

**Namibia: Trans-Caprivi Highway III, Rehabilitation of Mururani Gate–Rundu Highway,
Labour-intensive Road Construction II, Rehabilitation of Ondangwa – Oshikango
Highway**

Ex-post Evaluation Report

OECD sector	21020/Road transport	
BMZ project ID	1997 65 900, 1998 66 948, 1999 65 153, 2000 66 126 Sample 2009	
Project executing agency	Road Authority	
Consultant	GAUFF Ingenieure Frankfurt, VKE (NAMIBIA) CONSULTING ENGINEERS INCORPORATED . BURMEISTER & PARTNERS WINDHOEK, AFRICON NAMIBIA CONSULTING ENGINEERS WINDHOEK	
Year of ex-post evaluation report	2009	
	Project appraisal (planned)	Ex-post evaluation (actual)
Start of implementation	Nov. 1998; March 2000; Jan. 2000; Jan. 2002	Jan. 2001; Jan. 2001; Jan. 2000; June 2001
Period of implementation (months)	32/34/39/24	56/57/69/52
Investment costs (EUR million)	18.6/13.14/12.3/8.0	23.0/13.9/8.28/12.33
Counterpart contribution	4.8/6.35/6.05/3.0	14.1/6.2/2.0/7.2
Finance, of which FC funds	8.7/7.5/6.25/5.0	8.9/7.7/6.3/5.1
Other institutions/donors involved		
Performance rating	2	
• Relevance	2	
• Effectiveness	2	
• Efficiency	2	
• Overarching developmental impacts	2	
• Sustainability	3	

Brief Description, Overall Objective and Project Objectives with Indicators

The projects, Trans-Caprivi Highway III and Rehabilitation of Mururani Gate-Rundu Highway, comprised the rehabilitation of two sections measuring 117 km and 142 km of the Caprivi Corridor that connects Zambia with the Walvis Bay seaport in Namibia. They are part of the rehabilitation of the whole road corridor, which was largely carried out by German FC projects. Project costs amounted to EUR 23 million and EUR 13.9 million, of which 39% and 55% were respectively financed from German FC funds.

In the project, Labour-intensive Road Construction II, 111 km of new gravel roads was constructed and 8.5 km of gravel roadway upgraded with asphalt. The construction measures were largely carried out with labour-intensive methods, which generated income opportunities for local, primarily poor, sections of the population. German FC bore 76% of the project costs of EUR 8.3 million. The measures in the project, Rehabilitation of Ondangwa-Oshikango Highway, repaired a 61.4 km-long stretch of road on the Trans-Kunene Corridor to neighbouring Angola. German FC contributed 41% to total finance of EUR 12.3 million.

All projects were carried out in the populous North of Namibia. Although this region has the highest population density in the country, its road infrastructure is still below average, i.e. the mostly poor population are disadvantaged by poor access to markets, schools and health care facilities. Rehabilitated long-distance transport corridors are also of great importance for Namibia's economy and international trade.

The project objective was low-cost programme roads for users and their efficient use in macroeconomic terms and, in the case of the labour-intensive road construction measures, poverty reduction through income generation for poor sections of the population.

The indicators were volume of traffic measured against forecasts for specific stretches, satisfactory upkeep three years after completion of project roads and reduction of user costs. The project for labour-intensive road construction also required all-year-round trafficability on the project roads. The temporary employment of unskilled labour was a secondary objective here, the relevant indicator being the number of man-months during construction work.

Project Design/Major Deviations from Original Planning and Main Causes

Trans-Caprivi Highway III: The project comprised the rehabilitation of 117 km of asphalt-paved roadway in need of repair on a section of the TR8/6 west of Katima Mulilo up to Kongolo, the rehabilitation of a 17 km-long segment of National Highway 8 east of Kwando River up to the main crossroads (junction to the Zambesi Bridge), repair of the existing carriageway on 12.9 km of the first 14.5 km east of Kwando River, rehabilitation of 2 km of the National Highway and 3.3 km of urban roadway in Katima Mulilo. An axle load control station was also erected in Katima Mulilo, as an addition to the network of traffic measuring stations to prevent overloading.

Rehabilitation of Mururani Gate-Rundu Highway: The project rehabilitated 142 km of roadway on the National Highway TR 8 between Mururani Gate and Rundu. Thanks to the favourable financial position as a result of tenders and a strong Namibian dollar, an 11.5 km-long stretch was built in addition to the plans at project appraisal. This section would otherwise have been in need of repair soon after the completion of the measure.

Labour-intensive Road Construction II: Four stretches were built as gravel roads with a total length of 111 km and another stretch of 8.5 km as an asphalt road. The shorter length than planned at project appraisal by approx. 5 km was due to inaccurate planning and adjustments to local conditions, connection to schools, for example. Simpler activities, such as excavation or loading gravel for the base courses were performed with a high labour component, i.e. the population near the construction sites was employed for the works. A particular concern was to afford income opportunities for poorer sections of the population, including a large percentage of women.

Rehabilitation of Ondangwa-Oshikango Highway: A part of the National Highway TR 1 was completely rehabilitated over 43 km and the asphalt surface layer was reinforced and covered with a new asphalt concrete layer on 16.8 km. Asphalt surfacing was also carried out on 15 km and in Oshikango lay-bys and footpaths were constructed on 1.5

km. Finally, crossroads were extended and road markings and road signs replaced. Due to renewed road surface damage during the long construction delays, 43 km of roadway was rehabilitated instead of the 28 km envisaged at project appraisal. The delays arose due to unexpected crack formations in the base course, which had to be repaired beforehand.

Key Results of Impact Analysis and Performance Rating Relevance:

A well-extended, efficient long-distance road grid makes up the backbone of the Namibian economy. The Trans-Caprivi Corridor links the Namibian port of Walvis Bay and the central regions of Namibia with the neighbouring landlocked countries, Zambia, Zimbabwe and Botswana. As the ports in South Africa increasingly approach their capacity limits, the port of Walvis Bay could establish itself as an efficient and attractive alternative. Between 2000 and 2008, cargo transshipment approximately doubled in Walvis Bay and traffic on the Trans-Caprivi Corridor increased accordingly. A fast and low-cost transport connection thus helps to integrate the linked SADC countries, but it also has a beneficial effect on the population in the adjacent northeastern regions and in the Caprivi Strip. The rehabilitated stretch of the Ondangwa-Oshikango Highway on the Trans-Kunene Corridor performs a similar function. It connects the populous northern regions of Namibia with the heartland, but also affords a cost-effective connection between the port of Walvis Bay and Angola. Even after the end of the civil war in Angola and national economic recovery, the Angolan ports still operate at very low capacity. Consumer and capital goods in particular mainly reach Angola today via the port of Walvis Bay and the Trans-Kunene Corridor.

The development of the poor rural regions of Namibia, especially the populous northern regions, is largely hampered by the lack of transport infrastructure (core problem). Trafficable roads throughout the year will make a major improvement in accessibility for the poor regions here. A 2nd phase of this kind of project by KfW in Namibia already comprised labour-intensive road construction on five district roads. A third phase was nearing completion at the time of final inspection and a fourth phase is in preparation. The EU has also largely adopted the methods and techniques developed in the KfW projects and finances this kind of measure as well.

Both the road rehabilitation measures and the project for rural road construction are coordinated with other donors and the partner. The projects also conform with the partner's road sector strategy (Subrating: 2 for all four projects).

Effectiveness: The objective of all four projects was cost-effective and fast transport on the new project roads. The indicators were volume of traffic measured against forecasts for specific stretches, satisfactory upkeep three years after completion of project roads and reduction of user costs. A secondary objective was the temporary employment of unskilled labour, taking as the relevant indicator the number of man-months during construction work.

Data so far, interviews with relevant institutions, such as the Walvis Bay Corridor Group, and the findings of the field mission indicate clear increases in the volume of traffic and good use of the project roads. Most stretches were in good to very good condition and adequate routine maintenance measures were evidently carried out. The local population made large use of the roads.

In the labour-intensive building measures N\$ 3.66 million was paid out to unskilled local workers, corresponding to approximately 155,000 work days. At 41%, the participation of female workers was remarkably high. Additional employment effects were generated at local building contractors, which were involved in various construction contracts. Altogether, the objectives of all four projects can be rated as having been met (Subrating: 2 for all four projects).

Efficiency: The Kongola-Katima Mulilo stretch (Trans-Caprivi Highway III) was constructed for EUR 180,000 per km, the Mururani Gate-Rundu segment for EUR 98,000 per km and the Ondangwa-Oshikango section for EUR 205,000 million per km. Considering the relatively high costs for transporting and processing the building materials and the large rise in the costs of asphalt and diesel due to the high prices in South Africa, these average costs are assessed as moderate. The gravel roads constructed with labour-intensive methods cost EUR 44,000 per km and EUR 149,000 per km for asphalt roadway. Efficient cost management by the RA and the depreciation of the N\$ resulted in cost savings here of about 34% as compared with initial planning.

The data on macroeconomic return attest to a positive and in part even very positive result throughout (Subrating: 2 for all four projects).

Overarching developmental impacts: The three road rehabilitation projects make a major contribution to integrating the SADC countries through unhindered and smooth road transport links. The roads on the Caprivi and Kunene Corridor afford fast and cost-effective access for the densely populated northern regions, the northeastern regions and the slightly more remote Caprivi Strip to the central and western economic regions of Namibia. Although no exact statistical data is available, the field mission noted intensive economic activities in the northern regions near the Angolan border and considerable settlement growth along the Mururani Gate-Rundu segment. The upgraded connection of the Caprivi region reduces transport costs to the region and the supply of goods and services can be expected to have improved, e.g. thanks to cheaper goods prices due to lower transport costs.

The labour-intensive road construction project has provided the population in the catchment area of the new or extended roads all-year trafficable access to schools, health centres, public authorities, local markets and also off-farm jobs. The field mission observed very heavy road use. New administrative buildings and health stations have been built along the roads. Better accessibility will also raise prosperity in the region. This was evident, for example, in the increasing number of houses built with bricks instead of the traditional wood construction (Subrating: 2 for all four projects).

Sustainability: Sustainability pertains here to the functional and financial sustainability of the road sector in general and the RA in particular. Road maintenance is largely financed from the fuel levy, motor vehicle taxes, entry fees for heavy goods traffic and the heavy goods vehicle tax. As revenue, such as from the fuel levy, is not regularly adjusted (e.g. to the rate of inflation) and new sources of income, such as the heavy goods vehicle tax, still do not function properly, there is a certain risk of underfinance for road maintenance.

There are indications that the original goals of the road sector reform have not been fully accomplished yet. Although there are encouraging signs of progress, towards a qualified labour market, for example, some risks for financing road maintenance and the capacity of the RA and the Ministry of Works and Transport (MoWT) remain. This can have a detrimental effect on the adequate, sustainable upkeep of Namibian roadways, which are the backbone of the Namibian transport sector and hence essential for the national economy (Subrating 3 for all four projects).

Performance for all four projects as a whole is thus in keeping with expectations (Rating: 2).

General Conclusions

To ensure sustainable finance, the RF must generate higher and reliable long-term income. In the long run, the RFA, the RA or the MoWT must specify the fuel levy, which must also stand in relation to changing costs in road construction. An effective system

for recording the heavy goods vehicle tax must be implemented as soon as possible. Costs must be curtailed and quality raised on the expenditure side, e.g. by exposing the Roads Contractor Company (RCC) to greater competition and enhancing RA capacity with more experienced engineers.

The sectoral reform implemented at the beginning of 2000 has been consolidated, also with support from German development cooperation. Nevertheless, some plans have not been implemented yet (e.g. privatisation of RCC) and some of the new institutions still suffer from weaknesses (e.g. sectoral capacities at MoWT and RA). The present institutional setup could also be reappraised 10 years after the beginning of reform. It might be worth examining whether an independent RFA is needed to administer the RF or whether this task could be undertaken by the RA. Under certain circumstances, the Motor Vehicle Accident Fund (MVA) or the National Road Safety Council (NRSC) could also be integrated more efficiently into the RA. This could bring about a more sustainable improvement in the currently unsatisfactory road safety conditions in Namibia than with the present independent institutions. Besides road safety, further efforts should be made to expedite the expansion and improvement of the axle load control system to avoid excessive and premature road wear and tear.

List of abbreviations

EU	European Union
EDF	European Development Fund
FC	Financial Cooperation
NRA/RA	National Roads Authority
RF/RFA	Road Fund Administration
SWAP	Sector-wide approach
TC	Technical Cooperation

Notes on the methods used to evaluate project success

Assessment criteria

Projects are evaluated on a six-point scale, the criteria being relevance, effectiveness, overarching developmental impact and sustainability. The ratings are also used to arrive at a final assessment of a project's overall developmental efficacy. The scale is as follows:

Developmentally successful: ratings 1 to 3	
Rating 1	Very good result that clearly exceeds expectations
Rating 2	Good result, fully in line with expectations and without any significant shortcomings
Rating 3	Satisfactory result – project falls short of expectations but the positive results dominate
Developmental failures: ratings 4 to 6	
Rating 4	Unsatisfactory result – significantly below expectations, with negative results dominating despite discernible positive results
Rating 5	Clearly inadequate result - despite some positive partial results, the negative results clearly dominate
Rating 6	The project has no impact or the situation has actually deteriorated

Sustainability is evaluated according to the following four-point scale:

Rating 1	Very good sustainability	The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.
Rating 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.)
Rating 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.
Rating 4	Inadequate sustainability	The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and an improvement that would be strong enough to allow the achievement of positive developmental efficacy is very unlikely to occur. This rating is also assigned if the developmental efficacy that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

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 above focus on the following fundamental questions:

Relevance	Was the development measure applied in accordance with the concept (developmental priority, impact mechanism, coherence, coordination)?
Effectiveness	Is the extent of the achievement of the project objective to date by the development measures – also in accordance with current criteria and state of knowledge – appropriate?
Efficiency	To what extent was the input, measured in terms of the impact achieved, generally justified?
Overarching developmental impact	What outcomes were observed at the time of the ex post evaluation in the political, institutional, socio-economic, socio-cultural and ecological field? What side-effects, which had no direct relation to the achievement of the project objective, can be observed?
Sustainability	To what extent can the positive and negative changes and impacts by the development measure be assessed as durable?