

Namibia: Rehabilitation of the Oshivelo-Oshakati Highway

Ex-post evaluation

OECD sector	21020 / Roads and road traffic	
BMZ project ID	(1) 1996 65 050 Rehabilitation of the Oshivelo-Oshakati Highway	
Project-executing agency	Ministry of Works, Transport and Communication, as of 1999 Roads Authority	
Consultant	AFRICON Namibia Inc.	
Year of ex-post evaluation	2004	
	Project appraisal (planned)	Ex-post evaluation (actual)
Start of implementation	(1) Q 2 1996	Q 4 1996
Period of implementation	30 months	55 months
Investment costs	EUR 14.8 million	EUR 27.5 million
Counterpart contribution	EUR 4.6 million	EUR 12.2 million
Financing, of which Financial Cooperation (FC) funds	EUR 10.2 million	EUR 15.3 million
Other institutions/donors involved	none	none
Performance rating	2	
• Significance/relevance	2	
• Effectiveness	2	
• Efficiency	2	

Brief Description, Overall Objective and Project Purposes with Indicators

The project targeted the cost-efficient handling of road traffic on the highway from Oshivelo to Oshakati (approx. 191 km), which is one of the main highways connecting the rural and densely populated northern region (in particular the Ovambo region) with central Namibia. To achieve this, the project road - which was already asphalted at the time of the project appraisal – was rehabilitated by applying a new layer of asphalt (a wear layer and in some sections also a protective layer) after visible road damages were repaired and various complementary measures were carried out. Of the total cost of NAD 174.5 million (approx. EUR 27.5 million), EUR 15.34 million were funded through a Financial Cooperation (FC) loan and the remainder, through counterpart funds provided by Namibia.

The project purpose was to handle the rising road traffic on the highway between Oshivelo and Oshakati cost-efficiently.

One indicator to measure achievement of the purpose was a reduction in the costs for road users after rehabilitation of the project road with at least the same level of traffic as in 1995. Here, average cost savings of approx. 8% were assumed in the project appraisal report. In an

economic cost-benefit analysis (CBA) carried out for the project appraisal an internal rate of return of at least 10% was assumed for the project.

The overall objective of the project is to contribute to the economic development of the northern region. Owing to difficulties in attributing the impacts, an indicator of achievement of the overall objective was not defined. Conceptually, the definition of the targets is unsatisfactory because the connection between the impacts of the project measures in terms of achieving the overall objective and the required assumptions was not clearly stated, and no measurable, quantifiable indicators were defined to determine these impacts.

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

The project design called for a qualified consultant to assist the project-executing agency with drawing up the detailed planning and the tender documents.

The detailed planning for the rehabilitation of the highway connecting Oshivelo and Oshakati financed through Financial Cooperation (FC) funds was, as described in the project appraisal report, awarded directly to the company Africon Namibia Inc., albeit with a delay of 6 months. During the detailed planning it was noted that the condition of the project road had worsened in the meantime, so that more extensive rehabilitation work was required than had been assumed in the project appraisal. This additional work mainly involved the preservation of the subbases via the recycling approach. Added to this were measures financed through counterpart funds from Namibia (primarily the four-lane expansion of approx. 10 km altogether in an urban zone, the expansion of intersections, the installation of traffic light systems) which, in view of the rapid increase in innercity traffic, made good sense.

Following an international tender, the contract was not awarded until spring 1998 to the consortium of bidders Grinaker and Group Five. The 1-year delay was brought about mainly by the difficult tender and award procedure and the extensive technical studies. Construction work began in March 1998. For the measures planned during the project appraisal the original construction time of 24 months was essentially upheld. As a result of the additional measures financed through Namibian counterpart funds (above all the four-lane expansion of altogether 10 km of the project road in an urban zone) acceptance of the overall measure did not take place until July 2001. Instead of 25 months as originally planned, the period of implementation was in fact 55 months.

The technical quality of the work is good and fully satisfies the technical requirements. Road damage that appeared in 2001 on a section of around 16 km has since been repaired by applying the recycling procedure. The majority of the incurred costs were borne by the construction firm.

During the project appraisal the project-executing agency estimated the total costs (including consulting services) at some NAD 72.5 million (approx. EUR 14.8 million) and the average rehabilitation costs at around NAD 375,000/km (approx. TEUR 77). The actual total costs including the expansions undertaken by the Namibian partners amounted to NAD 174.5 million (EUR 27.5 million). The main causes of the cost increases that incurred were further deteriorations in the condition of the project road which required more extensive rehabilitation measures (among others, reinforcement of the subbase) and the additional expansion measures desired by the Namibian side. The specific rehabilitation costs amounted to approx. TEUR 137/km. These include the costs of the four-lane expansion (some 10 km altogether). Overall, despite the increases the costs are reasonable in national and international comparison.

Key Results of the Impact Analysis and Performance Rating

The results of the applied measures are as follows:

- The entire project road is passable year-round and both sides are equipped with sufficient parking and rest areas. The four-lane expansion in the innercity zone, the

expansion of intersections and installation of traffic lights, markings on the road surface, numerous traffic signs and speed bumps at village entrances and before particularly vulnerable establishments (such as schools) all contributed to road safety. The quality of the construction work on the project road is good. Overall the project measures were appropriate to eliminate the bottlenecks in road transport in the project region that had been identified in the project appraisal.

- The sections of the road that were rehabilitated and those which were expanded to four lanes in the urban zone are part of an important transport corridor connecting the northern region of Namibia with the rest of the country. In addition, this section of the project road has great regional significance because one of its branches is the main road to Angola. Apart from interurban traffic (especially the section from Ondangwa to Oshakati), a high percentage of the traffic is long-distance commercial transport. In case the political and economic situation in Angola becomes more stable, and once the expansion and rehabilitation of the road connecting Ondangwa and Oshikango that are being funded through FC have been completed, it can be assumed that the project road will play an increasingly greater role in cross-border traffic to Angola.
- The project increases the mobility of people and the trade of goods on the regional, national and international level. Apart from (transport) companies, beneficiaries are the people living in the northern region, who now have a better connection to the center and benefit from better offers of goods owing to lower transport times and costs. Especially in urban areas many commercial and crafts enterprises have appeared along the project road. The population living here benefits from the jobs that this has created. The increase in farming activity (cultivation of corn) that can be observed along sections of the project road, the creation of a large market in Oshakati and the existence of at least one corn mill in the Oshakati-Ondangwa region all make it seem plausible that, thanks to the improved transport connection and the resultant better marketability of local agricultural products, agriculture has intensified as well.

As regards achievement of the project purpose, the situation is as follows:

- The goals set forth in the project appraisal pertaining to cost reductions for motor vehicle operation have been achieved. The rehabilitation considerably reduced the motor vehicle costs compared to the pre-project situation. Current figures indicate that the savings amount to around 11% on average.
- On the entire stretch of the rehabilitated road from Oshivelo to Oshakati the average daily traffic (ADT) of approx. 2,280 motor vehicles is some 50% higher than during the project appraisal (1995: 1,500 motor vehicles).
- An indicator to measure achievement of the overall objective was not defined during the project appraisal. The developments that were noted (appearance of commercial and trading areas along the project road, establishment of markets) make it seem plausible that the rehabilitation and the expansion of part of the project road (urban zone) had a positive impact on economic development in the project region. In addition, the population living in the project region benefits from improved passenger transport and better access to key elements of the social infrastructure (hospitals, schools).

At the time of the ex-post evaluation the road was in good condition overall. The maintenance measures that were carried out seem sufficient. According to the Roads Authority one contract to renew the road markings, some of which have nearly disappeared due to heavy traffic in the urban zone, has already been awarded. Corresponding works are being performed. In addition, a private firm is to be assigned to remove sand blown onto the road, which is particularly frequent during the rainy season. The project road is inspected regularly and preventive maintenance measures (repair of potholes and cracks, levelling the shoulders) have been carried out.

Owing to the comparatively good financial status of the project-executing agency as well as to the fact that in the past, financing maintenance was given priority over new construction measures, it is fairly certain that in the future, sufficient funding will be available to ensure adequate maintenance of the project road.

Since the indicator of achievement of the project purpose has been met, the project improved the transport connection between the northern region and the rest of Namibia and, in view of the low level of risk to the sustainable use of the roads, we judge the effectiveness of the project to be satisfactory (rating 2).

Based on conservative assumptions (use of the current data on motor vehicle operating costs provided by the Roads Authority, no consideration of differences the costs of road maintenance, consideration of the increase in autonomous traffic only) the result of the cost-benefit analysis is a satisfactory economic rate of return of 11%, so that the level targeted in the project appraisal was attained. The investment costs for the project were, overall, appropriate. As a result, the production efficiency can be judged to be adequate overall. The relatively high volume of traffic - which is considerably higher than the level expected in the project appraisal – indicates that the use of the roads is adequate (allocation efficiency). Overall we classify the efficiency of the project as satisfactory (rating 2).

The impacts of the project on the socio-economic development of the project region were neither monitored nor registered systematically during implementation. However, there are clear indications that the rehabilitation is having a positive impact on the economic development of the northern region. In the urban zone the areas directly surrounding the project road have attracted commercial, service and production enterprises. There are also indications that better marketing (incl. the establishment of markets) helped intensify agricultural production, which previously had been carried out on a low level (subsistence farming), at least in some parts of the project area. Supply with goods has improved for the population living in the project area. The positive development in passenger transport offers (minibus connections) makes it easier to reach key elements of the social infrastructure such as hospitals and schools. Overall the rehabilitation of the project road helped to improve the living conditions for the local population. Thus, we classify the project's developmental relevance and significance as satisfactory (partial evaluation: rating 2).

In summary, we judge the **developmental effectiveness** of the project to be **satisfactory** (rating 2).

General Conclusions applicable to other Projects

In view of the high self-financing capacity of Namibia's road construction sector and the thus far very rational planning of upgrade projects and new construction projects, a programme-oriented approach in which FC funds flow via the MOF directly into the Roads Fund could be considered for Namibia.

Expanding the project road in order to contribute to regional economic development was defined during the project appraisal as the overall objective. A corresponding chain of effects was not explicitly stated. In future projects the chain of effects to achieve the overall objective should be explicitly stated, and the plausibility of the necessary assumptions (also with regard to the government policy practiced by the partner country) needs to be reviewed intensively. By monitoring the impacts, the effects of the project on regional economic development were to be systematically recorded and analyzed.

Legend

Developmentally successful: Ratings 1 to 3	
Rating 1	Very high or high degree of developmental effectiveness
Rating 2	Satisfactory degree of 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 a project's "developmental effectiveness" and its classification during the final 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.