

**Mali: Self-Help Fund - Dogon Land II**

**Ex post evaluation report**

<b>OECD sector</b>	31120 - Agricultural development	
<b>BMZ project ID</b>	1994 66 111	
<b>Project executing agency</b>	Malian Ministry of Agriculture Project location: Projet de Réhabilitation des Barrages et Pistes (PRBP) in Bandiagara	
<b>Consultant</b>	Deutscher Entwicklungsdienst	
<b>Year of ex post evaluation report</b>	<b>2009</b>	
	<b>Project appraisal (planned)</b>	<b>Ex post evaluation (actual)</b>
<b>Start of implementation</b>	Q2 1995	Q3 1995
<b>Period of implementation</b>	48 months	102 months
<b>Investment costs</b>	EUR 4.4 million	EUR 9.3 million
<b>Counterpart contribution</b>	EUR 0.1 million	EUR 0.1 million
<b>Financing, of which Financial Cooperation (FC) funds</b>	EUR 3.06 million	EUR 7.5 million
<b>Other institutions/donors involved</b>	DED	DED
<b>Performance rating</b>	2	
• <b>Relevance</b>	2	
• <b>Effectiveness</b>	2	
• <b>Efficiency</b>	2	
• <b>Overarching developmental impact</b>	2	
• <b>Sustainability</b>	3	

**Brief description, overall objective and project objectives with indicators**

The project covered the development of agricultural infrastructure, including rural roads, in Dogon Land. The following measures were completed:

- New build/renovation of 62 small-scale dams and reservoirs for irrigation.
- Construction and expansion of 143 km of rural access tracks to dams and villages.
- Expansion and renovation of regional roads from Bandiagara to Kendié (41 km) and Bandiagara to Bankass (39 km), including a large number of dykes to counter erosion.
- Consultancy services.

Dogon Land belongs to Mali's Mopti region (Region V). With some 32 % of the total national population, this region is among the poorest in the country. In 2001, infant mortality in the first month of life was measured here at 80 per 1,000 and in 2006 at approx. 61 per 1,000. In both years these were the highest mortality rates in Mali. According to Malian statistics some 75% of the population were living in poverty in 2006.

The Dogon people, who form approximately 9 % of the total Malian population, represent the main regional population group. The population of the Dogon plateau and the surrounding plains (the programme region) is estimated at around 0.8 million. The most important commercial activity by far is the cultivation of vegetables, notably shallots, which are highly valued throughout Mali. The most significant constraints on agriculture in the Dogon plateau are the limited availability of land suitable for cultivation and the relatively low level of precipitation, which ranges from 300 mm to 500 mm per year, and falls almost exclusively in the period from July to September. Set against this background, the construction of dams to store irrigation water and improve groundwater has considerable significance for water provision in Dogon Land.

The programme objective is the active utilisation and maintenance of the new physical infrastructure (dams, erosion protection measures, and roads). This should contribute to social and economic development in the area (overall objective). The following indicators were established for the programme objective: once dam construction was complete, at least 90 % should be used for irrigation: three years after completion, traffic volumes on the Bandiagara – Kendié and Bandiagara – Bankass roads should have grown by 50 %; and shipments of millet on the Bandiagara – Bankass road should have grown by 100 % within three years of completion. By conducting traffic counts in different locations on various days it was confirmed that the objective level had been attained. At 87 %, dam utilisation was extremely close to the 90 % target.

With the net annual household income which they derive exclusively from irrigated agriculture, an eight-person household can cover their annual cereal requirements. This project has opened up additional agricultural land with an area of approx. 160 hectares, which represents a sound basis for the livelihoods and income of a target group of some 4,000 farmers (families). We therefore consider the programme of dam construction has had a positive effect on income levels, and therefore on the achievement of the objective.

To evaluate progress toward the overall objective, data was compiled on social development in important areas of health and education. Income growth and improved access to health stations through the regional road programme have both resulted in a marked increase in demand for health station services compared to pre-project levels. The number of therapeutic services offered by the health establishments has risen noticeably. Moreover, the two roads made it possible to implement the planned investment in primary school education. Six new primary schools were built in the catchment area served by the roads, and as many as 1,000 pupils, half of them girls, have attended school for the first time.

In summary, we can confirm that the programme objective and overall objective were achieved.

### **Project design / major deviations from original planning and their main causes**

The project execution procedure for dam construction and renovation merits particular attention. The village communities are required to register their interest in construction funding at the 'Projet de Réhabilitation des Barrages et Pistes' (PRBP) in Bandiagara, a temporary institution set up under the Malian Ministry of Agriculture, and they must agree to provide the appropriate land and the necessary labour. On this basis the PRBP then carries out an on-site technical, economic and socio-cultural appraisal, campaigning at the same time to mobilise potential and to encourage self-help. The financial contribution from the village community is calculated at 2 % of building costs, up to a maximum of FCFA 750,000 (roughly EUR 1,140). A project can proceed once

this has been paid in full to the PRBP. This process lays the foundation for collective user responsibility in the operation and maintenance of the facilities. The allocation of irrigated land is regulated by the village community. At the time of ex post evaluation, the dams were found to be in an acceptable state of repair and were being used for irrigation, confirming the suitability of the project design.

### **Key results of the impact analysis and performance rating**

The project had very limited potential to contribute to improving gender inequality. No immediate or readily identifiable ecological damage to the environment, such as raised nutrient levels in the water table or soil salination from inadequate drainage, were apparent. Environmental protection and resource conservation were not the main objectives of the project. The procedure designed around the temporary structure of the PRBP served to mobilise investment and to encourage collective responsibility within the target group. Primarily as a result of this approach, the project has had notable structural effects and a positive impact on the process of decentralisation in Mali. Project actions have had a direct bearing on poverty. In summary, we assess the overall developmental efficacy of the project as follows:

#### **Relevance**

As it forms part of Mali's Region V (Mopti), one of the poorest regions in the country (income poverty 69 % - national average 59 %), improving the economic and social situation in Dogon Land has significant developmental value. Against this background, the chain of effects assumed at programme appraisal — improving income levels and access to social infrastructure, particularly education and health, by developing agriculture and opening up traffic routes — remains valid. The project objective conforms with BMZ developmental objectives and guidelines, and to the Malian Government's strategy for the fight against poverty. The project contributes predominantly to Millennium Development Goal 1 (the eradication of extreme poverty and hunger). Overall, there is only limited cohesion amongst the donors in Dogon Land. FAO, US-AID and WFP operate alongside the German contingent, as well as numerous domestic and foreign NGOs, Malian migrants' associations, and other private aid initiatives for which the Paris Declaration on Aid Effectiveness has no significance whatsoever. They seldom consult the official Malian position and demonstrate widely varying aspirations, both in the objectives they set and in the financial contributions planned from beneficiary groups. There are clear signs that an 'aid recipient mentality' has developed in at least parts of Dogon Land, which may have a counterproductive effect on local initiative and the potential for self-help (rating: 2).

#### **Effectiveness**

The original indicator value for regional road utilisation (an increase in traffic volumes of 50 %) was reached within the time envisaged. This was substantiated by traffic counts in 2004 and 2006. Based on the traffic situation at the time of the ex post evaluation, the figures from those years still appear to be valid. The original target for dam utilisation was not achieved. Instead of the planned 90 %, around 87 % are regularly used for agricultural purposes. However, from a cost viewpoint this deviation is negligible.

Income levels for families with an irrigated plot for growing shallots fall into three broad bands, dependent on land availability, irrigation practices, yield per hectare and the particular crop sown. Based on an area of 0.3 hectares served by motor-driven pumps, net annual household incomes range from a lower level of FCFA 789,000 (about EUR 1,200) through a middle band of FCFA 1,238,000 (EUR 1,890) to an upper level of FCFA 4,386,000 (EUR 6,685). It can be assumed that about 27 % of the user group belong to the lower income sector, about 63 % to the middle, and 10 % to the highest band. It should be borne in mind that the boundaries between the different categories are very fluid, and often as many as three plots of land may be worked by any one family. In a household of eight or more people — a typical size for the Region — annual income per person in the various bands is FCFA 98,600 (approx. EUR 150),

FCFA 154,700 (approx. EUR 235) and FCFA 550,000 (approx. EUR 838). From this it seems feasible that the majority of households in the project region could cross the poverty threshold (currently FCFA 144,000 per person per year) solely on irrigated agriculture income. Malian statistics indicate an average cereal requirement of 214 kg per person per year; on this basis the level of income being achieved will cover a family's cereal requirement in full. This project has opened up additional agricultural land with an area of approx. 160 hectares, which represents a sound basis for the livelihoods and income of a target group of some 4,000 farmers (families). We therefore consider the effect of the dam construction programme on income levels, and therefore on the achievement of the objective, as positive (rating 2).

#### Efficiency

Road construction efficiency was assessed on the basis of cost. Construction costs, at approx. EUR 30,200 per kilometre for the Bandiagara – Kendié regional road and approx. EUR 76,700 for the Bandiagara – Bankass route, were established through national tender, and appear reasonable considering the remoteness of the area and the resultant high mobilisation costs. These roads have shortened journey times to Kendié and Bankass significantly, so substantial savings in time and money can be assumed for users of these routes.

72 % of the working dams (39 out of 54) opened up additional land for agriculture, averaging 4 hectares each. In view of the wide parameter variations between the structures (number of users, products grown, inputs, usage of motor-driven pumps, etc.) only a simplified, standardised, and approximate economic return was calculated, based on the cultivation of shallots. With three exceptions, the economic return on the dams exceeded the 6 % threshold and were, for the most part, in double digits. This more than compensated for the negative results from the three exceptions, which represented roughly 6 % of the total investment in dam construction (FCFA 815 million, approx. EUR 1.2 million) (rating 2).

#### Overarching developmental impact

Statistics show that, in the programme region, utilisation of health stations was increased and access to education was expanded during the project, indicating improvements in general living conditions. Income growth and improved access to health stations have both resulted in a marked increase in demand for health station services compared to pre-project levels. The number of therapeutic services offered by the health establishments has risen noticeably.

The two regional roads made it possible for the Malian Government to implement the planned investment in primary school education. Six new primary schools were built in the catchment area served by the roads, and as many as 1,000 pupils, half of them girls, have attended school for the first time. One of the main negative effects of the road construction programme that has been identified is the accelerated clearing of firewood from the area. This puts increased pressure on a resource which is already scarce in the region.

Significant structural effects have flowed from this project, supporting the process of decentralisation (deconcentration) which has been gaining ground in Mali since the 1990s: the State, with foreign assistance, finances the basic investment (dams and roads), and devolves operational and maintenance responsibilities to subordinate local bodies (district authorities in the case of the roads) or to user groups (farmers, in the case of the dams). This approach is also used in the water, health and education sectors. The temporary office of the PRBP is integrated into the procedure. Under this strategy, the PRBP implements the investment plans and, at the same time, promotes collective responsibility within user groups and local authorities. It also prepares both these interest groups for the 'post-PRBP' situation. In this respect, the PRBP can serve as a model for future FC projects in the small-scale irrigation sector (rating 2).

## Sustainability

Bandiagara - Kendié and Bandiagara - Bankass regional roads: due to the scarcity of public funds and the continuing lack of clarity over responsibilities between the district authorities on the one hand and the 'Ministère des Travaux Publics' on the other, only basic and sporadic maintenance was evident during ex post evaluation. Although both routes are significant for agriculture and tourism in Dogon Land, there is no evidence of any substantive agreement between the two institutions regarding the allocation of maintenance work. Furthermore, the system of manual roadmending for small-scale maintenance operations, which is favoured by the district authorities and supported by the PRBP, is not workable.

In contrast, we assess the sustainability of the dam construction programme more positively. Extensive use of the dams for vegetable cultivation shows that their significance for income generation is well understood by users, giving them a strong vested interest in their upkeep. The present condition of the dams and the scale of irrigated agriculture suggest a positive outlook for their sustainability. Although at 61 % the collection efficiency of user contributions to dam maintenance is rather low, it is reasonable to assume from this that, in case of need, adequate funds would be made available to resolve any serious problems. This is evidenced by the level of the village communities' contributions to investment costs and by their readiness to provide labour. Other investigations, such as an inquiry into Dogon health care expenditure, have confirmed the potential to mobilise financial contributions from user groups.

The sustainability of the two roads (which represent roughly 46 % of total costs) and the eight dams which are not in service (investment costs EUR 0.2 million, equivalent to approx. 2.1 % of total costs) is not assured. This is only partially compensated by the positive outlook for the sustainability of the dams overall, which have a profound significance for income generation in the area (rating 3).

Having made a balanced overall assessment of the known effects and risks, we rank the project at performance level 2 (good result, fully in line with expectations and without any significant shortcomings).

## General conclusions and recommendations

In those projects or programmes which are targeted at groups working in the productive sector, where the responsibility for operation and maintenance lies exclusively with the target group, time-limited project/programme structures lend themselves to successful execution, as they highlight that responsibility will ultimately lie solely with the beneficiaries. In such cases the exit scenario should be designed at the appraisal stage, and its suitability should be subject to continuous review thereafter throughout the life of the project or programme.

## 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).