

Bangladesh: Primary Schools/Cyclone Shelters

Ex-post evaluation report

OECD sector	11120 Education facilities and training	
BMZ project number	1998 65 379	
Project executing agency	Ministry of Primary and Mass Education	
Consultant	DIWI Consult International/Rupprecht consulting engineers	
Year of ex-post evaluation report	2008	
	Project appraisal (planned)	Ex-post evaluation (actual)
Start of implementation	2nd quarter 1999	2nd quarter 1999
Period of implementation	33 months	79 months
Investment costs	EUR 13.63 million	EUR 15.28 million
Counterpart contribution	EUR 0.95 million	EUR 0.94 million
Finance, of which FC funds	EUR 12.67 million (FC/TC)	EUR 14.34 million
Other institutions/Donors involved	None	None
Performance rating	2	
• Significance/Relevance	2	
• Effectiveness	2	
• Efficiency	2	
• Impact	2	
• Sustainability	2	

Brief Description, Overall Objective and Project Objectives with Indicators

The project aimed at protecting human life against the frequent cyclones occurring at the coastal regions of Bangladesh. The target group was the population living approx. 1 km from the respective shelters.

The project comprised the construction of altogether 108 cyclone shelters for normal use as primary schools and fitting these out with school furniture and storm surge warning equipment. Using residual funds, wells were tested for arsenic contamination and unregistered non-governmental schools rehabilitated or enlarged and equipped in part with furniture.

(New) overall objectives: Protection of human life against future cyclones and a contribution to achieving universal basic education in Bangladesh.

Indicators for overall objectives:

- The cyclone shelters are assimilated in an operational cyclone protection scheme.
- Net enrolment rate amounts to at least 90% two years after completion of the buildings.
- Gender inequality in access to primary education has been eliminated.

(New) project objectives: Adequate use is made of the extended, higher-quality basic education facilities and cyclone shelters.

Indicators for project objectives:

- 800-1,000 people seek refuge in the safe rooms of a shelter in the event of a cyclone.
- All the classrooms are used for school lessons with at least 40 pupils each two years after completion.
- The School Management Committees ensure adequate building servicing and maintenance.
- The dropout and repeater rates have diminished.

Project Design/Major Deviations from Original Planning and Main Causes

The dual use as primary schools and shelters has made a contribution to basic education in Bangladesh. The total number of schools in the country has not been increased since only old and partly very dilapidated buildings were replaced, but some of the existing schools were extended with additional classrooms. Moreover, teaching conditions have improved considerably thanks to the new buildings.

The respective School Management Committees are responsible for the routine upkeep of the buildings. This involves simple work such as keeping the school tidy, keeping drainpipes clear and carrying out minor repairs. The School Management Committees were trained specially for this task and received instruction in maintenance. The buildings have been in permanent use as primary schools since completion.

The main deviations from project appraisal consist largely in the enlarged scope of work made possible by allocating residual funds. Considerable delays occurred in project implementation (79 months instead of 33 as scheduled), increasing the costs for the consultant assignment accordingly. The main reasons for the delay were the protracted selection of sites for the shelters and the extra time needed for implementing the additional measures under the residual funds allocation.

Key Results of Impact Analysis and Performance Rating

The last severe **cyclone (Sidr)** at a speed of 215 km/h and an ensuing tidal wave reaching up to 5 m in height hit the southern coast of Bangladesh on **15 November 2007**. It claimed approx. 3,500 lives and destroyed more than 90% of the paddy-fields just before harvest. The housing and public buildings were almost completely destroyed in the 9 afflicted districts with a total population of approx. 2 million.

Altogether, about 500,000 people have died as a result of cyclones in Bangladesh

since the sixties. The much smaller number of deaths caused by Sidr as compared with similar cyclones in previous years (e.g. approx. 300,000 in 1970 and approx. 125,000 in 1991) is generally attributed to the improved crisis management on the part of the government and the availability of numerous cyclone shelters. Relief organizations and journalists report that the government of Bangladesh was better prepared for Cyclone Sidr than ever before. The bulk of deaths that nevertheless occurred was not directly due to the cyclone but to the outbreak of diseases (particularly severe diarrhoea) in the aftermath to the cyclone for lack of timely relief supplies to the remote areas.

According to eyewitness reports, the shelters have been very well accepted by the population and were fully occupied or even overcrowded during the cyclone. It is therefore reasonable to estimate that up to 100,000 human lives could be saved thanks to the shelters financed by FC.

The project objective for the buildings' function as primary schools can also be deemed to have been achieved. The classrooms are put to appropriate use and school lessons have been conducted continuously, as confirmed by the consultant's final report. The School Management Committees do not, however, conduct the maintenance and servicing of the buildings regularly in all districts. Altogether, though, this has not impaired their function so that the indicator has been largely met.

The present principal constraint on effective basic education today is the insufficient quality of teaching (high teacher and pupil absenteeism, poor teacher training, high dropout rates). These deficits were not addressed by the project. Since many of the buildings replaced or enlarged were in such poor condition as to detract from the quality of teaching and no adequate sanitary facilities were available for schoolgirls (separate facilities for girls and boys), the refurbishment of the school buildings can be expected to have raised parental readiness to enrol girls in primary schools in particular and let them stay there. The project can therefore be considered to have made a certain, albeit limited, contribution to the overall objective of universal basic education and, with that, to supporting the successful basic education policy in Bangladesh as a whole.

Assuming that 800-1,000 people find refuge in the event of a disaster in every shelter as intended, the costs per human life saved would amount to merely EUR 100 to 125. On account of the long life expectancy of shelters and their repeated use in the event of cyclones, the costs per utilization will decline accordingly. Applying this yardstick alone, the macroeconomic efficiency of the project can be assessed as very high.

The project has also had beneficial socio-economic effects. The overwhelming majority of the target group (approx. 90%) are Muslims. Before a cyclone, women in particular are frequently reluctant to leave their hut to seek refuge in a crowded room together with men. In some cases, they also wait until their husbands return from work to ask their permission. Women have also been reported to have left cyclone shelters when they thought that they were in 'men-only' rooms. This impression is even more pronounced if the room is normally reserved for men only (e.g. mosque) or if no separate

toilets are available.

Based on experience, shelters that also serve as schools meet with greatest acceptance in the female target group. A contributory factor here is that the mothers of pupils are familiar with the rooms from ordinary visits. Designing the project as a primary school with separate toilets and several rooms was therefore particularly well suited to counter the risk of women avoiding the shelters or waiting too long to seek refuge. The project design was therefore gender sensitive and effective in this respect.

Applying the subcriteria relevance, effectiveness, efficiency, impact and sustainability, the developmental efficacy of the project is assessed as follows:

Relevance: Despite intensive donor assistance in disaster preparedness, the government of Bangladesh still clearly lacked adequate shelters at project appraisal. The planned commitment by the EU to reconstruct traditional school buildings as shelters vindicates the appropriateness and ongoing relevance of the adopted approach. Further-reaching disaster preparedness schemes also currently under discussion, such as structural coastal protection or subsidized insurance against extreme weather events from donor funds, always entail the construction of shelters, as these are the only effective means to cope with the high cyclone wind speeds. We therefore classify the relevance of the project as very high in disaster preparedness (Subrating 1). As to relevance for primary education, we classify the project as sufficient only, however (Subrating 3), as too little importance was attached to educational quality and the FC project did not address the key constraint. We therefore rate overall project relevance as good (Subrating 2).

Effectiveness: The project objective was achieved. During the severe cyclone of November 2007, the population sought out the shelters and the human toll was kept low as a result. The safe room construction has also been well received by the female population. The objectives of the primary school project have been met as well, since the buildings have been used continuously as primary schools and a contribution has been made to the overall success of the national sector policy. We thus gauge the effectiveness of both components as good (Subrating 2).

Efficiency: Compared with the unit costs of other donors (e.g. EU - US\$ 150 per person and safe room) the shelters were efficiently built. Moreover, measures were carried out in addition to those planned at project appraisal. The dropout rate in primary schools has declined from 75% (1998) to 33% (2005), raising the overall efficiency of the educational system. Due to the long delay in the building measures, however, consulting costs were considerably higher than planned. The efficiency of the primary school buildings cannot be seen in isolation, since cyclone-proof construction automatically incurs higher costs than would otherwise be the case. Altogether, we assess the efficiency of the project as good (Subrating 2).

Impact: The main impact of the cyclone shelters is saving human life, with impressive success in the latest cyclone. The impact must therefore be assessed as very high. The shelters make up a core element of Bangladeshi disaster preparedness overall.

The adoption of this approach by other donors, such as the EU, underlines the capacity-building impact of the project. We therefore classify the impact in disaster preparedness as very good (Subrating 1). In primary education, the project failed to exert the influence of FC for improving the quality of education together with other donors and raise developmental impacts as a result (Subrating 3). We therefore classify the overall project impact as good (Subrating 2).

Sustainability: The course and development of large cyclones can always take sudden unpredictable turns, despite far more precise forecasting thanks to improved early warning equipment and this could prove a problem for sustainability. In the nineties especially, many disaster warnings were issued that then proved to be unfounded. There is therefore a danger that future storm warnings and calls to enter the shelters will no longer be heeded, particularly after a relatively long period without larger-scale cyclone disasters. The ministry carries out extensive information campaigns as a countervailing measure, however, and the population did not respond in this way with the cyclone of November 2007. There are also risks in the adequate maintenance and servicing of the buildings which, do not, however, directly detract from utility. As this uncertainty is only slight, we judge the sustainability of the buildings both as cyclone shelters and as primary schools to be good (Subrating 2).

Accounting for all the individual criteria, we give the **overall project a rating of 2 (good result, fully in keeping with expectations, with no major deficits)**. The disaster control function of the project overall merits a better assessment than the primary school education component.

General Conclusions

The main effect of the project is the protection of human lives in the event of a cyclone. It was, however, also designed as an education project and must therefore be measured in these terms in the ex-post evaluation. On the one hand, the project did not address the principal developmental constraint - quality deficits in the education sector - and on the other, combining primary school construction with cyclone protection proved to be particularly effective. This experience should be evaluated and applied in countries facing comparable hazards where German development cooperation is engaged in the education sector.

The installation of a PMU for project implementation seems surprising. Particularly as other donors have invested in shelters, there might have been an opportunity to improve capacity building in the ministry, although this could have caused further delays in project implementation. We recommend advancing separate grounds for setting up PMUs in the project appraisal and weighing this up against possible capacity building effects on the executing agency.

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

Projects are evaluated on a six-point scale, the criteria being relevance, effectiveness (outcome), “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 rating that clearly exceeds expectations
- 2 Good rating fully in line with expectations and without any significant shortcomings
- 3 Satisfactory rating – project falls short of expectations but the positive results dominate
- 4 Unsatisfactory rating – significantly below expectations, with negative results dominating despite discernible positive results
- 5 Clearly inadequate rating – despite some positive partial results the negative results clearly dominate
- 6 The project has no positive results 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 a project which has no sufficiently positive results.

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.

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. A rating of 1 to 3 indicates a “successful” project while a rating of 4 to 6 indicates an “unsuccessful” project. In using (with a project-specific weighting) the five key factors to form an overall rating, it should be noted that a project can generally only be considered developmentally “successful” if the achievement of the project objective (“effectiveness”), the impact on the overall objective (“overarching developmental impact”) and the sustainability are considered at least “satisfactory” (rating 3).