

India: Multi-Purpose Cyclone Protection Buildings in Orissa

Ex-post evaluation

OECD sector	41050 – Flood protection	
BMZ project ID	19995 66 050	
Project-executing agency	Indian Red Cross Society / Orissa State Branch	
Consultant	Prof. Dr. Lackner & Partner (today: Inros Lackner AG)	
Year of ex-post evaluation	2005	
	Project appraisal (planned)	Ex-post evaluation (actual)
Start of implementation	4th quarter 1995	2nd quarter 1996
Period of implementation	36 months	42 months
Investment costs	EUR 3.3 million	EUR 3.6 million
Counterpart contribution	EUR 0.2 million	EUR 0.2 million
Financing, of which Financial Cooperation (FC) funds	EUR 2.6 million	EUR 2.6 million
Other institutions/donors involved	German Red Cross	German Red Cross
Performance rating	2	
• Significance / relevance	2	
• Effectiveness	2	
• Efficiency	2	

Brief Description, Overall Objective and Project Objectives with Indicators

The programme comprised the construction and equipment of 23 buildings elevated on stilts as protection against floods, the establishment of a local civil protection system and the implementation of civil protection training in cyclone-prone areas on the coast of the federal state of Orissa. The establishment of a training centre for advanced and further training of persons involved in disaster prevention was also part of the programme. While FC was mainly responsible for financing the construction of buildings (including related planning and monitoring services), the “Deutsche Rote Kreuz” (German Red Cross), which acted as cooperation partner, covered the programme-related costs and the costs incurred by the project-executing agency (the Indian Red Cross Society – Orissa State Branch) for the related disaster prevention and training measures and assigned an international long-term expert, who was in charge of supervising the mobilisation measures, to the project for several years.

The programme objectives are (a) to supply the target population with shelter in the event of natural disasters caused by cyclones and at the same time (b) to improve the supply with community facilities. The indicators defined are: (a) at least 1,000 persons per shelter are

given effective protection and (b) at least two meetings/events per shelter are held every week.

The overall objectives are primarily to provide sustainable protection for human lives during floods caused by cyclones and also to render a contribution to village development. No indicator was defined to measure the objective of providing protection. The contribution to village development is measured on the basis of the indicator "number of activities supporting community development per months and construction of shelters".

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

The sites for the shelters were selected on the basis of a catalogue of criteria which served, besides the aspect of specific exposure of the particular sites, to assess especially the manifested and proven interest of the population in the later use of the shelters in the sense of the defined development goal including the ensuing maintenance and repair duties as well as the willingness to build up the necessary bodies at the village level. The idea that the permanent usage will create a close tie between the population and "its" shelter and will facilitate its maintenance so that it can be actively used in the event of disaster, is correct and today constitutes a formal criterion for the selection of sites also under the programmes implemented by other donors.

The equipment of the shelters is simple so as to provide for the event of disaster and cover daily necessities. A maintenance fund was established at the project-executing agency and two times 23 teams were set up and trained to organise the use and maintenance of the shelters, to prepare disaster prevention measures and to implement rescue operations in the event of disaster. The additional establishment of a training centre facilitates theoretical training and advanced training, and this proved to be very advantageous in terms of the multiplication of conceptions and experiences as well as for the sustainability of impacts.

Key Results of the Impact Analysis and Performance Rating

Programme objective (a) was achieved since the selected technical design was suitable and the population could be mobilised to correctly use the shelters in the event of disaster and to maintain the buildings. Programme objective (b), which was deducted from the availability of shelters that can be used for multiple purposes, was not fully reached. All shelters are used regularly: still today about half of the shelters are used on weekdays as classrooms, but other shelters are used only at rare intervals by self-help groups or for cultural events, village festivals or on a more regular basis for meetings of the local civil protection units or the shelter administration.

With regard to the achievement of the overall objective the year 1999 was of special importance: One of the most severe cyclones of the last few decades in India occurred at the end of October 1999, shortly after the completion of the project shelters, and severely flooded large areas of the Orissa coastal region. According to estimates 41,000 persons found shelter and protection for more than three days in the buildings, while outside of the limited area where the shelters are located more than 10,000 persons lost their lives. In this situation of extreme danger the nominal capacity of the shelters was exceeded by 100%. With regard the achievement of the overall developmental objective the picture is rather mixed. "Only" half of the buildings is used on a regular basis as classrooms for (public) schools. However, all shelters are regularly frequented by women's savings and loan groups established with the help of the Red Cross. Some buildings are used for vaccination campaigns, nutrition advice services etc.

In summary, with regard to the goal of providing shelter and protection the overall objective was well achieved and with regard to developmental goals the achievement was sufficient.

Provided that the funds required for maintenance tasks will be provided the chances for the sustainable operation of the shelters in the sense of the development goal are favourable.

Whether these chances are actually being used depends on the social dynamics, which is often determined by the interests of very few persons. The project-executing agency intends in the context of this programme to have the responsible teams increasingly supported by the local sections of the Red Cross, which in turn have to be closely linked with the responsible division at the project-executing agency in order to ensure the sustainability of the measures. This represents a positive decision to fully exploit the development opportunities offered by the shelters. In the long run, i.e. for several decades, we see only low risks that might hamper the achievement of the shelter function of the buildings, which is due to the fact that the very eye-catching buildings will still be there quite visibly for the population even if the social mobilisation slowly decreases.

A major share of the programme impacts is of a humanitarian and socio-economic nature. The programme creates confidence that shelter and rescue will be possible even in the event of the most severe cyclones. Due to this confidence the cyclone-prone regions can be maintained as production sites and sites where people live. In the event of a disaster the number of costly and time-consuming rescue activities can be reduced.

Self-help groups were established at all sites and most of the groups developed very positively. Usually these groups are women's savings and loan groups, which use the shelters as meeting places. The regular meetings of such groups offer an occasion to exchange information and discuss questions regarding health, nutrition, education etc. and this heightens the importance of the groups and makes them attractive. Women actively participate in the local teams and in the training measures offered. Men and women equally benefit from the infrastructure facilities, though women tend to profit more. The permanent intensive involvement of the population in the administration and use of the shelters for purposes of protection and village development is to be rated very positively.

The programme objective to supply the population with shelter and community facilities is still a major priority in the programme area. The objective to provide shelter was reached very well. In addition, the shelters can be used for community purposes. However, the local teams established to administer the shelters do not work satisfactorily and as a result some of the buildings do not operate properly. In consequence, the overall achievement of the development goal (which is clearly subordinated to the objective of providing shelter) was not sufficient. Overall, we rate the achievement of the programme objectives as satisfactory.

In October 1999 the project stood the practical test. Thereafter, it was taken as a model by other project-executing agencies/donors in the region, which also started to implement shelter programmes modelled on the basic concept of "protective shelters with development function" in the programme provinces with more or less intensive involvement of the population in the selection of sites. Still, roughly 75% of the need for shelters has not been covered. Due to the limited daily use of the shelters we rate the achievement of the overall objective as satisfactory.

The investment costs are adequate. Given the robust design and the high construction quality of the shelters follow-up costs for their maintenance are low. The sites selected are located in particularly threatened areas and were determined on the basis of topographic and social criteria. On the occasion of the heavy cyclone in October 1999 it became evident that the right sites had been selected. More than 40,000 persons seeking shelter actually found protection for several days. Overall, we judge the **efficiency** of the project to be satisfactory.

Overall, we judge the developmental effectiveness of the project to be satisfactory.

General Conclusions

The experience has been made time and again that both the project-executing agency and KfW equally benefit from a cooperation that is planned over the medium-term and covers several stages because such a cooperation allows to profit from the lessons learnt in the

early stages of the project and to adjust the programme concept, design and operating concepts accordingly. In later stages the cooperation can help to provide efficient follow-up support for the measures implemented earlier on. Such type cooperation planned for the medium term increases the efficiency of the use of funds.

The establishment of maintenance funds at the project-executing agency, which was part of the programme discussed here, appears to be a realistic and target-oriented approach to ensure that the funds for later maintenance and repair measures can be made available also in a difficult environment with high financial sustainability risks. Thus, the establishment of such funds should be an objective if, as in the case described here, a project-executing agency has few liquid funds at its disposal, but otherwise is a reliable partner, who is economical and correct in the use of funds, and who has his books verified annually by renowned auditors.

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.