Mali – Self-help Fund - Dogon Land Phase III

Ex post evaluation report

OECD sector	31120 - Agricultural development	
BMZ project ID	2003 65 387	
Project executing agency	Ministry of Agriculture *Direction de l'Agriculture*	
Consultant	---	
Year of ex post evaluation	**2010**	
	Project appraisal (planned)	**Ex post evaluation (actual)**
Start of implementation	January 2004	January 2004
Period of implementation	48 months	66 months
Investment costs	EUR 9.25 million	EUR 13.53 million
Counterpart contribution	EUR 0.25 million	EUR 0.83 million
Financing, of which FC funds	EUR 8.0 million	EUR 11.0 million
Other institutions/donors involved	DED -	DED Danish development cooperation
Performance rating	2	
• Relevance	2	
• Effectiveness	2	
• Efficiency	2	
• Overarching developmental impact	2	
• Sustainability	3	

This project aimed to promote social and economic development in Dogonland and to contribute to the fight against poverty. It supported erosion protection measures, the construction and rehabilitation of small-scale dams, and opened up the programme area through the construction of a regional road (approx. 63 km) and village access roads (approx. 280 km). This was achieved by using the potential for self-help that exists within the population and in close cooperation with DED. The primary target groups were the poorer population segments in the Dogon region, including women and children. In addition, the project's approach to development is being transferred to another region in Mali, by virtue of a pilot scheme in Bélédougou. Total costs came to approx. EUR 13.5 million, of which EUR 0.8 million was financed by contributions from the population and the Malian state, EUR 1.7 million through DED services, and EUR 11.0 million by FC.

Brief description, overall objective and project objectives with indicators

The project's overall objective was to contribute to poverty reduction in Dogonland by promoting social and economic development. No indicator was set for the overall objective. The programme objective was defined as the sustainable use of the infrastructure supported through the project, in order to achieve lasting improvements in the population's living conditions. The following indicators were set for the programme objective: (1) improved food supply (supply shortages arising in no more than two months per year from 2006 onward; 80 % of shops/ stalls offer food year-round); (2) greater utilisation of health facilities (an increase by 50 % in the number of patients and pregnant women admitted from 2008 onward); and (3) increased usage of school facilities.

The project's target group was the rural population of the entire Dogonland region, which stands at around 955,000. Improved access to schools, health facilities and markets was of particular benefit to women and children as primary target groups. In the Bélédougou programme region, the target group consists of farming families in the catchment area served by the dams (roughly 11,300 inhabitants).

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

The project comprised the following components:

(1) mobilising and organising the local population, especially with view to appreciation and maintenance of the FC financed facilities;
(2) repairing and upgrading the Kendié-Borko regional road/ RN 16 national highway (originally two roads envisaged);
(3) repairing 243 km of village access roads (planned: 165 km);
(4) the construction of 35 new small-scale dams (planned: 16) and the rehabilitation of a further 15 (planned: 21).

Since the Kokolo–Ningari regional road had meanwhile been taken up by the national highways programme, it was decided to no longer finance that stretch through the project; project funds thus released were deployed to finance a pilot small-scale irrigation scheme in the Bélédougou region, and to cover cost increases on the RN 16/ Kendié-Borko road

Planning for village access roads and dams envisaged substantial contributions by users in financial and material terms; an approach to that end had been developed and proven in previous phases of the programme. The organisation of village Road Committees and Dam Committees was a precondition for investment. Prior to initiating dam construction works, counterpart contributions (roughly 4 % of estimated building costs) had to be deposited. Local inhabitants carried out the construction work themselves, with technical support from specialist project staff. Locally available building materials (sand, stone, laterite and water) were provided by the local population, whilst the cost of other items required – such as steel, cement, basic tools and transport for laterite – were covered out of programme funds. Due to the remarkable self-help capacity in Dogonland, the actual contribution to building costs reached a level of 20 % in dam construction and 17 % in the building of village access roads (excluding planning and supervision costs).

Local maintenance committees are responsible for the upkeep of the dams. Founded before the start of construction works, those committees underwent three to four years' training and supervision under the programme. Users contribute annually to a self-administered fund, which pays for servicing and small repairs. The Road Committees

are responsible for maintaining the village access roads. Most repairs are required at the end of the rainy season, and are carried out by the village communities using their own resources.

Key results of the impact analysis and performance rating

The RN 16 regional road from Kendié to Borko has created improved traffic links between five rural districts, comprising 84 villages with a total population of roughly 47,500. A total of 30 schools (including 6 secondary schools), 4 health posts, 10 markets, 26 small dams and 9 sites of touristic interest can now be reached more easily. The programme's M & E section offers little in the way of reliable data on traffic volumes. However, traffic volumes have doubtlessly risen steeply when compared to the situation before road upgrading. This holds particularly true with motor cycles, which are the predominant mode of transport for people and goods. In addition, the regional road has made travel easier between millet-producing regions and the irrigated areas in Borko, which has led to a significant reduction in journey times (by about three hours) and in transportation costs. Due to those costs savings, revenues for local products (livestock and onions) have risen substantially, whilst prices for goods brought into the region (millet, fabrics etc.) have fallen. According to reports, improved accessibility of the health stations has led to their increased utilisation. Furthermore, another six primary schools were built as part of other interventions in the area, resulting in the additional enrolment of some 1,000 children.

As a result of the 'village access roads' component of the programme, 191 villages with a total population of around 167,000 now benefit from improved connections with the larger regional roads. In consequence, they now have better access to 22 markets, 5 adult literacy centres, 34 schools, 10 health posts and 41 dams. Traffic surveys carried out during 2004 and 2008 in selected villages serviced by access roads provide evidence of a marked increase particularly in the transport of goods. Moreover, several village access roads serve to promote tourism, which is assuming some economic significance in certain villages.

Of the 50 small dams that were new built (35) or rehabilitated (15) under the third phase, a total of 43 were closely monitored with regard to their utilisation. In the framework of the programme's monitoring activities, this was carried out over a minimum period of three years. Results showed that only four out of the 43 dams (9 %) were either not used at all or only to a limited extent, due to inadequate water retention. Apart from one individual dam that was exclusively used for rice cultivation (2 %), 38 dams (88 %) were therefore used at least once a year for vegetable production; and, in 69 % of cases (30 dams), two or more crops were produced. Three crops were achieved in 25 % of cases (11 dams).

In Dogonland, agricultural land use is dominated by market-oriented vegetable production. Shallots still occupy a pre-eminent position; with 80 – 90 % of the total area under cultivation, they offer limited risks in growing and a good shelf life, whilst fetching a continuously high price in the market. The second most important crop is pimento. To date, the areas of land that have been newly developed under the pilot project in Bélédougou have been used roughly half for irrigated rice and half for vegetable production. Furthermore, a rise in the groundwater level has permitted an expansion of dry-field sorghum cultivation. As a general rule, cereals are primarily grown for subsistence purposes, whereas vegetables are predominantly sold at market.

From a microeconomic standpoint, both users and providers of transport services have substantially benefited from a significant reduction in vehicle operating costs (and also

from time saved) on the sections of road repaired under the programme. Given the lack of relevant household surveys, there is no sound methodological basis for causally relating the impact on incomes to either general changes in the price structure (lower prices for 'imported' goods and services, with rising selling prices for locally produced goods), to the improvement in transport links, or to freight costs reductions.

Our assessment of the small dams' overall profitability, carried out during final inspection, generally confirms the positive findings of the ex post evaluation of Phase II. The internal rate of return on the 35 new dams built under the third phase ranged from a minimum of 2 % to a maximum of 47 %. Furthermore, the following effects - both positive and negative - have been observed, but could not be quantified:

(1) easier access to markets for the local population, with increased income opportunities;
(2) improved access to social infrastructure (education and healthcare);
(3) increased pressure on marginal land, due to the expansion of irrigated agriculture, with an increased risk of over-utilisation;
(4) increased firewood extraction (a resource which was already scarce) for local markets, thereby enhancing the risk of soil erosion and desertification.

Extensive erosion protection measures (such as low stone walls) resulted in some limited environmental benefits, allowing to recapture degraded areas for agricultural use. Especially in the Bélédougou pilot area, further benefits may emerge from small-scale dams (e.g. increased groundwater recharge, better water storage), but this cannot be easily measured. As the use of yield-improving inputs (e.g. fertiliser, pesticides) is currently very limited, negative environmental impacts (e.g. from an increased nutrient inflow into the groundwater) can hardly be noticed; similarly, there is little evidence to date of soil salination or waterlogging due to inadequate drainage. The same also holds true for the spread of waterborne diseases.

The applied implementation concept depended heavily on mobilising and developing the contribution from, and collective responsibility within, the target group - in planning and implementation activities as well as in operation and maintenance. In that respect, the project has had great success in tapping and utilising self-help potential that exists within the local population, not least under the 'regional roads' and 'village access roads' components. Lately, this has resulted in structural knock-on effects, with improved target group participation and some movement toward increased decentralisation in rural areas in general.

Compared to other areas of the country, the poverty incidence in the programme region remains high – amounting to over 50 %, according to the latest estimates. As already established in Phase 2, the project's impact in terms of improving gender equality has, in hindsight, been limited and difficult to substantiate.

The greatest sustainability risk identified at the outset was a lack of maintenance of the civil works put in place. This was addressed during implementation by close supervision and training of the Road and Dam Committees, respectively, aiming the target groups' long-term enhanced self-reliance in terms of operation and maintenance responsibilities. This generally included a three-year period of support after infrastructure completion. With regard to regional roads, the timely availability of adequate funds for scheduled maintenance of is still considered a serious risk, as the Ministry of Construction only meets its responsibilities in a haphazard fashion. Community road repair teams, supported by the project to maintain the regional roads, do carry out respective works (admittedly on a minor scale), but are not continuously employed. By contrast,

the risk of inadequate maintenance of dams and village access roads is considerably lower.

Uneven allocation of irrigable land and a lack of target group involvement are risks that have hardly arisen in Dogonland; collaboration in Bélédougou the degree of has generally been less pronounced, requiring greater awareness-raising efforts from the project agency's outreach department. Moreover, the problem of poor marketing, which had already been assessed as a minor concern, has not arisen to date, although many farmers still prefer to sell immediately after the harvest at comparatively low producer prices. Hence higher profits that could be achieved later – through appropriate storage, preparation and marketing – continue to elude them.

In retrospect, the third programme phase can be awarded a high score for relevance (rating: 2). The intervention areas Dogonland and Bélédougou region count amongst the poorest regions in the country: according to the latest estimates, average income poverty stands at 69 % (as against the national average of 59 %). The impact on incomes that was anticipated was justified: promoting the development of agriculture (the population's main source of income) whilst improving traffic infrastructure has served to broaden the income base, enhance marketing opportunities and improve access to basic social infrastructure, most notably in education and health. The programme's objectives conformed to BMZ developmental goals and guidelines as well as to the national poverty reduction strategy, particularly regarding progress toward Millennium Development Goal 1 (eradication of extreme poverty and hunger). Meanwhile, a national small-scale irrigation programme has been conceived, applying key elements of this project at a larger scale, thereby demonstrating its structural impact.

For assessing the project's effectiveness, three indicators have been developed. Due to inadequate data (see above), they could only be assessed in part; however, they are considered, in essence, to be both adequate and appropriate. In summary, the programme's achievements (sustainable improvements in the living conditions of the local population, through the sustainable use of the infrastructure that was financed and built) can be qualified as follows:

With regard to the first indicator, 'the eradication of food shortages and an increase in food supply', studies undertaken along the regional roads have not identified any significant supply shortages; furthermore, they state that, due to improved access, the number of businesses has increased and the supply of basic foodstuffs (as well as of assorted everyday necessities) has stabilised.

With regard to the second indicator, 'greater use of health facilities', no reliable figures are yet available, as the RN16 Kendié-Borko regional road has only recently been completed and relevant surveys will only start from 2010 onward. However, it is reasonable to assume that the improvements observed in earlier programme phases will also become visible on this section. This applies in particular to the accessibility of health care in case of emergencies. In addition, immunisation campaigns in the villages can be now carried out more swiftly and more easily.

Similarly, detailed data for the third indicator, the 'increased use of school facilities', have so far not been collected, and the degree of change against the initial (unrecorded) situation can therefore not be measured satisfactorily. Nevertheless, qualitative data such as survey results and the establishment of additional schools indicate a positive trend. As a result of improved road links, further progress in terms of educational coverage is expected; this is due to the increased appeal of these locations to

teachers, more frequent academic supervision and support through school inspections, and the improved provisioning of school canteens.

In summary, we consider the project's objectives to have been largely achieved, and we therefore rate the project's effectiveness as good (rating: 2).

At around EUR 70,100 per km, specific investment costs for the RN 16 Kendié-Borko regional road were reasonable, considering terrain, location and the project's developmental significance. At an average of around EUR 6,420 per km, specific investment costs for village access road were equally acceptable. Compared with previous programme phases, average specific construction costs for small-scale dams rose significantly (to an average of around EUR 50,000 for new dams and EUR 9,000 for rehabilitation). Due to the open nature of the programme and the heterogeneity of individual locations, precise causes for this cannot be ascertained. Average construction costs for a small dam in Bélédougou, including erosion prevention measures, stood at EUR 182,851 – far above comparable costs in Dogonland. However, when related to the area under irrigation, specific investment costs were lower - measured both per hectare (at around EUR 5,000/ha as against EUR 9,000/ha) and per cubic metre of water dammed (EUR 1.3/m^3 as against EUR 1.7/m^3). This was due to the larger surface covered per dam. In terms of economic return, strict adherence to the 'overall profitability' criterion resulted in an IRR of 20 % or more for almost half of the new dams; and only in 11 % of cases did the rate fall short of 10 %. Due to these positive results and the high to very high utilisation of the overall infrastructure (the regional road, village access roads and small-scale dams), the project's overall efficiency is rated as good (rating: 2).

The project's overarching developmental impact is assessed as good (rating: 2): according to qualitative surveys conducted, the local population particularly highlighted the following improvements, which, to some extent, also indicate structural effects: (1) a decrease in labour migration in pursuit of monetary income; (2) improved access to irrigable areas for women; (3) a rise in the water table, with positive consequences for the availability of drinking water; (4) increased financial autonomy for family members; (5) greater food security; (6) improved crop yields and an increase in the area under cultivation; (7) better water availability (extended over a longer period); and (8) improved employment opportunities, as a result of 2-3 harvests per year. This additional income is being spent primarily on food, but also on clothes, health, schooling, taxes, transport, agricultural resources (e.g. fertilizer) and livestock purchases.

Concerning regional roads, the sustainability risk for the RN 16 Kendié-Borko section remains high to very high (see above) – as with comparable sections under previous programme phases (Bandiagara to Kendié and Bandiagara to Bankass). Prospects for small-scale dams, on the other hand, look much more favourable. Actual maintenance work carried out to date has varied greatly in terms of timing and intensity, which is largely influenced by respective site-specific characteristics and resulting maintenance and repair needs. Admittedly, user committees have so far largely been unable to regularly collect the agreed user fess at the amounts initially defined, leading to reduced collection efficiency[1]. However, experience to date shows that, in cases of immediate need, users are able to mobilise adequate financial resources on short notice.

[1] In terms of economic rationality, the concept of depositing / accumulating user fees - i.e. scarce cash resources - without immediate application and purpose can be questioned under the "real life" conditions prevailing in the project area.

We anticipate that the above structural deficits in terms of providing adequate budgetary funds for roads maintenance will persist over the short to medium term. A workable solution regarding the partition of institutional responsibilities for road maintenance and repair between the communities and the Ministry is expected to at best materialise in the longer run. With view to these ongoing sustainability risks and the significant proportion of the overall volume invested into the roads component, a rating of "satisfactory" (rating 3) is considered appropriate for the sustainability criterion.

In summary, having weighed all the above risks and effects, the project's developmental efficacy is assessed as "good and fully in line with expectations" (rating: 2).

General conclusions and recommendations

Conclusions can be summarised as follows:

1. For projects targeting the productive sector, with operational responsibility resting exclusively with the target group, temporary organisational structures are well suited to project implementation and supervision, since they highlight from the outset that responsibility will ultimately lie solely with the beneficiaries.

2. When setting up temporary organisational structures for project implementation, the exit scenario (following termination of external support) should be designed at project appraisal; and, in addition, its suitability should be subjected to continuous review. Thus, it can be ensured that accompanying services (such as consultancy) can be flexibly adjusted (if necessary, even beyond the pure "investment period"), should the need arise.

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 is very unlikely to improve. 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).