

Kenya: Amala River - Narok Highway

Ex post evaluation report

OECD sector	21020 / Road transport	
BMZ project ID	1992 65 604	
Project executing agency	Ministry of Roads and Public Works	
Consultant	Gauff Ingenieure	
Year of ex post evaluation report	2007	
	Programme appraisal (planned)	Ex post evaluation report (actual)
Start of implementation	2nd quarter 1993	1st quarter 1997
Period of implementation	30 months	46 months
Investment cost	EUR 19.4 million	EUR 32.6 million
Counterpart contribution	EUR 0.8 million	EUR 10.1 million
Financing, of which FC funds	EUR 18.6 million	EUR 22.5 million
Other institutions / donors involved	None	None
Performance rating	2	
• Relevance	2	
• Effectiveness	2	
• Efficiency	2	
• Overarching developmental impact	2	
• Sustainability	3	

Brief description, overall objective and project objectives with indicators

Under the project the gravel and dirt road section of National Highway B3 between Amala River and Narok was paved with a binuminous surface on a stretch of approximately 57 km. The roadbed had to be largely rerouted, which made the project road 17 km shorter than at the outset. The measure created a continuously paved road link from Nairobi through Mai Mahiu and Narok to Sotik in the economically significant Kisii region.

The overall objective of the project was to contribute to maintaining/improving the cost efficiency of the transport system for the economy as a whole. The indicator for the achievement of the overall objective was an adequate macroeconomic rate of return. The overall objective is no longer state of the art for the transport sector as the developmentally relevant impact of the project on the level of the overall objective is based on its contribution to increasing overall economic growth. The proxy indicator of this is a sufficient overall economic rate of return.

The project objective was to ensure that the road will be able to handle the expected transport volume smoothly while keeping vehicle operating costs reasonable. The indicators for measuring the achievement of the project objective were, implicitly, the development of the transport volume and the development of vehicle operating costs.

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

The project consisted in covering the dirt and gravel road on the Amala River - Narok section with a bituminous layer. This section was in poor condition and much of it was prone to flooding as the surface was up to 1 metre lower than the surrounding terrain. As the road was largely rerouted and shortened by 17 km and drainage structures were built, the problem of undercutting was solved.

The road section was generally upgraded as planned at the time of project appraisal. Some changes were made in the detailed planning of the construction measures that followed the project appraisal with regard to the dimensions of the carriageway and the shoulder (total crown width of 10 m instead of 8.5 m) and in the construction of the carriageway and superstructure. In anticipation of the expected transport volume the support layer was made of bitumen (instead of gravel), which makes the road less prone to grooving and thus more durable as redensification is lower.

The project costs deviated substantially. A major cause for the cost increases was the significant valuation of the USD against the DEM given that 66% of the construction costs were due in US dollars according to the construction contract. Another factor was the more extensive layout of the construction measures under the detailed planning. Moreover, the prolongation of the construction period by 15 months caused higher costs for the FC implementation consultant.

Key results of the impact analysis and performance rating

Since project appraisal traffic on the project road has risen noticeably. In 1999 average daily traffic (ADT) on the project road was 169 vehicles. Traffic data collected by the project executing agency showed an ADT of 620 vehicles in 2004, representing an average increase of 10% per annum. Traffic growth has thus been around one third below that forecast at the time of project appraisal. One of the causes is probably the fact that the section of the B 3 from Maai Mahiu to Narok which is connected to the project road section is partly in poor condition and the volume of the diverted traffic is therefore lower than assumed at the time of project appraisal.

The improved transport connection to the project region has noticeably spurred economic activity. For example, a busy bus terminal has been established in the district town of Narok with daily departures of approximately 70 minibuses (each holding 15 passengers) and around 20 larger buses with 40 places. A clear sign that the economy is booming in Narok is the fact that five banks have in the meantime opened branch offices here, whereas not a single bank existed in the Narok district in 1997. Farmers have reported that agricultural production in the project region has increased noticeably. They cite the decline in transport prices from the improved connection as an important factor.

Considerable numbers of families have settled near the project road. The former settlement of Olulunga in the meantime has developed into a medium-sized district town with a busy weekly and livestock market, schools and health post (20 beds). The director reported that the improved transport situation was the main reason for increased patient numbers (around 10 per day in 2000 against 60 today). Thanks to the improved transport situation an ambulance service has been established that takes more severe cases to larger hospitals in Narok or Kisii (travel time to Narok 30 to 45 minutes). It was reported that the project road has positively impacted on the supply of medicine and consumables for the health post; it is now also being more appropriately attended by staff of the Ministry of Health. With Narok and Nairobi now easier to reach (travel time to Nairobi around 5 hours) it is easier to find qualified staff for the health post. A negative consequence of the improved development of the project region is the noticeable

increase in HIV/AIDS infections. This is being attributed mostly to the strong influx of migrant workers during the harvest season.

The condition of the project road is acceptable overall. Minimum maintenance is currently being performed. Periodic maintenance work, particularly the renewal of the pavement, has not yet been performed. In the current fiscal year 2006/07 maintenance expenditure on the project road was KES 1 million, which is significantly less than the level of KES 3.9 million required according to the Road Inventory and Condition Survey Study. The Ministry of Roads and Public Works (MoRPW) is planning to significantly increase the budget for ongoing maintenance on the project road (FY 2007/08: KES 2.24 million; FY 2008/09: KES 2.41 million). In addition, after completion of the project Maai Mahiu - Narok (scheduled for Q2 2009) the pavement of the project road Amala River - Narok is to be renewed as well.

The project did not pursue the goal of improving the environment. As the road section was rerouted the transformation of the environment was greater than it would have been if the existing carriageway had been upgraded. However, as the route is now shorter overall the ongoing impact from vehicle traffic is lower. The project did not pursue the goal of improving the participatory development or governance. It improved people's mobility and made important social infrastructure facilities such as health posts more accessible. It does not appear to hold the potential for advancing gender equality. The project did make a contribution to reducing poverty by promoting economic development in the project region, particularly by improving the development of its agricultural potential and making the locations more attractive, thus encouraging the growth of trade and business in the towns lying along the project road (Narok, Olulanga). It is not directed at a specific target group.

We rate the developmental efficacy of the project as follows:

Relevance: The effect hypothesis that upgrading the section Amala River - Narok of the B 3 Highway would generally improve the transport connection and thus contribute to economic growth by enabling economically more cost-effective transports was generally plausible. The project was appropriately coordinated with the partner's counterpart efforts. We rate the relevance of the project as good (sub-rating 2).

Effectiveness: The product objective was to ensure smooth road operation on the project section while keeping vehicle operation costs reasonable. The indicators for the achievement of the project objectives were the development of the transport volume and savings in vehicle operating costs. The project objective was not fully achieved in this regard because the actual increase in transport volume was lower than forecast at the time of project appraisal. A major cause for this was the section Maai Mahiu - Narok, which was in poor condition and is connected to the project road section. As a result the diverted traffic increased less than assumed at the time of project appraisal although the annual average transport volume increase of 10% since project appraisal is considerable. After completion of the rehabilitation work on the Maai Mahiu - Narok section, which is currently underway, the transport volume on the project road is likely to rise. The savings in vehicle operating costs that were forecast at the time of project appraisal have been achieved. We rate the effectiveness of the project overall as good (sub-rating 2).

Efficiency: The specific investment cost was in the higher range but still reasonable given the higher load-bearing capacity of the road against the original planning (production efficiency). The conservative estimate of the overall economic rate of return of 13% (which only considers vehicle operating costs without considering shorter travel distances of diverted traffic) is higher than the minimum required for the promotion of economic infrastructure projects (6%). Overall, we rate the efficiency of the project as good (sub-rating 2).

Overarching developmental impact: The overall objective of the project was to contribute to increasing economic growth. This objective was in principle realistic. The calculation of the

economic rate of return shows that even if merely the reduced vehicle operating costs are considered the project has achieved substantial savings in transport costs. As there is intense competition in privately organised road transport in Kenya it can be expected that this advantage will be largely passed on to the population. A further important impact that is not or only partially considered in the calculation is the substantial increase in economic activities in the project region which was so profound that five bank branch offices are now operating in Narok. Furthermore, export-oriented farm operations that rely on good transport connections to Nairobi have settled in the region. The improved accessibility of important social infrastructure facilities must be rated positive. The health post in Olulunga shows that there are clear indications of improvements in this area. A negative development was the rise in HIV infections, although it is not directly related to the project (construction workers, for example); rather, the increase has likely been caused by the higher influx of seasonal migrant workers. Overall we rate the overarching developmental impact as good (sub-rating 2),

Sustainability: The road section that has been financed can be expected to have a lifetime of at least 20 years. The main criterion is whether the necessary maintenance measures on the project road will be carried out. Experience in this regard has been positive so far. Ongoing maintenance has been performed to a generally satisfactory extent. The condition of the road after approximately seven years of operation is acceptable overall. However, the funds so far spent on routine maintenance have clearly been below the level required in accordance with the unit costs prescribed by the responsible ministry. One reason for this is the good condition of the road which requires only a little maintenance particularly in the initial period. What must be rated positive is the intention of the MoRPW to renew the pavement of the project road in due time. It will then meet the increased demands when the rehabilitation of the Maai Mahui - Narok section currently underway is completed. A positive rating must be given to the clear increase of funds available for road maintenance overall following introduction of the Kenya Road Board (KRB). The current volume of funds, however, will not be sufficient to finance proper maintenance of existing roads in addition to the considerable rehabilitation needs in the road network overall caused by the backlog of repairs inherited from the past. Despite the relatively limited financial means available in the road sector we assume that, given the great importance of the project road for the regional economic development, the road condition will deteriorate only gradually, if at all, without significant transport problems emerging as a result. We rate the sustainability of the project as satisfactory (sub-rating 3).

In consideration of the sub-criteria mentioned above, we rate the developmental efficacy of the project as good overall (rating 2).

General conclusions and recommendations

The success of this project was essentially due to the fact that the project region had considerable agricultural production potential and is located in relatively close proximity to important national sales markets (Nairobi) or hubs for international goods transshipment. Under these conditions, projects designed to improve transport connections are particularly effective as intervention through the project reduces a very significant obstacle to regional development. In the appraisal of a project the local economic potential should be analysed thoroughly as to whether in light of the specific local conditions it is realistic to assume that the improved transport connection will noticeably invigorate the local economy.

Legend – Notes on the developmental success rating

Projects are evaluated on a six-point scale, the criteria being relevance, effectiveness, “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 result that clearly exceeds expectations
- 2 Good result, fully in line with expectations and without any significant shortcoming
- 3 Satisfactory result – project falls short of expectations but the positive results dominate
- 4 Unsatisfactory result – significantly below expectations, with negative results dominating despite discernible positive results
- 5 Clearly inadequate result – despite some positive partial results, the negative results clearly dominate
- 6 The project has no impact 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 an unsuccessful project.

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 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 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).