

Pakistan: Forestry Project Tarbela/Mangla

Ex-post evaluation

	31220 / Forest development	
BMZ project ID	1992 65 737	
Project-executing agency	Department of Forest, Fisheries & Wildlife	
Consultant	Agrar- & Hydrotechnik (AHT)	
Year of ex-post evaluation	2004	
	Project appraisal (planned)	Ex-post evaluation (actual)
Start of implementation	Q 4 1992	Q 4 1992
Period of implementation	7 years	8 ½ years
Investment costs	EUR 21.2 million	EUR 16.5 million
Counterpart contribution	EUR 5.3 million	EUR 3.6 million
Financing, of which Financial Cooperation (FC) funds	EUR 6.96 million	EUR 6.55 million
Other institutions/donors involved	World Food Programme	World Food Programme
Performance rating	2	
• Significance / relevance	2	
• Effectiveness	3	
• Efficiency	2	

Brief Description, Overall Objective and Project Objectives with Indicators

The project is part of a programme launched by Pakistan in the 1960s to afforest the watershed areas in the Central Indus Valley. The present project was carried out together with the World Food Programme (WFP) from 1993 until 2001 and has since been continued at a lower level out of Pakistani counterpart funds. During the course of the project section co-financed out of Financial Cooperation (FC) funds, 60,100 ha of privately owned fallow land were afforested with trees and bushes and erosion control measures were carried out by the local population in sloped farmland areas (approx. 10,000). The project goal was to afforest 67,000 ha in five watershed areas and to maintain them on a sustainable basis. The target indicator was a stocking rate of the tree type "chir pine" of at least 75% prior to the first afforestation (usually 5-6 years after planting). For all other types of trees and bushes the management plans are to be observed to at least 80%. The overall objective was to improve the living conditions of the population in the project region by protecting agricultural areas and by managing the afforested areas (indicator: income from forest management and the condition of older comparable areas planted between 1975 and 1985).

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

The original project design proved to be too ambitious and dirigiste. Consequently, the target areas had to be reduced from initially 91,000 ha to 67,000 ha, the work with the target group needed to be strengthened, and components of secondary importance for the population and the project-executing agency (planting fruit trees) were cancelled. At 50%, the share of deciduous trees being planted is slightly below target (60%). From an ecological point of view, this is not disadvantageous since deciduous trees are usually of foreign origin whereas coniferous trees (chir pine) – which are usually used most frequently – are native to the region. In addition, executing agency personnel were trained in working with the target group (conflict management, group mobilization etc.) and were ultimately able to support the local target group with project implementation. For instance, since the reorientation in 1997, approx. 130 Village Development Committees (VDCs) have been founded, 37 of them as 'Women's Organisations.' Apart from silvicultural activities, among other things this led to the launch of further initiatives (basic health care, primary education, income activities such as horticulture). This new design proved to be appropriate.

The implementation concept was modified in 1996: in particular, the target group was involved more heavily in the planning, implementation and performance of the afforestation, and the monitoring of implementation became more intensive. The consulting services had to be extended accordingly. Basically, two different concepts were applied: on the one hand, so-called 'departmental afforestation' – especially in collectively used areas, where the costs of labor were fully covered by the project (50% each out of Financial Cooperation/FC funds and WFP funds); on the other hand, so-called 'social forestry' only in areas used by individuals and usually located closer to the villages where the counterpart contribution of the local population in the form of own labor covered 50%. Looking back, for the most part the modified implementation concept proved to be appropriate; from the point of view of the population the social forestry approach with its greater involvement of the target group proved to be more attractive than expected and could have been promoted more strongly from the beginning.

Key Results of the Impact Analysis and Performance Rating

Assessment of Achievement of the Goals and of the Major Impacts

The project objective defined during the appraisal of afforesting and sustainably maintaining 91,000 ha proved to be too optimistic for the scheduled implementation period and had to be reduced to 67,000 ha. Even this modified goal was only achieved to around 90%, with the final area adding up to 60,100 ha. In view of the moderate afforestation costs, the original area target could have been achieved with the budget, but it was not supported by the co-financier WFP for administrative reasons. The tree density is, on average, about 50% below the target of 75%, yet in view of the extreme conditions in some sections (slopes, soil quality, several years of drought) this figure is acceptable overall. In areas used for individual purposes it is at least 60%, thus considerably higher than for collectively used areas.

Due to the project reduction mentioned above, the overall objectives of the project – a slower degradation process and a contribution to securing income – could be achieved for only some of the areas included in the original plans, yet in these areas they were achieved to the full extent. Random checks show that far more than 50% of the trees planted between 1975 and 1985 (indicator defined during the appraisal) are being managed and used in accordance with the defined purpose – insofar as possible under imposed restrictions on use like those applying to coniferous wood. Additionally, according to the local energy supplier the useful life of the Tarbela Dam, which is situated in the lower reaches of the Indus River, is expected to increase

by approx. 25 years due to a decline in sediment deposition. With regard to *income relevance*, we consider the effects to be sufficient: according to estimates, once the trees mature (approx. 5-8 years) an average annual income per hectare of forest area can be achieved that ranges between 15 - 30% of average rural income per year in Pakistan's North West Province. This effect is also documented by growing demand for seedlings and an increase in the number of private nurseries being founded.

In addition to the slower degradation process, statements made indicate that the pressure to use natural forests for obtaining firewood has decreased in those regions where afforested trees have been used for several years. In this way, a contribution is being made to relieving the pressure on this ecologically valuable type of vegetation, at least in certain cases. These positive environmental impacts were counterbalanced solely by minor negative environmental impacts that were highly limited in terms of their duration and spread (80 km of roads built on idle areas).

With its plans to build up user groups/VDCs as described in the revised project concept, the project makes an – albeit limited – contribution to participatory development, as the selected approach encourages far closer cooperation between the target group and the forest administration.

As the local population is the target group, we expect the share of absolute poor people to be at least 30%. However, the afforestation work primarily benefits landowners who are better off. Regulations that allow outsiders to use afforested areas in certain cases, for example to collect twigs and branches for feeding their animals and for firewood, also enable the poor local population to benefit from the project. These groups also benefited from the temporary employment effects of project implementation. Overall, however, the main purpose of the project's concept and effects was not to reduce poverty.

Summarized Evaluation

As it is a model project, the project is held in high regard across the country, and it has helped propagate forest management as a form of land use. From a microeconomic and macroeconomic point of view (household income, scarce raw materials) as well as from an ecological point of view this makes good sense and is desirable (conservation of the resources soil and water; reduced pressure to use ecologically valuable natural forests). In addition, owing to its "social forestry" approach the project helped initiate far-reaching sector reforms on the provincial level (reform of forestry laws) and encouraged better cooperation between the forest administration and the target group. Therefore, capacity-building effects are discernible, and so we consider the effectiveness of the project in terms of its "relevance/significance" to be *satisfactory* (rating 2).

Within the originally defined framework, the requirements as to the target area could be fulfilled only partially, and so for the criterion of effectiveness the project is assigned an *overall sufficient degree of effectiveness* (rating 3). An international comparison showed that the afforestation costs ("production efficiency") are favorable and that in micro and macroeconomic terms, highly positive yields are expected ("allocation efficiency"). Based on this, we classify the project's efficiency as *satisfactory* (rating 2).

Overall we judge the project's developmental effectiveness – especially in view of its revised concept – to be *satisfactory* (rating 2). Nevertheless, the project's contribution is considered necessary but still insufficient: it is beyond contention that, in the interest of sustainable conservation of natural resources, further interventions – also outside of the forest sector (population-policy activities, alternative sources of income and energy etc.) are needed.

General Conclusions for all Forestry Projects

A conclusion that can be drawn from the project is that resource conservation measures – also in cases where the initial conditions are unfavourable (distrust of the population vis-à-vis forestry authorities and regulated forest management; hesitation of the project-executing agency to apply participatory approaches) – can be implemented successfully as long as they enable the people affected by the project to expressly improve their living conditions. However, this requires intensive support in the form of extensive consulting assignments. If, as in this case, commercial enterprises such as energy suppliers benefit from the project, the package of measures and their implementation should also be coordinated and negotiated with such users – if possible, from the very beginning. Such an approach makes it possible to negotiate at least medium-term (co-)financing for such activities, if applicable, which would place these types of projects/programmes that are in the interest of society and/or the economy as a whole on a broader financial basis. This complies with the internationally propagated principle of “payment for environmental services.”

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, organizational and/or technical support has come to an end.