

Africa Transport Technical Note

Road Management Initiative
RMI



Note no. 1

May 1996

Promoting Policy Reforms for Effective Transport Services in COMESA Countries

Review of the Road Sector in Selected COMESA Countries (Eastern and Island Countries)

This note is based on a *Review of the Road Sector in Selected COMESA Countries (Eastern and Island Countries)*, February 1996. The review was conducted by Ole K. Sylte, a Norwegian consultant, with assistance by five local consultants in the study area.

The purpose of this series is to share information on issues raised by the studies and work of the SSATP. The opinions expressed in the notes are those of the authors and do not necessarily reflect the views of the World Bank or any of its affiliated organizations.

For information on these notes, contact the SSATP in the Africa Region of the World Bank, Washington, DC. Internet address: ssatp@worldbank.org.

Concerned by the poor state of the road network in most of its member countries, the Common Market for Eastern and Southern Africa (COMESA) has been promoting reforms to help regional integration for effective transport services. COMESA has taken an interest in the Road Maintenance Initiative (RMI), which is financed by donors and administered in the World Bank's Africa Technical Department as one of the components of the Sub-Saharan Africa Transport Program (SSATP). RMI has been working with nine pilot countries, five of which are within the COMESA area, on ways to make road maintenance sustainable.

Regional diversity

Twelve COMESA countries were reviewed—Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Mauritius, Rwanda, Seychelles, Sudan, and Uganda. Two issues were clear. First, the 12 countries geographical diversity directly affected transport. Four countries are land-locked; four are islands, and four countries have access to the sea, providing transit routes and access for the

land-locked countries. Second the country road networks are at different stages of development. Nine of the twelve enjoy reasonable to well developed road networks—their main difficulties come from poor maintenance. However, in Eritrea Ethiopia, and Sudan—which hold over half the population of the study area—both main and rural access roads are inadequate, thereby denying a great part of the populations access to trafficable roads.

The demand for better roads in the study area is easy to understand—road transport is the predominant mode, accounting for about 80 percent in tonne-km. But without proper maintenance, road conditions have declined, and vehicle operating costs have gone up. A 10 percent average reduction in vehicle operating costs would mean savings of about US\$ 1.5 billion per year for the entire area.

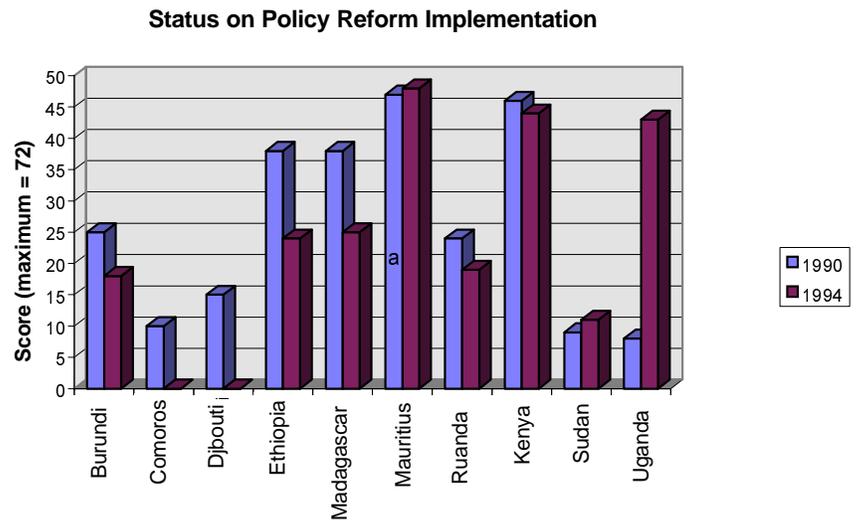
Land-locked countries depend on international throughways for imports and exports. Transport costs add as much as 30 to 40 percent to import and export costs, of which road transport accounts for up to 70 percent. Road transport costs for import and



The graph compares the findings of this review with a study done in 1991 by the Economic Commission for Africa on the status of policy reform implementation in the COMESA countries. Countries were rated on a 1-9 scale,:

- 1) minimum or no action toward policy reform, condition not good
- 2) government expressing commitment to improve policies
- 3) authorities have agreed upon reform program
- 4) implementation process has begun, but not doing well
- 5) implementation process has begun, and is moving well
- 6) implementation partially complete, but not moving well
- 7) partially completed, moving well
- 8) Substantial reforms implemented
- 9) showing policy established and effective, conditions good

Total scores for countries in 1991 and 1994 are shown.



export alone account for 5-10 percent of total GNP. Burundi, Ethiopia, Rwanda, and Uganda need to reduce transport costs and make international transport more reliable by easing conditions in through-countries while avoiding dependence on a particular route.

Facing up

The study also indicated the need for better traffic management, in general, and, specifically, to face up to the growing congestion problem in the capital cities. Roads in major cities have been neglected, therefore each country must include maintenance and management of urban roads in its transport strategy.

In many of the countries, improved access was a major issue. A high percentage of the study area's population lacks modern road transport. Ethiopia, for example, has one of the lowest road densities in the world. Only 20 percent of its area is within 10 km of an all-weather road, and about 30 percent within the same distance of any kind of rural road. Nearly 90 percent of the population is rural and 85 percent employed in agriculture, but nearly three quarters of all farms are more than a half-day's walk from an all-weather road. This dearth of roads is clearly a major economic and social constraint.

Safety has been a concern. Rwanda has the highest recorded fatality rate—in 1994, 178 people were killed in road accidents per 10,000 vehicles. Governments, as well

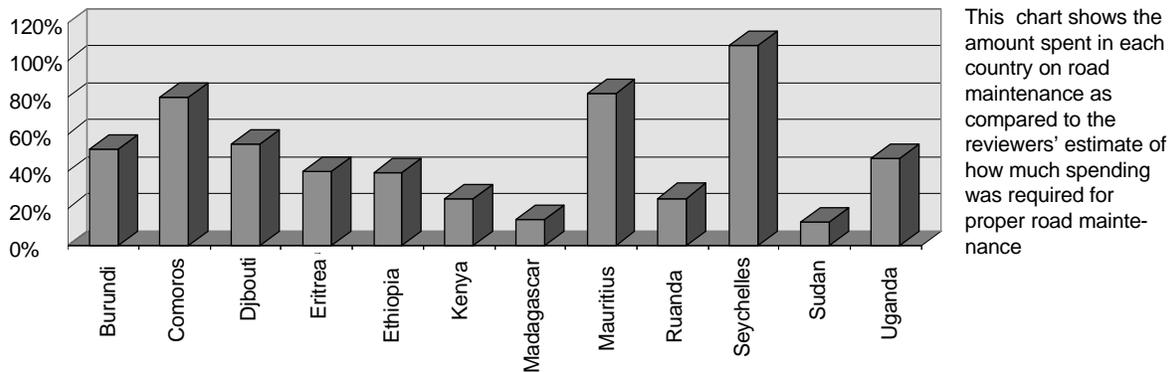
as the public, have become aware of the problem, and traffic safety campaigns are being implemented or planned. In Kenya a private organization, the Road Safety Network has dedicated itself to curbing the accelerating death toll on Kenya's roads, initiating an ambitious program of traffic safety and training drivers.

While infrastructure services are needed and called for, the study points out that the revenue base for funding road maintenance is, in most countries, very weak. To correct this, two things must happen: (i) the growing demand for road infrastructure must be linked to the market through direct road user charges (fee for maintenance) and (ii) road networks have to be prioritized on economic and social criteria.

The Road Network

The total road length in the countries studied is about 327,211 km of roads, including 136,106 km of main roads, 176,543 km of rural roads, and 14,582 km of urban roads. The replacement value of the main roads network alone is about US \$15 billion, and the required annual expenditure on routine and periodic maintenance to keep them in a stable, long-term condition is about US 400 million. From 1970 paved roads have steadily increased at about 3 percent annually—from 12,487 km in 1970 to about 29,845 km in 1994.

Maintenance expenditure as % requirement



This chart shows the amount spent in each country on road maintenance as compared to the reviewers' estimate of how much spending was required for proper road maintenance

Mauritius has the best developed road network, and one of the highest density networks in the world. Ethiopia has a very low density of paved roads—about 66 km per capita million. Because Ethiopia has about one third of the studied area’s population and only 12 percent of the total length of paved roads, it lowers the area average considerably. Seychelles has the highest density of paved roads, with 3,300 km of paved roads per capita million as well as the highest per capita GDP. This tends to confirm the link between density of paved roads and GDP per capita.

Conditions of the main paved roads have been stable since 1989. But this has been more the result of massive donor-funded rehabilitation rather than regular maintenance. For the study area’s main *unpaved* roads, the trend has been downward. The percentage of “good” roads fell from 50 in 1989 to 12 percent in 1994, while the number of “poor” roads rose from 30 to 68 percent. Poor maintenance is the main reason, but more and heavier traffic on gravel roads has added to the decline. Recent traffic surveys in Kenya show that some unpaved roads now carry traffic which would normally use paved surfaces.

Urban roads are in alarming shape. Even busy and essential byways are neglected— streets are badly maintained, and traffic is often appalling. In many places, these conditions are in direct contrast to the better through-roads maintained by the main road agency.

Road management

In ten of the twelve countries in the area, government departments as road agencies manage the main roads. And

because they belong to the civil service, they face the same constraints as other government agencies— poor salaries and impaired working conditions. Only Sudan and Ethiopia have main road agencies separated from the parent ministry— but even here, the agencies operate in similar ways to government agencies. Rural roads are managed by district administrations, but a lack of resources prevents them from maintaining or working on roads. In most countries, a section of the ministry of local government or a main road agency coordinates rural road development and maintenance.

In all twelve countries, salaries for road agency staff fall well below the private sector. It’s no surprise then that road agency managers would welcome the idea of a road authority that operates with salaries more in line with the private sector. In Sudan, the salary of a civil service engineer is only about one tenth of an engineer in the private sector. Unskilled and demoralized staff, as well as high turnover rates, have hindered any lasting improvement in public road organizations.

Planning and execution

Most area countries need to improve works planning, execution, and monitoring of road maintenance —especially routine maintenance. Routine maintenance works have generally been executed by force account (in-house labor), and the main road agencies in all twelve countries rely on a public plant pool for supplying equipment for force account operations. The study found that, almost without exception, public plant pools have failed in providing ser-

vice to road agencies. This, in spite of a great deal of past effort to improve equipment management through technical assistance and by training mechanics and warehouse personnel. Departments responsible for the public plant pools now must decide what to do with the large fleet of equipment which is gradually becoming unserviceable and redundant as more private contractors are used. The option seems to be turning public plant pools over to private business, possibly through a period of “commercialization.”

Financing

In all twelve countries, spending for maintenance has been far below the levels needed to ensure a stable, long-term network. Funds have rarely been released on time to road agencies, and budgets have been cut without warning. Recurrent maintenance allocations have declined in real terms from 1989 to 1994. In 1994 the twelve countries spent about US 127 million for maintaining main roads—about 30 percent of the estimated US\$ 414 million needed to keep roads stable. With more traffic and more wear and tear on roads, funds have gradually been spent less effectively. Higher proportions of maintenance spending has had to cover fixed overhead costs.

Member countries collect revenues from road users, partly as a government tax and partly through road user charges. The total road user fee collected in 1994 was about US\$ 70 million—less than one fifth of the amount need to maintain main roads. Only Mauritius collected enough road user fees to cover recurrent maintenance. The report estimates that fuel levies might raise about 60 percent of the area’s requirement for maintaining main roads.

Issues

Commercial responses to road management, such as the “fee-for-service” concept will be critical for maintaining main roads in the study area—but other social factors need attention. Poor or non-existent roads have denied large parts of the populations modern road transport. While spending for main roads will take precedence, governments must improve access to rural areas and find realistic approaches to funding and maintaining rural roads. Government should encourage local communities to take ownership of non-classified roads, and seek mechanisms for cost sharing.

Road management is changing in the area—a key element is increasing involvement of road users. Their participation may bring pressure for more revenues as well as more accountability. Seven of the area countries have established Roads Boards, with varying functions and success. But none have gained a status and success comparable to the National Roads Board in Zambia which has taken a strong lead in improving management and creating a sense of ownership favorable to increasing funding and improving performance.

Many donors represented in the selected countries, have expressed support for the RMI and the need for change. They now base their assistance on the principle that investments in transport infrastructure must be user responsive and sustainable. Some countries require a dismantling of state monopolies and new regulations to develop a commercial and user oriented road management.

Road Management Initiative

The RMI was launched in 1988 by the United Nations Economic Commission for Africa (UNECA) and the World Bank, under the auspices of the Sub-Saharan Africa Transport Policy Program (SSATP). The countries taking part in the RMI are Cameroon, Kenya, Madagascar, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe. Others receiving assistance from the program include Benin, Ethiopia, Ghana, Lesotho, Malawi, Mozambique, and Togo. RMI is administered by the World Bank’s Africa Region, and is co-financed with the governments of Denmark, France, Germany, Japan, the Netherlands, Sweden, Switzerland, and the European Union. France, Japan and Norway provide senior staff members to work on the Program.