FINANCING ROADS IN THE UNITED REPUBLIC OF TANZANIA: CHALLENGES AND STRATEGIES

J.O. Haule*

ABSTRACT

Available funds for road maintenance in the United Republic of Tanzania declined so much over the years that by 1990 only 15 per cent of trunk roads and 10 per cent of rural roads were in good condition. To reverse the situation, the road sector has undergone reforms with far-reaching effects. As a part of this reform process, the Roads Fund and the Roads Fund Board were established by an act passed by the Parliament in 1998. The main functions of the Roads Fund Board are to collect and disburse funds and to monitor its utilization by roads agencies. The Board has made a number of achievements, including an increase in revenue collection, allocating 100 per cent of the maintenance budget based on available funds and ensuring a stable and regular flow of funds. The experience of operating the fund is the subject of discussion of this article.

BACKGROUND

The United Republic of Tanzania has a road network of approximately 85,000 km. This includes trunk, regional, district, feeder and urban roads, about 5 per cent of which are paved (table 1). The road asset value, including bridges, is estimated to be US$ 2.6 billion. Comparative road asset values in some neighbouring countries are provided in table 2.

It can be seen that road assets form a major part of each country's wealth. In the case of Ghana and Malawi, the value approaches that of their annual GDP. It is prudent therefore to have in place adequate financial and managerial capacities to maintain this important asset in a sustainable manner.

Until the 1970s, the Tanzanian economy performed well, with both agriculture and industry growing at moderate rates. Road maintenance was well managed and available resources were adequate for this purpose. In 1968,

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for instance, funds were allocated for road maintenance at the rate of US$ 800 per kilometre for bitumen roads. For engineered gravel and earthen roads, the allocations per kilometre were US$ 400 and US$ 230, respectively. By the early 1980s, the gap between public expenditure and aggregate supply widened. The current account deficit was about 15 per cent of GDP, inflation was about 30 per cent and the currency was substantially overvalued.

With those difficulties, the level of public expenditure allocated for road maintenance declined to such a low level that by 1990 only about 15 per cent of trunk and 10 per cent of local government roads were in good condition. To address this problem, there have been ongoing reforms in the road sector since 1998, with far-reaching effects. As a part of this reform process, the Government established the Roads Fund and the Roads Fund Board under an act passed by the Parliament. The Government also established the Tanzania National Roads Agency (TANROADS) with the responsibility of managing the trunk and regional roads on the mainland.

### Table 1. Road length in the United Republic of Tanzania by category

<table>
<thead>
<tr>
<th>Category</th>
<th>Paved (km)</th>
<th>Unpaved (km)</th>
<th>Total (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trunk roads</td>
<td>3 830</td>
<td>6 470</td>
<td>10 300</td>
</tr>
<tr>
<td>Regional roads</td>
<td>100</td>
<td>24 600</td>
<td>24 700</td>
</tr>
<tr>
<td>District roads</td>
<td>30</td>
<td>19 970</td>
<td>20 000</td>
</tr>
<tr>
<td>Feeder roads</td>
<td>0</td>
<td>27 550</td>
<td>27 550</td>
</tr>
<tr>
<td>Urban roads</td>
<td>470</td>
<td>1 980</td>
<td>2 450</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4 430</strong></td>
<td><strong>80 570</strong></td>
<td><strong>85 000</strong></td>
</tr>
</tbody>
</table>


### Table 2. Comparative road asset values and other related statistics (2003)

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (millions)</th>
<th>Roads (thousand kms)</th>
<th>Surface area (thousand sq kms)</th>
<th>GDP (US$ billions)</th>
<th>Road fund revenue (US$ millions)</th>
<th>Road asset value (US$ billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>21</td>
<td>49</td>
<td>238</td>
<td>6.2</td>
<td>75</td>
<td>4.6</td>
</tr>
<tr>
<td>Malawi</td>
<td>12</td>
<td>16</td>
<td>118</td>
<td>1.9</td>
<td>15</td>
<td>1.5</td>
</tr>
<tr>
<td>Tanzania (United Republic of)</td>
<td>36</td>
<td>80</td>
<td>945</td>
<td>9.9</td>
<td>60</td>
<td>2.6</td>
</tr>
</tbody>
</table>

The envisaged reforms helped to address many of the institutional problems, namely inadequate funding for road maintenance, cumbersome administrative and procurement procedures and unmotivated staff. These problems in the past led to considerable project delays, cost overruns, backlog of maintenance works and loss of confidence from road users as well as donors.

Roads have a direct impact on the welfare of the rural poor. The process of poverty reduction is embedded in a broad range of socio-economic activities to which roads and services provide intermediate inputs (Gannon and Liu 1997). It has been shown by a study in the United Republic of Tanzania that there is a marked decline in the income of households living at a distance of more than 5 km from a good road. It is important to note that the distance to the nearest good road also provides a measure of national physical integration. The further the household lies from a good road, the less likely it would be to have access to markets or other economic and social facilities and opportunities. Isolation is a key indicator of poverty.

Poor roads and the resultant inability to transport people and goods, limit the facilitating role of transport in both production and consumption activities. The link and impact lie in the fact that improved transportation leads to improved accessibility to economic and social opportunities by reducing transport costs. It also ensures increased agricultural productivity, opens up room for participation in non-agricultural activities through time saving, improves accessibility to education and health services, and it links rural communities to the rest of the economy. Maintenance works in rural areas have proven to be an important source of income and distribution of wealth. In the case of urban areas, the quality of transportation and other types of infrastructure appear to play a significant role in reducing inflation, because transportation costs have been found to be a significant component in the total cost of foodstuffs, affecting the survival of urban dwellers.

The United Republic of Tanzania’s vision 2025, envisages an economic transformation that will enable it to move from the status of least developed country to a medium income country. In the process, the transport sector is expected to develop an extensive road network that is well maintained and serves all parts of the country as well as neighbouring countries.

This paper discusses achievements made by the Tanzania Roads Fund Board and the challenges that it is currently facing. In addition, it presents strategies adopted by the Fund and possible solutions to these challenges.
I. THE ROADS FUND BOARD

The Roads Fund and the Roads Fund Board were established under the Roads Toll (Amendment) No. 2 Act of 1998. The Board, with members drawn from the public and private sectors and assisted by a small secretariat, oversees the management of the Roads Fund established under the Act. The Fund generates its resources from a number of sources designated by the Act, which are discussed in the next section.

The vision of the Board is to improve the well-being of Tanzanians through the use of a road network maintained to a level comparable to leading countries in the Southern Africa Development Community region. Its mission is to ensure an adequate and stable flow of funds to implementing agencies and monitor the funds utilization for sustainable road maintenance.

Composition of the Board

The nine members of the Roads Fund Board have tenure of three years. The composition of the Board is as follows:

1. Chairperson
2. Permanent Secretary, Ministry of Works
3. Permanent Secretary, Ministry of Finance
4. Permanent Secretary, President’s Office, Regional Administration and Local Government
5. A senior civil servant; Director of Electrical and Mechanical Division, Ministry of Works
6. A representative of the United Republic of Tanzania Truck Owners’ Association
7. A representative of the Confederation of Cooperatives
8. A representative of the Association of Tour Operators
9. A representative of the Roads Association

The Chairperson of the Board is appointed by the President. The members of the RFB are also members of the Ministerial Advisory Board for TANROADS and the Permanent Secretary, Ministry of Works is the chairperson of this advisory board. The chairperson of RFB serves as an ordinary member.
The Board has a small secretariat with a staff of 10. They include the roads fund manager, the roads fund accountant, two planning and monitoring engineers, the internal auditor, accounts assistant, two office management secretaries, one office attendant cum registry clerk and the office messenger cum driver.

**Functions of the Board**

The main functions of the Board as provided in the Roads Toll Act are:

- To advise the roads Minister on new sources of road tolls, on adjustment of existing toll rates and on regulations for the collection of road tolls;
- To set procedures for the collection of road tolls by agents;
- To develop and periodically review the formula for the allocation and disbursement of funds to agencies and advise the roads Minister accordingly;
- To make recommendations to the roads Minister regarding the allocation of funds to TANROADS, local authorities and other road agencies and disburse funds to them;
- To monitor the use of the funds disbursed to road agencies;
- To appoint the road fund manager and road fund accountant;
- To appoint an auditor or auditors to carry out audits of the Fund;
- To make other recommendations to the roads Minister it considers necessary.

In addition, the Act requires the Roads Fund Board:

- To enter into performance agreements with the Chief Executive of TANROADS or other agencies to which money from the fund is disbursed;
- To submit an annual report to the roads Minister on its own activities and on organizations to which money was disbursed.
II. OPERATION AND MANAGEMENT OF THE ROADS FUND

A. Source of funds for road maintenance

The sources of funding for the Roads Fund are: fuel levies, transit charges, overloading fees and heavy vehicle licence fees. The first two sources are collected by the Tanzania Revenue Authority, the third by TANROADS and the last by the Central Transport Licensing Authority. Collections for the financial year 2003-2004 are shown in table 3.

<table>
<thead>
<tr>
<th>Source of roads funds</th>
<th>Amount (TSh)</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel levy</td>
<td>64 113 252 331</td>
<td>95.2</td>
</tr>
<tr>
<td>Transit charges(^a)</td>
<td>1 406 335 567</td>
<td>2.1</td>
</tr>
<tr>
<td>Overloading fees</td>
<td>1 634 434 164</td>
<td>2.4</td>
</tr>
<tr>
<td>Heavy vehicle licence fees(^b)</td>
<td>188 239 500</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>67 342 261 562</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

*Source: Roads Fund Board Secretariat, February 2005.*

*Notes:*

\(^a\) Transit charges are charges paid by all cargo vehicles entering the United Republic of Tanzania from neighbouring countries. The charges are per kilometre and are collected by the Tanzania Revenue Authority at the border posts.

\(^b\) The heavy vehicle licence fee was abolished effective 1 July 2005.

The Board followed up with the Ministry of Finance on untransferred road funds for 1999-2000. As a result, a total of 2,866,801,063 Tanzanian shillings (TSh) from fuel levy collections had reverted to the Fund by June 2000. TRA started depositing the fees in March 2000 and TANROADS started depositing overloading fines starting in November 2000. These have led to increased funding for rural roads.

B. Funds for road maintenance

There has been an increased levels of funding since the Roads Fund was first established in 1991. Table 4 shows revenue collections since 1991 and its distribution to various road agencies in the United Republic of Tanzania, namely the Ministry of Works, TANROADS and the President’s Office of Regional Administration and Local Government (PORALG).
Table 4 indicates that there has been a significant increase in road fund revenues after RFB started its operations in 2000-01. Annual collections increased from 3 per cent per year before the Board was established to 20 per cent after its establishment.

<table>
<thead>
<tr>
<th>Year</th>
<th>Collection</th>
<th>MOW*</th>
<th>PORALG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>3 742</td>
<td>2 464</td>
<td>616</td>
</tr>
<tr>
<td>1992-93</td>
<td>6 841</td>
<td>5 337</td>
<td>1 334</td>
</tr>
<tr>
<td>1993-94</td>
<td>14 272</td>
<td>8 515</td>
<td>2 317</td>
</tr>
<tr>
<td>1994-95</td>
<td>21 199</td>
<td>16 266</td>
<td>3 797</td>
</tr>
<tr>
<td>1995-96</td>
<td>28 308</td>
<td>16 000</td>
<td>4 000</td>
</tr>
<tr>
<td>1996-97</td>
<td>25 399</td>
<td>15 998</td>
<td>3 450</td>
</tr>
<tr>
<td>1997-98</td>
<td>33 745</td>
<td>15 000</td>
<td>2 600</td>
</tr>
<tr>
<td>1998-99</td>
<td>38 365</td>
<td>29 819</td>
<td>12 779</td>
</tr>
<tr>
<td>1999-00</td>
<td>39 392</td>
<td>25 639</td>
<td>10 468</td>
</tr>
<tr>
<td>2000-01</td>
<td>47 252</td>
<td>29 184</td>
<td>10 847</td>
</tr>
<tr>
<td>2001-02</td>
<td>52 881</td>
<td>35 498</td>
<td>15 240</td>
</tr>
<tr>
<td>2002/2003</td>
<td>59 390</td>
<td>46 772</td>
<td>19 302</td>
</tr>
<tr>
<td>2003-04</td>
<td>67 342</td>
<td>45 364</td>
<td>19 146</td>
</tr>
<tr>
<td>2004-05 (estimates)</td>
<td>73 414</td>
<td>51 610</td>
<td>21 804</td>
</tr>
</tbody>
</table>


Note: * = Includes allocations to TANROADS and the Roads Fund Board since 2000-01.

C. Allocation of funds

The flow of funds and their distribution are depicted in figure 1. The road fund disbursement criteria since financial year 2000-01 are as follows. After deducting the expenses of the Roads Fund Board, 63 per cent of the remaining balance is disbursed to TANROADS and 30 per cent to PORALG. The remaining 7 per cent is disbursed to the Ministry of Works for development projects. The disbursement formula was not fully complied with in the years before RFB was established. However, since the establishment of RFB, the distribution formula has been fully complied with.

The Ministry of Works is the custodian of trunk and regional roads. TANROADS is the agency under the Ministry that manages these roads, while the Ministry manages development projects. However, in the near future,
Responsibility for development projects will be transferred to TANROADS, allowing the Ministry to revert to a regulatory and policy-setting body. PORALG on the other hand, is responsible for managing the district, feeder and urban roads through the local authorities or councils.

D. Planning and budgeting

Every year, the Roads Fund Board provides annual budget estimates to the implementing agencies. The implementing agencies then prepare and submit their annual work programmes and budget proposals to the Board for approval. After examination the proposals are sent to Parliament for approval. Subsequently, the Board enters into performance agreements with the concerned implementing agencies and disburse funds according to the agreements.

In the past, only a part of the required budget for road maintenance could be made available. The situation has completely changed in the new road maintenance finance regime. Table 5 provides budgets and actual disbursement figures for recent years. From the table, it can be seen that the
maintenance budgets for the implementing agencies are now fully met, allocations have significantly increased and, unlike in the past, a stable flow of funds has been ensured.

It should be noted that the disbursement figures for MOW/TANROADS in table 5 differ from those in table 4. This is because the figures in table 5 show only maintenance allocations to TANROADS while those in table 4 also include allocations to MOW for development projects and to the Roads Fund Board for its operating costs.

Table 5. Budgets of major road sector service providers versus actual allocations

<table>
<thead>
<tr>
<th>Year</th>
<th>Ministry of Works/TANROADS</th>
<th>PMO/PORALG</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Budget(^a)</td>
<td>Actual Disbursement(^a)</td>
</tr>
<tr>
<td>1997-98</td>
<td>19 971</td>
<td>11 419</td>
</tr>
<tr>
<td>1998-99</td>
<td>27 560</td>
<td>24 609</td>
</tr>
<tr>
<td>1999-00</td>
<td>25 500</td>
<td>21 985</td>
</tr>
<tr>
<td>2000-01</td>
<td>25 765</td>
<td>25 632</td>
</tr>
<tr>
<td>2001-02</td>
<td>31 390</td>
<td>31 390</td>
</tr>
<tr>
<td>2002-03</td>
<td>40 155</td>
<td>40 155</td>
</tr>
<tr>
<td>2003-04</td>
<td>40 206</td>
<td>40 206</td>
</tr>
</tbody>
</table>

Source: Roads Fund Board Secretariat.

Notes: (1) The last disbursement for PORALG in FY 2000-01 was received in June 2001 but disbursed in July 2001 because of delay in getting fund allocation to local authorities from PORALG headquarters.

(2) Information could not be obtained for PORALG budgets for years 1997-98 and 1998-99.

\(^a\) In millions of Tanzanian Shillings

\(^b\) Per cent of budget actually allocated to the service providers

E. Management of the fund

The Board has put in place a small secretariat, which handles the day-to-day activities of the Board. The secretariat is highly efficient. It uses a modern financial management system known as EPICOR which was adopted by the Government for its institutions. EPICOR is a computerized accounting system that facilitates timely preparation of financial statements, quarterly expenditure and income reports; and similar documents. The Board has worked out procedures and systems for managing the funds. These include
interim financial regulations, interim staff regulations, fund disbursement procedures and monitoring procedures. These measures have improved accountability and efficiency in the utilization of funds.

The Board has also streamlined procedures for the collection and disbursement of funds by opening special accounts with a commercial bank (CRDB). Funds to local authorities are now sent directly to their respective accounts by telegraphic transfer. In the past, cheques had to be collected from PORALG headquarters in the town of Dodoma and it was necessary to wait for 28 days for the cheques to clear. Thanks to the new arrangement, funds now arrive at the local authority’s account on time and payments can be made without delays.

F. Performance agreements with implementing agencies

Performance agreements with implementing agencies have been improved by incorporating several new clauses and including more easily measurable performance indicators in the agreements. Examples of indicators used in the performance agreements are:

(a) Grass height not more than 50 cm;
(b) Potholes patched within 48 hours on paved roads in good condition;
(c) Clean and reflective road signs visible at 40 m;
(d) All roads in good condition in the maintenance plans;
(e) At least 25 per cent of contracts for labour-based activities given to women;
(f) All routine maintenance works awarded to local contractors;
(g) At least 20 per cent of periodic maintenance contracts awarded to local contractors;
(h) At least 80 per cent of works outsourced.

The Board has also included an article in the performance agreement addressing such policy issues as:

(a) Prioritizing gender issues, especially the employment of women in the road sector;
(b) Providing employment opportunities for local people;
(c) Using labour-based technologies;
(d) Ensuring minimal environmental degradation, including restoring borrow pits;
(e) Increasing outsourcing of works and services;
(f) Implementing awareness campaigns about HIV/AIDS.

Regarding gender issues, the results so far are promising, with women benefiting from road works activities. In Mwanza, for instance, equal wages of TSh 1,200 per day were paid for men and women performing piecework. The women stated that this income was essential for them to meet family needs. Some women provided other income earning services for road workers, such as selling food, soft drinks and local beer. Women spent their wages on their families, especially children.

**G. Monitoring**

Financial audits have assisted in ensuring that roads funds were properly collected, disbursed and utilized by the concerned agencies. Technical audits have ensured that maximum value is gained from money utilized on maintenance works. As a result of monitoring visits by the Board and its secretariat, the performance and accountability of the implementing agencies have improved considerably. The following are few examples:

(a) During visits in 2000 it was noted that many local authorities had insufficient qualified staff, especially engineers. The Board requested that PORALG address this issue. As a result many engineers have been employed;

(b) It was noted that many local authority engineering offices lacked work supervision vehicles. This resulted in poorly conducted road condition surveys, complicating the preparation of designs, tender documents, annual work programmes and budgets. To address this problem, the Board has allocated TSh 1,220 million in 2004-05 to buy supervision vehicles. Procurement is expected to take place in three phases starting in 2004-05;

(c) Inadequacies in the process of procuring contractors were observed in many local authorities. Improper filing of records and account keeping and deficiencies in managing contracts were also observed. The local authorities were advised in these matters and improvements have been noticed;
(d) It was observed that many local authorities were diverting funds for unauthorized activities. The Board, in collaboration with PORALG, withheld subsequent allocations to them until the money was recovered. The problem is now far less pronounced.

H. Stakeholder involvement

The Board organized two stakeholders’ meetings, in May 2000 and August 2001. One of the issues addressed in the first meeting was stakeholders’ awareness concerning the role of roads in economic and social development. This was an attempt to revive concerns about the losses to the economy incurred from bad roads. The meeting was opened by the President of the United Republic of Tanzania. The second meeting was meant to solicit views from stakeholders on the widening of the road fund base. Stakeholder involvement in decision-making has helped to address issues related to financing and management of rural roads. In the past, such forums did not exist.

The Board launched the Road User magazine as a forum for exchanging views with road users. Through the magazine, road users can be informed about road fund collections, disbursements and work in progress. It is hoped that this will bolster public support and confidence in road maintenance activities. Four issues of the magazine have been released so far.

The Board publishes the release of funds to implementing agencies in newspapers such as the Guardian, the Daily News, and the Uhuru on a quarterly basis. Information regarding allocations to rural roads can easily be followed up by stakeholders, particularly stakeholders living in rural areas.

III. EFFECTS OF IMPROVED ROAD MAINTENANCE

Road conditions have visibly improved owing to increased maintenance activities. For example, the percentage of roads in good condition under local authorities has increased from a mere 8.7 per cent in 2001-2002 to 25 per cent in 2003-2004. Many important rural roads that were impassable during the rainy season are now passable throughout the year. The improvement in road conditions has significantly reduced travel time and cost. Table 6 provides examples of such travel time and cost reductions.

Significant reductions in travel time and cost have greatly helped the rural economy by improving market access for agricultural produce and generating new economic activities. Farmers received better prices for their
crops after roads were improved. For example, in Ludewa and Songea districts, the selling price of 100 kilograms of maize increased from between TSh 3,500-4,000 to 20,000. Previously, fish sold at Songea (a town located in the south of the United Republic of Tanzania) came from Mtera Dam, located 450 km away. However, with the improvement in road conditions, fish is now marketed from Mbambabay and Lituhi, which are located at a much closer 170 km and 120 km respectively. Previously fish could not be transported from Mbambabay and Lituhi because roads leading to these areas were not serviceable.

Road maintenance also contributed to an increase in the income of rural people. A study conducted on the Msalabani-Tawa road in the Morogoro district of the Morogoro region found that villagers who participated in labour-based road projects were earning a daily wage of TShs 1,200 for a period of not less than 7 months a year (K & Associates, 2004). This forms a significant off-farm cash income for participating rural people and is used to meet some of their basic needs.

### IV. CHALLENGES

There are, however, a number of challenges faced by the Roads Fund Board. Its efficacy in the future may depend much on satisfactory resolution of many of these issues. Considering their importance, these issues are discussed next.

**Road inventory and condition survey**

In the absence of a detailed inventory of the current road network conditions, any assessment of road maintenance needs becomes largely
a theoretical exercise and may lead to the preparation of questionable and ineffective work programmes. Lack of a detailed inventory also complicates the task of determining the amount of road user charges and the development of an equitable formula for the allocation of funds to road agencies and their distribution between local authorities.

TANROADS has carried out an inventory of their road network. Available data from the survey indicate that the network is comprised of 9,934 km of trunk and 18,957 km of regional roads. The information collected is being verified to allay suspicions that part the network has been left out. Another study is being conducted to ascertain the conditions of the network administered by PORALG. Information from this study is expected to be available soon. In addition to accurate inventories, further work needs to be undertaken relating to traffic information systems including an assessment of road signage and safety conditions.

**Inadequacy of funds to maintain the entire road network**

The estimated total asset value of the country’s road network is about US$ 2.6 billion. Table 7 provides more details of the estimated asset values by type and condition of roads. The current allocation for road maintenance from the Roads Fund is about US$ 71 million per year, which is about 2.8 per cent of the asset value. This level of allocation is on par with the ECLAC recommendation of 2.5 to 3.5 per cent (Andreski 2005).

However, a detailed study carried out in 2001 indicates that the required maintenance funding for the entire network is about US$ 166 million or TSh 188 billion, assuming the whole 85,000 km road network is in maintainable condition. The study has corroborated reports from various other studies. The estimate is based on best currently available information and is regarded as the most accurate assessment of the state of the road network.

Revenue collection for the fund in 2005-06 is expected to be TSh 80.413 billion, which is only about 43 per cent needed to maintain the entire network. In addition, 10 per cent of the funds collected must be allocated to new road development as required by the Roads Toll Act. Taking this into account, the estimated annual requirement comes to about US$ 183 million. If only roads that are currently in maintainable condition are considered, the funding requirement for maintenance works is US$ 89 million. However, the actual amount available for regular maintenance could be smaller than the allocated amount. Given the condition of the network, it is prudent to assume that part of the available funds will be spent on urgent repairs needed to keep
roads in serviceable condition. This means that some of the roads currently in good and fair condition will not receive due regular maintenance. Consequently, future requirements may be even higher.

**Backlog of maintenance for district, urban and feeder roads**

The backlog of maintenance for trunk and regional roads including accumulated rehabilitation works, is estimated to cost US$ 590.33 million. Of the total 50,000 km of district, urban and feeder roads, only 25 per cent is estimated to be in good condition. This means that there is a great need for periodic maintenance and rehabilitation works. In reality, road funds allocated to local authorities are mostly used for rehabilitation and urgent repairs and not maintenance works.

Given the overall unsatisfactory condition of the network, a substantial amount of funds are actually utilized for spot improvement and emergency works to ensure their serviceability instead of carrying out routine and periodic maintenance works. In 2003-2004, about one fifth of Roads Fund allocations to PORALG was utilized for spot improvement, emergency repairs and contingencies.

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### Table 7. Condition and asset value of roads by type

<table>
<thead>
<tr>
<th>Road category</th>
<th>Total length (km)</th>
<th>Road condition (percentage of roads)</th>
<th>Estimated asset value (millions of US dollars)</th>
<th>Total asset value (millions of US dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
</tr>
<tr>
<td><strong>Trunk roads</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paved</td>
<td>3,904</td>
<td>62</td>
<td>31</td>
<td>7</td>
</tr>
<tr>
<td>Unpaved</td>
<td>6,141</td>
<td>39</td>
<td>40</td>
<td>21</td>
</tr>
<tr>
<td><strong>Regional roads</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paved</td>
<td>245</td>
<td>74</td>
<td>23</td>
<td>3</td>
</tr>
<tr>
<td>Unpaved</td>
<td>18,220</td>
<td>40</td>
<td>35</td>
<td>25</td>
</tr>
<tr>
<td><strong>District roads</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paved</td>
<td>30</td>
<td>24</td>
<td>29</td>
<td>47</td>
</tr>
<tr>
<td>Unpaved</td>
<td>19,970</td>
<td>24</td>
<td>29</td>
<td>47</td>
</tr>
<tr>
<td><strong>Feeder roads</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unpaved</td>
<td>27,550</td>
<td>24</td>
<td>29</td>
<td>47</td>
</tr>
<tr>
<td><strong>Urban roads</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paved</td>
<td>470</td>
<td>24</td>
<td>29</td>
<td>47</td>
</tr>
<tr>
<td>Unpaved</td>
<td>1,980</td>
<td>24</td>
<td>29</td>
<td>47</td>
</tr>
<tr>
<td><strong>Total asset value for all roads</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lack of coordination in financing road works in local governments

There are a number of other sources of funds apart from the Roads Funds, which are not coordinated by PORALG. It is difficult to know how these funds are utilized. Currently, there are a number of donors, NGOs and government agencies involved in road works at the district level. The central Government also disburses funds to the local road authorities. The experience of the Board with fund utilization by local authorities suggests that the use of these funds should be coordinated in order to ascertain the real needs of the local authorities. This is especially important because, in the final analysis the Board is responsible for the maintenance of all roads. Donor funds for trunk and regional roads are coordinated by the Ministry of Works and appear in the budget although implementation may be done directly by a donor.

Tax evasion

Fuel levies are the main source of revenue generation for roads funds. However, under-reporting of fuel sales and fuel import malpractices have led to heavy evasion of fuel levies. Revenue audits indicate that, as of April 2005, the Board has incurred revenue losses of about TSh 3.8 billion in fuel levies due to storage losses, doubtful re-exports, uncollected fuel levies and blending of petroleum products. An estimate of the loss of revenue from the aforementioned causes is provided in table 8.

Table 8. Estimated fuel used by vehicle class

<table>
<thead>
<tr>
<th>Vehicle class</th>
<th>Number*</th>
<th>Annual distance travelled (km)</th>
<th>Fuel consumption (litres per 100 km)</th>
<th>Type of fuel</th>
<th>Estimated fuel used – Petrol (million litres)</th>
<th>Estimated fuel used – Diesel (million litres)</th>
<th>Estimated total fuel used (million litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorcycles</td>
<td>48 149</td>
<td>10 000</td>
<td>4</td>
<td>Petrol</td>
<td>19.26</td>
<td>–</td>
<td>19.26</td>
</tr>
<tr>
<td>Light vehicles</td>
<td>252 783</td>
<td>20 000</td>
<td>10</td>
<td>Petrol</td>
<td>505.57</td>
<td>–</td>
<td>505.57</td>
</tr>
<tr>
<td>Heavy vehicles</td>
<td>129 632</td>
<td>50 000</td>
<td>25</td>
<td>Diesel</td>
<td>–</td>
<td>1 620.41</td>
<td>1 620.41</td>
</tr>
<tr>
<td>Tractors</td>
<td>10 185</td>
<td>1 000</td>
<td>30</td>
<td>Diesel</td>
<td>–</td>
<td>3.06</td>
<td>3.06</td>
</tr>
<tr>
<td>Construction</td>
<td>8 334</td>
<td>1 000</td>
<td>30</td>
<td>Diesel</td>
<td>–</td>
<td>2.50</td>
<td>2.50</td>
</tr>
<tr>
<td>Total</td>
<td>462 973</td>
<td></td>
<td></td>
<td></td>
<td>524.83</td>
<td>1 625.96</td>
<td>2 150.79</td>
</tr>
</tbody>
</table>

Note: * Excluding government, diplomatic and military vehicles.
The reported sales of petrol and diesel fuels in the United Republic of Tanzania were 193.96 million litres and 521.89 million litres, respectively. These figures, however, are far smaller than their corresponding estimated consumption figures of 524.8 million litres of petrol and 1,626.0 million litres of diesel. The estimates were based on the number of vehicles, vehicle utilization and fuel consumption by each type of vehicle.

By applying the current level of the fuel levy of TSh 90 to the annual fuel consumption, it gives total fuel levy revenue of TSh 193.57 billion per year. However, the expected revenue from fuel levy in 2004-2005 is only TSh 79.47 billion, which is about 41 per cent of the potential revenue from this source. If the full amount of potential revenue could be collected, the Roads Fund would be able to meet the maintenance funding needs of the whole network.

Other sources of funds for road works

Only a few local authorities allocate part of their own resources for road works. This is due mainly to their limited revenue base and the competing demands of other high priority issues. The local authorities however, receive “other charges” from the Ministry of Finance for administrative activities related to maintenance works. Since, the Roads Fund cannot meet the entire funding requirement, it is necessary for the local authorities to allocate their own funds for the maintenance of rural roads. It is also important to have cost-sharing arrangements between the local authorities and the Roads Fund Board.

Allocation of funds

The distribution of funds between Ministry of Works and PORALG has been a 70:30 ratio for a number of years. PORALG has stated that they need a larger share than the current allocation of 30 per cent. There is a need to review the formula taking into account the economic and social considerations to come up with a rational formula.

Distribution between local authorities

Distribution of funds between local authorities is based on the following criteria:

(a) 85 per cent of the road fund is distributed equally to all districts and urban/municipal local authorities (equity criteria);
(b) 3.5 per cent of the road fund is distributed to local authorities in proportion to the population;
(c) 3.5 per cent of the road fund is distributed to local authorities in proportion to the road network length;
(d) 1 per cent is set aside for the Urban Sector Rehabilitation Programme;
(e) 4 per cent of the fund is equally allocated to the municipal councils;
(f) 2 per cent of the road fund is equally allocated to the town councils;
(g) 1 per cent is set aside for the monitoring expenses of PORALG.

This allocation protocol has resulted in all local authorities receiving roughly the same level of funding regardless of the type of roads (paved/unpaved), road lengths, type of area (urban/rural) under their jurisdiction. In many cases, funds are so thinly spread at the local level that they have very little impact. Also, a number of local authorities give priority to roads in poor condition, ignoring good roads. As a result, rural roads that get inadequate maintenance interventions do not last long and the roads in good condition ultimately experience rapid deterioration, wasting resources.

**Overloading**

Overloading of vehicles is quite common despite efforts to curb it. Currently, 7 per cent of vehicles weighed are found overloaded. Overloading is mainly controlled on paved trunk roads that connect to other roads, especially unpaved ones. Many rural roads have been destroyed by overloaded vehicles. Damage to the roads from overloading puts more pressure on the Roads Fund to inject more money for repairs.

**Capacity of the engineers’ offices**

Many local authority engineers are not professionally registered. There are 229 engineers working in 113 local authorities across the country; 64 of them are registered as professional engineers, 19 as technician engineers, 54 as graduate engineers and 11 as graduate technician engineers. A total of 63 engineers are not registered with any professional body, while 18 engineers do not have qualifications to be registered as professional engineers. Of the 229 engineers, 129 are road engineers.
Technical staff employed by local authorities are mainly limited to the local authority engineer and a few technicians. Frequently these staff members have other engineering responsibilities such as building classrooms, dispensaries or other community facilities. Engineers’ offices lack computer facilities. Engineers also lack the capacity for procurement and contract administration and supervision, which often leads to low budget utilization. The low capacity of engineers’ offices is a primary cause for poorly managed roads (Haule, 2003).

**Capacity of contractors**

Many of the local contractors are small contractors who cannot bid for large works. They also do not have heavy equipment for road works. Many contractors do not have qualified technical staff. In a number of areas, the number of contractors is inadequate to meet local needs. Maintenance works on rural roads, particularly periodic maintenance, have been affected by the low capacity of contractors. This is especially true when tenders have had to be re-advertised due to low or no turnout of tenderers.

**Misuse of funds**

Misuse of funds by implementing agencies has been observed. Reasons for the misuse included corruption, political interference, inadequate capacity of contractors, poor application of procurement procedures, lack of professional skill and lack of capacity to manage projects. The audit report for 2003-2004 indicates that, while the RFB received high performance marks, the other agencies received lower ratings (National Audit Office 2004). The audit report revealed the following weaknesses on utilization of the funds, particularly by local authorities:

(a) Ineligible expenditure, transfer, and diversion of funds;
(b) Poor accounts and stores records;
(c) Outstanding imprests;
(d) Questionable expenditures;
(e) Diversion from the performance agreement;
(f) Poor procurement procedures;
(g) Poor contract administration, supervision and works.
Road safety

The United Republic of Tanzania has a very high rate of road accidents. The number of persons killed in relation to the number of motor vehicles is 30 to 40 times higher than in most countries in Western Europe and is also higher than in neighbouring Kenya and Zimbabwe. In 2003, 1,788 fatal accidents killed 2,155 persons. Accident statistics for 2004 show an alarming 7 to 11 per cent increase in the number of accidents and the number of people killed and injured. The cost of traffic accidents is estimated at 2 per cent of GDP or over Tsh 170 billion in 2002 (SweRoad 2004). Many of these accidents were the result of poor road conditions. This situation could be improved by determining better ways to utilize funds to ensure safety.

V. STRATEGIES

The Board has formulated a strategic three-year plan to address the above-mentioned challenges. The plan is to span the 2005-06 to 2008-09 fiscal years and was developed in collaboration with the concerned stakeholders. The proposed strategies are discussed briefly in the following sections.

Increased revenue generation for the Roads Fund

The Board updated the recommendations for widening the Roads Fund base and made a resubmission to the Tax Task Force of the Ministry of Finance. The recommendations were based on meeting the National Strategy for Growth and Reduction in Poverty (NSGRP) also known by its acronym in Swahili as MKUKUTA targets over a five year period from 2005-06 to 2009-10. The recommendations were to increase the rates of existing levies and introduce new instruments as follows:

Fuel levy

It was decided to increase fuel levies on all fuels from TSh 90 per litre to TSh 100 per litre in 2005-06 and thereafter rising to TSh 140 per litre in 2009-10 with an increment of TSh 10 per year. With the increased rate, it was expected that TSh 79.47 billion would be collected in 2005-06.
**Licence fees**

The main recommendations included were:

(a) The licence fees for all vehicles should be designated as revenue for the Roads Fund;

(b) The definition of 3.5 tonnes for a heavy vehicle should be accepted and enforced;

(c) The collection agent CTLA should retain 30 per cent of licence fee revenues to meet the administrative costs;

(d) The licence fees for commercial and cargo vehicles should be increased by 50 per cent.

For 2005-06, it was expected that TSh 4.49 billion would be collected from licence fees.

**Transit charges**

There was no recommendation with respect to transit charges as these charges are harmonized across the SADC and cannot be adjusted by an individual country. For 2005-06, it was expected that TSh 1.42 billion would be collected as transit charges.

**Overloading fees**

The current rates on overloading fees will continue to apply. The expected revenue collection from this source in 2005-06 is TSh 2.14 billion.

**Transit fees/foreign vehicle permits**

These charges are harmonized across the SADC and cannot be adjusted by an individual country. The current rates will be applicable. The expected revenue collected from this source in 2005-06 is TSh 0.87 billion.

A study to widen the Roads Fund base for sustainable road financing was carried out in 2001. The recommendations have already been submitted to the Government for consideration. Widening the Roads Fund base will ensure increased funding for rural roads. Annual vehicle licence fees, transit fees and foreign vehicle permit fees collected by the Tanzania Revenue Authority (TRA) are among the new revenue sources recommended (Africon 2001).
**Total amount of revenue**

The total amount of revenue expected from all sources in 2005-06 is TSh 88.59 billion (equivalent to US$ 75.27 million). If the recommendations to widen the roads fund base are implemented, there will be a considerable increase in funding but there will still be a gap between revenue collection and maintenance needs. By 2009-10, the projected revenue is expected to increase to TSh 174.94 billion (US$ 140.26 million). After allowing for a 10 per cent allocation to development projects, the remaining 90 per cent will be available for maintenance needs. The maintenance needs are expected to grow from TSh 106.63 billion to 166.16 billion (US$ 90.60 million to 126.23 million) during the same period. This implies that the maintenance gap will decline over this period from TSh 26.90 billion (US$ 22.86 million) in 2005-06 to TSh 8.71 billion (US$ 6.98 million) in 2009-10. It is recommended that the donor community assist in bridging the funding gap.

**VI. FUTURE PLAN OF THE BOARD**

To address the challenges discussed in the previous section, the Board has taken up a plan involving a number of activities. The objectives of these activities include increased awareness among policymakers and stakeholders, enhanced capacity of the Board and implementing agencies, and increased flow of funds. In addition, the plan calls for increased availability of information and better utilization of allocated resources to improve Roads Board efficiency.

**Road investment policy and harmonization with other Acts**

A proposal for the review of the Roads Toll Act will be prepared to harmonize some provisions that conflict with other Acts. It will also prepare a policy paper on road investment for the Ministry of Works and undertake advocacy for increased allocation to the road sector. Forums of stakeholders and partner agencies will be organized to seek their support.

**Improvement in fuel levy collection**

The Board will undertake a number of initiatives to increase available funding. Preventing fuel levy evasion will be a major part of this effort. Pursuant to this goal, the Board will conduct a special revenue audit and implement measures to stop fuel levy evasion as recommended in the audit reports. It also plans to organize forums with TRA to formulate strategies for improvement in revenue collection.
**Improving the performance of implementing agencies**

The Board intends to develop and establish a monitoring and evaluation system. It also plans to conduct technical and financial audits to improve the performance of the implementing agencies. It will organize a forum with the implementing agencies to discuss the road maintenance manuals and guidelines. It will then distribute them with the existing financial guidelines. It will also undertake various activities in support of capacity-building for implementing agencies, contractors and consultants.

**Improving the operations of the Board**

A major effort will be made to verify road network data from TANROADS and PORALG. Additional efforts will be made for capacity-building in the RFB secretariat. It will also prepare educational and information materials on protective road utilization and conduct a mass media programme on the importance of road preservation. In order to increase the Board’s own accountability and transparency, an external evaluation of RFB activities will be undertaken. The Board will also organize workshops to facilitate the review of its activities by concerned stakeholders and the Government.

**Review of the allocation formula**

The Board intends to review the formula for the allocation of funds between road agencies under Ministry of Works and PORALG and for the allocation of funds between local authorities. This issue is important to the agencies. PORALG wants a greater share of resources, and distribution between local authorities should better reflect their needs. The Board has engaged a consultant to carry out a study for this purpose.

**Maintenance backlog and road development**

The Board will follow up with the Government in an effort to revive a study on a 10-year investment programme for the whole road network. The 10-year plan would reduce pressure on the Roads Fund by funding spot improvements and emergency road works. This would mean more funds would be available for the regular maintenance. The objective is to bring all roads up to maintainable condition.
**Curbing the misuse of funds**

The Roads Fund Board has already taken some corrective measures concerning the management of funds. A number of actions are being implemented following the audit reports. These include:

(a) Stopping further disbursement to implementing agencies which diverted funds until the diverted amount is returned to the roads accounts;

(b) Reporting engineers and contractors responsible for poor work to their respective registration boards for disciplinary action;

(c) Investigating implementing agencies suspected of fraudulent practices.

(d) Taking disciplinary action against officials found to have misused funds or who are connected to questionable expenditures.

**Improving capacity of engineers’ offices**

PORALG has taken measures to increase the capacity of engineers’ offices. These measures consist of recruitment of engineers and other technical staff, training of engineers in procurement and contract management, and provision of logistical support including vehicles for supervision and installation of a computerized road maintenance management system called DROMAS.

**Road inventory and condition survey**

TANROADS has completed its road condition and inventory survey for trunk and regional roads. PORALG is in the process of implementing a road inventory and conditions survey together with classification of its roads this year. Road conditions will be updated regularly. It is expected that annual bookkeeping of road asset values will be implemented. The performance of the officials responsible for road networks will be assessed by means of a number of performance indicators, including the change in road asset values.

**Community participation**

A number of communities participate in road works voluntarily. Greater involvement of communities in road works will help to ensure that more roads are in maintainable condition. Involving communities helps to create a sense of ownership and creates jobs that will reduce poverty.
Improvement of road safety

The issue of road safety has drawn the attention of the Government. A National Road Safety Master Plan and an action plan for the next three years have been prepared. TANROADS is implementing the plans. They contain a number of recommendations, including 11 key recommendations that must be implemented if the United Republic of Tanzania is to reverse the current trend in road accident rates. The Roads Fund allocated TSh 700 million (US$ 619,469) in 2004-05 for implementing safety improvement measures and will continue to do so on an annual basis.

VII. CONCLUSION

The main objective of the Board is to ensure funds for road maintenance and development and the proper utilization of these funds. The Board has had some success in this regard. It has also encountered a number of challenges. With the implementation of the adopted strategies, it is hoped that the Board will achieve its goal of supporting national economic growth by ensuring maintainable roads that satisfy the needs of road users. In pursuit of this overarching goal, the Government may consider harnessing additional resources from domestic and foreign sources in an effort to bring all roads up to maintainable condition and formulate a comprehensive road sector policy.

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