

Tanzania: 5 Projects in the Railway Sector in Tanzania

Ex-post evaluation

OECD sector	21030/Rail transport	
BMZ project ID	Project I: (1) 1989 65 295 (fixed-asset investment) (2) 1989 70 097 (complement. measure) Project II: (1) 1990 66 200 (fixed-asset investment) (2) 1990 70 343 (complement. measure) Project III: (1) 1998 66 765 (fixed-asset investment) (2) 1998 70 460 (complement. measure) Project IV: (1) 1994 65 766 (fixed-asset investment) (2) Training measure, 94 135 Project V: (1) 1996 66 579 (fixed-asset investment)	
Project-executing agency	Tanzania Railways Corporation	
Consultant	DE-Consult	
Year of ex-post evaluation	2005	
	Project appraisal (planned)	Ex-post evaluation (actual)
Start of implementation	Project I: (1) 03 / 1989 (1) 03 / 1989 (2) 03 / 1989 (2) 03 / 1989 Project II: (1) 09 / 1990 (1) 02 / 1992 (2) 08 / 1989 (2) 08 / 1989 Project III: (1) 01 / 1999 (1) 01 / 1999 (2) 01 / 1999 (2) 01 / 1999 Project IV: (1) 03 / 1995 (1) 04 / 1995 (2) 11 / 1995 (2) 06 / 1996 Project V: (1) 06 / 1998 (1) 06 / 1998	
Period of implementation	Proj. I: (1) 6 months (1) 45 months (2) 6 months (2) 9 months Proj. II: (1) 22 months (1) 68 months (2) 27 months (2) 76 months Proj. III: (1) 24 months (1) 24 months (2) 24 months (2) 24 months Proj. IV: (1) 42 months (1) 48 months (2) 5 months (2) 26 months Proj. V: (1) 40 months (1) 38 months	
Total cost (in EUR)	Project I: (1) 2.17 million (1) 2.7 million (2) 0.38 million (2) 0.70 million Proj. II: (1) 5.27 million (1) 5.57 million (2) 2.66 million (2) 2.70 million Proj. III: (1) 5.62 million (1) 6.15 million (2) 2.25 million (2) 3.05 million Proj. IV: (1) 6.08 million (1) 6.44 million (2) 0.33 million (2) 0.33 million Proj. V: (1) 7.67 million (1) 6.86 million	

Counterpart contribution	Proj. I: (1) -- (2) -- Proj. II: (1) -- (2) 0.29 Proj. III: (1) 0.50 (2) 0.20 Proj. IV: (1) 0.70 (2) -- Proj. V: (1) 1.03	(1) -- (2) 0.07 (1) -- (2) 0.33 (1) 0.65 (2) 1.01 (1) 1.18 (2) -- (1) 0.49
Financing, of which Financial Cooperation (FC) funds (in EUR million)	Proj. I: (1) 2.17 (2) 0.38 Proj. II: (1) 5.27 (2) 2.66 Proj. III: (1) 5.11 (2) 2.04 Proj. IV: (1) 5.37 (2) 0.33 Proj. V: (1) 6.65	(1) 2.70 (2) 0.63 (1) 5.57 (2) 2.70 (1) 5.50 (2) 2.04 (1) 5.26 * (2) 0.33 (1) 6.37 **
Performance rating	Projects I – V: 3	
• Significance/relevance	Project I – V: 3	
• Effectiveness	Project I – V: 3	
• Efficiency	Project I – V: 4	

* Remaining funds of EUR 0.11 million were utilised in Project III.

** Remaining funds of EUR 0.28 million were utilised in Project III.

Brief Description, Overall Objectives and Project Objectives with Indicators

The remit of Projects I-III was the procurement of spare parts and workshop equipment for the maintenance and repair of locomotives belonging to the Tanzania Railways Corporation (TRC) as well as technical assistance in carrying out maintenance and repair work.

Projects IV and V were tasked with supplying and installing telephone and signal lines for the railtracks Salaam - Morogoro (Project IV) and Morogoro - Dodoma (Project V) and technical assistance in line installation.

The objectives of Projects I to III were concerned with maintaining/increasing the availability and the transport capacity of the project locomotives. Target indicators were a) an availability of at least 70% and b) a monthly running distance of 6,000 km per locomotive.

The objective of Projects IV and V was the sustainable improvement of telecommunications and signal connections between Salaam and Dodoma. Target indicators for these projects were a) a 95% connection rate for telephone calls, b) no operational rail downtimes due to telecommunications failures during the night and the rainy season, c) rectification of malfunctions at locations with Operation Control Offices (OCO) and lines along the track within a day (OCOs) or three days (lines).

The overall objective of Projects I - II was to bring transport capacity up to the required level.

The overall objective of Project III was to improve the short-term capabilities of TRC and its earnings situation until handover of rail operations to a private licensee.

The overall objective of Projects IV and V was the sustainable improvement in the functional operation and safety of trains on the project tracks as a contribution to requisite transport capacity and profitability at TRC.

In hindsight, this set of objectives did not go far enough. By current 'state of the art' standards, the overall objectives should be geared to contributing to economic growth. The indicator for measuring objectives achievement would be an adequate economic return (not ascertained on appraisal) or a curtailment of government subsidies. Where government pursues an adequate pro-poor policy, as we assume for Tanzania by virtue of the national poverty reduction strategy supported by international donors, it is plausible to expect that funds saved will be used for poverty reduction.

Programme Design/Major Deviations from Original Programme Planning and the Main Causes

Projects I - II and IV - V were tied in with the Railways Restructuring Project (RRP) agreed on in 1990 under the leadership of the World Bank and conceived as a comprehensive support programme by the donor community for TRC. The core problem identified for TRC was insufficient earnings and inefficient operation. The objective of the RRP was economic self-reliance for TRC as an operationally efficient and financially independent enterprise in the public sector.

In addition to the German support in locomotive servicing, TRC received assistance under RRP in maintaining the heavy railway locomotives consigned by a Canadian manufacturer. When it became apparent during programme implementation that the government framework was hindering the sustainable attainment of RRP's objectives, the World Bank intended to terminate it. The Tanzanian government, however, was able to avert this by deciding in 1998 in favour of licensing the TRC out to a private operator. The objective of the concession was defined as the economically sustainable development of TRC.

A binding agreement on the licensing purpose was reached in the Interim Capacity Enhancement Programme (ICEP) subsequently initiated by the donors. An initial call to tender in 2002 found no bidders. Another invitation to tender under different conditions (risk guarantee by the World Bank) in 2004 received two tenders with one disqualified by the Tanzanian side (the grounds being non-compliance with the technical and financial requirements). Due to contestation by the disqualified enterprise, the concession has still not been awarded. We expect, however, the contestation to delay execution for a foreseeable period only without thwarting the project altogether.

Project III was intended to make a contribution to the short-term improvement of TRC capacity by supporting locomotive availability until the licence was awarded. As a result of this shift, the support provided in the backstopping measures was geared more to direct support in repair work and less to strengthening corporate capacities in workshop management.

Key Results of Impact Analysis and Performance Rating

The selective upkeep and repair measures for locomotives carried out and the improvements in the telephone and signal lines have made a contribution to bridging TRC's capacity gap where this was due to the frequently obsolescent and technically deficient capital stock. The measures carried out were technically warranted. A core problem of TRC is that it lacks enough available locomotives to raise transport volumes much further. Improving the necessary telecommunication facilities for rail operations has raised transport capacity and improved safety.

The projects have had beneficial impacts on developing transport capacity. With marked fluctuations, the annual volume of goods transport, with transit transport accounting for 30%, rose since project appraisal by approx. 0.9 million tonnes (1989) to as much as 1.4 million tonnes in 2003 and has declined slightly since (2004: 1.3 million tonnes). TRC passenger transport (1.7 million passengers at project appraisal in 1989) has declined considerably (2003: 0.68 million) and is insignificant compared with freight. It only accounts for 10% of TRC's

income and a reduction makes sense in business terms as the fares are partly set by government and fall short of breakeven.

TRC's low performance capacity detracts from the effectiveness of the FC projects. The reasons are the frequently obsolescent and technically deficient capital stock, operational inefficiency, management deficits and considerable government intervention in both management and on the income side (through setting fares in passenger transport). As a consequence, TRC's fixed assets suffer from considerable technical shortcomings. The poor state of the track requires greater maintenance input and in conjunction with servicing deficits and operational errors is the cause of the high rate of accidents, which also significantly affects the locomotives repaired in the projects. With the exception of the track in Projects IV and V, all the other TRC tracks are only equipped with overhead lines for telephone and signalling operation. Their function is impaired by weather, theft and vandalism and they need a lot of maintenance. The average age of TRC's railway locomotives is high at approx. 25 service years. Most of them need a basic overhaul. This cannot, however, be financed by TRC for lack of funds for maintenance and repair.

TRC's finances are precarious. It has been making increasing losses since 2001. Despite a high volume of transport, TRC recorded an annual loss in 2003 of approx. TZS 11 billion with income at approx. TZS 63.1 billion (about EUR 52.6 million). It does not earn enough to cover depreciation. Since TRC lacks the requisite funds to maintain its facilities, its operational efficiency is likely to deteriorate further unless a concession is successfully organized in the foreseeable future.

The assessment of the sustainable effectiveness of the FC projects is largely contingent on the progress made in the licensing process initiated by the government. On the one hand - as the case of the railway in Cameroon shows - granting a licence can be expected to raise TRC's efficiency by a considerable margin as the management will receive appropriate incentives and the rigid state controls in personnel and organization will be lifted. Of importance also is that a private licensee is compensated by appropriate state subsidies for transport services provided at prices under cost for reasons of social policy. Under a concession, however, the licensee can largely set the remaining transport prices and decide on its range of services for commercial purposes free of government influence. A major consideration in the Tanzanian case is that a private licensee can expect to receive considerable funds pledged by the World Bank to support the railway provided a concession is awarded. US\$ 33 million is earmarked for stretches of track in urgent need of rehabilitation and a partial risk guarantee worth more than US\$ 40 million is available for procuring spare parts for rolling stock. These funds are sufficient for a licensee to finance a large part of TRC's urgent investment needs.

We assess the developmental efficacy of the projects as follows:

- As to maintaining or increasing the availability rates of the project locomotives, the original objectives of Projects I-II have been reached. The aim of maintaining or raising the availability rates of the project locomotives in Project III has been achieved as most availability rates currently exceed the target level at project appraisal (except for heavy locomotives). Measured against the target indicators, the objectives of the telecommunications Projects IV and V have been met. For lack of TRC funds for repair and maintenance, the projects currently face considerable sustainability risks, which are more acute for the locomotive than the telecommunications projects due to the larger spare parts requirements. We expect TRC to be licensed out, although further delays are possible. In our estimate, the combination of efficient and privately organized carrier capacities and significant financial support by donors reduces the sustainability risk to an acceptable level. We gauge the developmental **effectiveness** of Projects I-V as sufficient overall (**Subrating 3**).
- The projects were generally well suited for contributing to sustaining TRC's transport

services, directly through improving the servicing of the locomotive fleet and telecommunications transmission on the project tracks and indirectly through the resultant shorter train downtimes. Within certain limitations - the locomotive accidents have detracted from the beneficial results on availability of Projects I - III - the overall objectives have been generally met. In line with the revised overall objective, the projects were supposed to make a contribution to economic growth with objective achievement to be measured by the indicator of reduced subsidy requirements. In view of the transport volumes and distances typical for Tanzanian goods traffic, rail transport can be more economical than the alternative road haulage. However, due to the current operational inefficiencies largely as a result of TRC's structural problems as a government operator, full use cannot be made of the economic advantages afforded by rail transport (relevance). As to significance measured by the indicator for subsidy requirements, the projects have addressed relevant bottlenecks, but the economic position of TRC has not basically improved and its subsidy requirements are high. In the medium term, though, the business viability of TRC can be expected to improve considerably after the concession is awarded. Accounting for this aspect, we assess the **significance and relevance** of the projects as sufficient (**Subrating 3**).

- The servicing support by Projects I-III was provided for altogether 39 locomotives, some of which had to be repeatedly repaired owing to the high accident rate. This increased the time and cost inputs of the projects without having an adequate effect on the number of available locomotives. So even at reasonable specific repair costs, the costs of maintaining the availability of the relevant locomotives were high. We judge the specific investment costs and production efficiency of the telephone installations as adequate. In our view, the current allocative efficiency of all the projects is inadequate since TRC is unable to recover costs from fares. We have to bear in mind here that TRC does not receive sufficient compensation payments from the government for fares in passenger transport, which are kept low for policy reasons. Altogether, we assess the **efficiency** of the projects as slightly insufficient (**Subrating 4**).

Altogether, based on the key criteria cited, we judge the developmental efficacy of all the projects to be sufficient (**Rating 3**).

The projects did not cater for gender aspects, direct poverty reduction, environmental protection or improving governance. No impacts have been achieved in these areas. While the project measures themselves have little environmental impact, the transport of goods by rail, also using diesel traction, produces less CO₂ than alternative road haulage.

General Conclusions and Recommendations

Unlike road transport, railways make up a closely networked system, as the TRC case shows. At present, TRC is a 'typical' railway company as it is responsible for the railtracks and their ancillary facilities (sets of signals, overhead lines, etc.), the rolling stock and the actual operation of the railway. TRC illustrates how structural weaknesses in railway companies are often the result of an adverse legal and institutional framework. As state-owned enterprises, they are exposed to considerable political influence in fare pricing, investment, personnel and management and are subject to the frequently rigid and inefficient regulations of the public sector (lack of sanction mechanisms, insufficient incentives). These factors are detrimental to the efficiency of railways as a provider of transport services and their competitive position compared with road transport. Technical deficits, as currently seen in TRC, are largely due to these structural problems. In FC, finance for technical measures in the rail sector should therefore be closely linked with possible structural reforms in the corporate setup. Promising experience has been gained in this area, where closely coordinated donors in collaboration with a sufficiently pro-reform government policy in the recipient country have been able to license government railways out to efficient private operators.

In locomotive servicing projects, more attention should be paid to the causes of a possible

increase in the frequency of accidents when analyzing the problems. An economic assessment could also consider the option of taking measures to remedy the causes of accidents.

Legende

Developmentally successful: Ratings 1 to 3	
Rating 1	Very high or high degree of developmental efficacy
Rating 2	Satisfactory developmental efficacy
Rating 3	Overall sufficient degree of developmental efficacy
Developmental failures: Ratings 4 to 6	
Rating 4	Overall slightly insufficient degree of developmental efficacy
Rating 5	Clearly insufficient degree of developmental efficacy
Rating 6	The project is a total failure

Criteria for Evaluating Project Success

The evaluation of the developmental efficacy of a project and its classification during the ex-post 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, organisational and/or technical support has come to an end.