of Yemeni teachers hired in the past few years, who have since replaced the teachers from neighboring Arab states - who used to dominate at Yemeni schools - almost completely.

Although the number of pupils has increased substantially at nearly every project school, the project measures did not suffice for the enrollment rates to rise further and the drop-out rate to decline. To achieve this, many more female teachers need to be recruited, access by women to the teaching profession needs to be facilitated, teacher qualification and the curricula have to be improved, and more intense supervision needs to be introduced.

The decentralized and participatory implementation approach was able to mobilize a great deal of self-help potential on the part of the parent committees and the school communities and, in this way, to contribute to a self help-oriented focus on poverty.

The promotion of women and/or girls is included neither in the objectives nor in the project design. Yet, by improving the physical infrastructure (classrooms, related sanitary facilities, exterior walls) it helped to improve the educational possibilities of girls in both regions. This is reflected above all in the disproportionately high increase in the number of girls attending school.

Owing to its decentralized implementation approach via the regional education authorities and to its active inclusion of parents and school communities, the project boosted the decentralization of the education sector in Yemen and firmly embedded possibilities for participation on the local level. The protection of the environment and of natural resources was not an explicit goal of the FC project.

On the basis of the criteria of effectiveness, efficiency and significance/relevance we assess the project's developmental effectiveness as follows:

- The project rehabilitated and built many more classrooms than originally planned. The classrooms are used for school instruction, sufficient teaching staff is available, and school furniture and books are available as well. The pupil-classroom ratio and the teacher-pupil ratio both improved. Thus, the first component of the project objective – adequate use of the classrooms – is achieved. In contrast, the second component – sustainable repair and maintenance of the classrooms – is highly uncertain. Overall the project's effectiveness is – just barely - still sufficient (rating 3).
- Due to cost savings in the performance of the construction work and the strong participation of the parents and school communities, many more classrooms could be built and/or rehabilitated than planned (high production efficiency). The unit costs per classroom are

within the range of the benchmarks for Yemen and those set in international standards. Due to the poor maintenance described above, it remains questionable whether the corresponding infrastructure (most of which was rehabilitated) can be used in the long term. However, coverage of the main running expenses, i.e. payment of the salaries of teachers and school directors and provision of instruction materials, by the state seems to be assured, also in the future. Overall the project's effectiveness is judged to be sufficient (rating 3).

- By building and rehabilitating classrooms the project was able to contribute to solving quantitative problems that still affect the sector today (insufficient classrooms) (relevance). The number of pupils, especially girls, rose significantly in both project regions. The project played a role in improving the learning environment and in increasing participation in elementary education in the project provinces. Additionally, its successful participatory and decentralized implementation approach – which has been applied since then in other elementary education projects in Yemen – made a structural and broadly effective contribution to supporting decentralization in the country's education sector (significance). Owing to the remaining sustainability risks, we judge the project's significance and relevance to be sufficient (rating 3).

Overall the developmental effectiveness of the project 'Construction and Rehabilitation of Elementary Schools in the Provinces of Ibb and Abyan (CRES I)' is considered to be sufficient (rating 3).

Lessons Learnt

Key conclusions relevant to other, similar projects are:

- In order to improve school attendance by girls in a country with strong gender-based differences in enrollment rates, the schools need to have sufficient teachers, and relevant supplementary measures such as exterior walls and adapted sanitary facilities need to be implemented. However, these aspects alone are not a sufficient precondition for improving girls' enrollment.
- Active participation by the community in cooperating with local education authorities that is guided by responsible, active school directors is a success factor that leads to ownership, a maintenance scheme that works and, thus, to sustainable school operation. As regards the selection of project sites, such a commitment – which is not least an essential precondition for increasing girls' enrollment rates – ought to be emphasized even more as a selection criterion.
- It has been shown that a purely quantitative improvement in the school infrastructure is not sufficient to solve the core problems that have been identified. Therefore, there should be a stronger focus on qualitative aspects of the improvement in the elementary school facilities (advanced training for teachers, curricula development, greater consideration of gender aspects when designing and planning school buildings, adjustment of the selection criteria for new school buildings and rehabilitation of preexisting school buildings, etc.). For Yemen this is already the case in the follow-up projects on elementary education that are being carried out in cooperation with TC.

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 above 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 concept)?
- 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.