

**UNITED STATES OF AMERICA**



**U.S. Agency for International Development**

Regional Economic Development Services Office  
(REDSO/ESA and AFR/ARTS/FARA)

**COMPARATIVE TRANSPORTATION  
COST ANALYSIS IN EAST AFRICA**

(Project CA 623-0478-00-3180-00)

**EXECUTIVE SUMMARY**

**Submitted to:  
Technoserve Inc.**

**September 1994**

**The Management Centre**

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This report was prepared on behalf of U.S Agency for International Development, Regional Economic Development Services Office, (REDS/ESA and AFR/ARTS/FARA) Project CA 623-0478-00-3180-00 by Gordon J Anyango, Director, The Management Centre Limited P.O. Box 51774 Tel.254-2-746035 Fax.254-2-750187 Nairobi, Kenya

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### ***Introduction***

1. This study presents a comparative cost analysis of in-country and inter-country transport costs for the countries in the East African region, namely Kenya, Tanzania (the transit countries) Uganda, Rwanda and Burundi (the landlocked countries). For the landlocked countries, the study identifies the current transit transportation routes and presents an analysis of the financial and economic costs associated with each route for different types of cargo. The analysis is undertaken against the objectives of the landlocked countries with regard to transit traffic, which include the development of low cost transit transport routes and their diversification to enhance transit security, and against the objectives of food security of the countries in the region.
2. The data and information presented in the report concentrate on transportation costs and issues from the two main sea ports of Mombasa and Dar-es-Salaam to selected destinations en route, and/or the main destinations in the landlocked countries, namely Kampala, Kigali and Bujumbura. The analysis emphasises road, rail and lake transport which have been identified as the major transport modes in cargo haulage in the region.
3. The analysis focuses on the total transportation costs to the shipper, rather than the freight costs charged by operators of the transport modes used. The costs to the shipper are identified as comprising port handling charges, clearing and forwarding charges, inland freight charges and the indirect costs related to transit times which are quantified on the basis of the opportunity costs of the capital tied for the “longer than normal” transit times prevalent in the region. Finally the cost analysis considers a whole range of official and unofficial costs which are particularly relevant to road transport in the region but which are payable by transport operators, and hence indirectly increase the shipper’s costs. It is considered that even partial elimination of these costs could reduce the overall transportation cost for the shipper.

### ***Historical Transport Perspective***

4. The regional transport industry in East Africa is centred at the ports of Mombasa and Dar-es-Salaam. The major transit routes in the region, particularly the railway lines, were constructed with the aim of shipping agricultural raw materials to the coastal ports for transshipment to markets in Europe. The intra and inter-country functions of the railway, the road and lake systems developed much later, when opportunities for domestic and regional trade became significant. The Northern and Central Corridors, which simply comprised the rail and road infrastructures linking Mombasa and Dar-es-Salaam to the landlocked countries, developed over time from the two ports.
5. The port of Mombasa has over the years handled more imports and exports from the region than did the port of Dar-es-Salaam. While the rail network in the Northern Corridor was responsible for much of the Uganda traffic, Kenyan based road transporters were the major beneficiaries of the concentration of transit traffic at the port of Mombasa, providing almost exclusively the transit capacity to Rwanda, Burundi and Eastern Zaire.



6. Similarly the railway connection between the port of Dar-es-Salaam and Kigoma on Lake Tanganyika was the principal route in the Central Corridor, providing linkages to Burundi and Rwanda via barges on Lake Tanganyika to Bujumbura.
7. With regards to in-country transport networks, the railways and roads have provided the basis to exploit the productive potential of the places they transverse. Many of the in-country railway and road segments have helped to transport both industrial and agricultural inputs and outputs within the countries and towards the main network to the ports.
8. Over the years a number of events have combined to threaten the low cost transit transport and security objectives of the landlocked countries. These include the political instability in the landlocked countries since mid 1970s, the collapse of the East African Community, the increase in traffic from the landlocked countries against the needs of the transit countries to maximise net earnings and/or minimize their infrastructure costs, and more recently the closure of the Uganda/Rwanda border in 1990. Accordingly, transit routes which share infrastructure in the previously dominant two corridors, particularly road routes, have developed and traffic flow direction is now dictated mostly by the level of security, operational efficiency and state of road infrastructure and support facilities.

### *The Current Routes*

9. The study has identified eight major routes which are currently in use for transit traffic transport within the region, four to Uganda, (3 from Mombasa and one from Dar-es-Salaam), and four to Rwanda and Burundi (three from Dar-es-Salaam and one from Mombasa), see the map opposite. A fifth route to Rwanda and Burundi, and the second from Mombasa, is the traditional Northern Corridor route via Malaba and Kampala which has been inoperational since the closing of the Uganda/Rwanda border in 1990. For each route an estimation of transit time from each port to the destination in the LLCs is made, with the port transit time at Mombasa and Dar-es-Salaam being estimated at 13 and 22 days respectively.
10. The Uganda Routes are:
  - o an all railway route from Mombasa to Kampala (1331 km): this is currently Uganda's principal route for its imports and exports. The route is served both by Kenya Railways Corporation (KRC) and Uganda Railways Corporation (URC) mainly through block trains once in a week from Mombasa. It is estimated that the transit time on this route is 7 - 9 days from the port of Mombasa;
  - o Mombasa - Malaba - Kampala road route covering 1170 km to Kampala, with transit time of about 10 days. This road route is generally preferred due to the good quality of the network and availability of social amenities en route. However, there has been security and political problems hindering its usage by LLCs over time;

- o The only rail/lake route in Kenya is the Mombasa - Kisumu - Kampala route, 1242 Kms. This is essentially a branch route which leaves the main railway line at Nakuru and extends to Kisumu on Lake Victoria. This is now an alternative route to the all railway route to Uganda. Its usage is however increasingly diminishing due to the availability of quicker block trains via Malaba to Kampala which makes this route with an estimated transit time of 18 to 20 days unattractive. It is noted that there is excess capacity among the wagon ferries now operating in Lake Victoria and more cargo can be taken along these routes if only the railways can increase their haulage; and
- o Dar-es-Salaam - Mwanza - Port Bell (Kampala) rail/lake route (1669 Kms) through which operations began in 1986/87 using URC wagon ferries. At Port Bell, the wagons are railed to Kampala along a 9 km rail line connection commissioned in 1992. This is Ugandan only route through Dar-es-Salaam, and it has been indicated that Uganda would like to use it for upto 60% of its export and imports despite the relatively longer transit time of 30 days between Dar-es-Salaam and Kampala.

11. Similarly the routes to Rwanda and Burundi are:

- o a rail/road route from Dar-es-Salaam via Isaka to Rwanda and Burundi. The rail section of the route from Dar-es-Salaam is operated by the Tanzania Railways Corporation (TRC) and ends at Isaka where there is a depot to facilitate interchange to road. From Isaka there is a paved highway in a very good condition through Lushaunga to Rwanda and Burundi. The route has been operational since 1992, but the Isaka interchange depot was commissioned in early 1994. The road is 1512 Kms to Kigali, and 1854 Kms to Bujumbura, with a transit time of about 10 and 11 days respectively from Dar-es-Salaam;
- o Dar-es-Salaam - Kigoma - Bujumbura route, (1430 Kms) across Lake Tanganyika to Bujumbura. At Kigoma transshipment is done in *Arnolac* and *Bartralac* barges which are private companies operating vessels across the lake. Onward journeys to Kigali (1722 Kms) are undertaken by road transporters. The transit times on this route to Bujumbura and Kigali are estimated at 15 and 19 days respectively;
- o the road route from Dar-es-Salaam runs through Dodoma - Singida - Isaka - Lushaunga and Biharamulo, covering 1529 Kms to Kigali, and 1821 Kms to Bujumbura, with transit times of about 7 - 8 days for both destinations. From Dar-es-Salaam the road is in good condition and paved upto Dodoma. Beyond Dodoma, the road is gravel and in average condition. This poses problems during the rainy season and there are plans to upgrade it. The road joins the new road from Isaka to Biharamulo at Kahama, some 20 Kms after Isaka; and

- o Mombasa - Isebania - Mwanza - Biharamulo route through northern Tanzania to Rwanda (1864 Kms) and Burundi (2156 Kms). Most of the road network within Kenya is paved and in good condition upto Migori, the rest of the road through Mwanza and Biharmulo is in poor condition. A number of contracts have been signed and upgrading and rehabilitation works are on going or about to start in most sections of the road within Tanzania. The transit times on this route is estimated at 17 - 20 days for both Kigali and Bujumbura.

### ***Potential New Routes***

12. It is considered that the potential alternative route from Mombasa is the rail (road)/lake/road connection via Kisumu and Kemondo Bay has the greatest potential for ZBR cargo in the short/ medium term. The greatest benefit of the route can be derived from the use of road vehicles transshipment on to wagon ferries at Kisumu with onward journey from Kemondo Bay to LLCs on the same vehicles. A similar run using rail wagons instead of road vehicles on the wagon ferry would be slow, particularly from Kemondo Bay onwards, but would also restrict the utilisation of the established trucking capacity in these countries. While the route has most infrastructure in place, its viability depends on the speed at which the road connection between Kemondo Bay and Biharamulo (160 Kms) in Northern Tanzania is improved. A feasibility study undertaken as part of the design of the road has not yielded an acceptable economic rate of return, implying that this road may not be paved within this decade. The only likely improvements will be sport repairs and re-gravelling. The Government of Tanzania has been urged to revise the Terms of Reference for the design study to include potential traffic to be generated from Kisumu via Kemondo Bay, which was not included in the original study. This would raise the economic rate of return for the road.

### ***Other Modes***

13. While road/rail/lake routes are dominant within the region, other modes namely air and oil pipeline transport have their share of transit traffic.

#### ***a) Air Transport***

There are no scheduled regional air freight/flights between the main airports at Mombasa, Nairobi, Dar-es-Salaam, Kilimanjaro, Bujumbura, Kigali and Entebbe. Regional air-cargo is mainly destined for European markets mostly with horticultural products being the bulk of the freight. Most of such cargo is moreover freighted under scheduled passenger flights. Regionally, air transport is used on emergency cases to deliver food stuffs, and medicine.

**b) Pipeline Transport**

The Oil Pipeline from Kenya Oil Refineries in Mombasa which carries white oil products to Nairobi, Kisumu and Eldoret has not realised its full use due to lack of an oil terminal jetty in Lake Victoria at Kisumu which would promote the use of oil barges across the lake. However, the Eldoret terminus is gaining popularity with transit oil tankers which are now taking short-turns near the border for increased trips. The Kisumu terminus is also being used by oil tankers through Busia to Kampala.

**Freight Flows**

14. Mombasa port is the largest port in the East African region with a theoretical capacity to handle some 22 million tonnes of cargo annually, compared to 7 million tonnes at Dar-es-Salaam. In practice however Mombasa port handled only some 7 million tonnes in 1992 and 1993, compared to 5 and 3 million tonnes handled at Dar-es-Salaam during the same period. While Mombasa handled some 700,000 tonnes of cargo to ZBRU countries in both 1992 and 1993, Dar-es-Salaam handled only 350,000 tonnes and 580,000 tonnes during that period. Despite Mombasa being responsible for a significant amount of port throughput in 1992 and 1993, Dar-es-Salaam has made significant inroads in capturing transit traffic over the years, particularly in respect of cargo for Rwanda, Burundi and Zaire.
15. It is noteworthy that transit traffic to ZBRU handled at Mombasa between 1987 and 1993 increased by only 19% while Dar-es-Salaam recorded an increase of 202% for the same traffic during the same period. This was mainly as a result of the closure of the Rwanda/Burundi border in 1990, and the opening of Isaka transit depot in 1993, which allowed more transit traffic to go through Dar-es-Salaam. Indeed Dar-es-Salaam handled 76%, 93% and 57% of imports to Rwanda, Burundi and Zaire in 1993 compared to 20%, 81% and 44% in 1987. The major import route to these countries is now the Isaka system which is almost fully developed except for TRC capacity limitations and it is unlikely that significant reversal of this trend will occur. It is also significant that exports from Burundi, notably coffee (averaging 30 - 35,000 tonnes a year) have traditionally been routed through Dar-es-Salaam, 90% in 1993, compared to 93% in 1987. Rwanda's exports, notably tea and coffee, have likewise been routed via Mombasa, 98% in 1987 and 99% in 1993 partly because of easier accessibility of the all road route in the Northern Corridor, but also because Mombasa has established marketing channels for these commodities.
16. Thus the position of Mombasa as a transit port may be severely weakened in the next few years, except for Uganda which has consistently used it for most of its imports (80% in 1987 and 94% in 1993) and exports (74% in 1987 and 89% in 1993). It is known however that Uganda Government has the objective to create capacity to move upto 60% of its imports through other routes, not only to achieve lower costs, but for purposes of increased transit security.

## ***Major Issues in Transit Traffic***

### ***Ports' Infrastructure and Facilities***

17. The port of Mombasa and Dar-es-Salaam have similar operational problems. These include run down condition of equipment, lack of preventive maintenance programmes and poor management, this latter being the result of political rather than commercial orientation. Both ports also suffer from persistent late submission and incorrectness of pertinent vessel and/or cargo information resulting from lack of a unified information system, and low level of co-operation among players involved in the execution of ports procedures.
18. In addition to the common problems, Mombasa port specifically suffers from customs and security arrangements which accompanies the clearance of goods including verifications of containers, posting of security bonds for goods in transit, and police escorts, all of which contribute to delays and frustrations for port users particularly shippers and transport operators. At Dar-es-Salaam, although delays occur, transit traffic is accorded priority, however it is the relatively high tariff level at that port which is the major concern for shippers and other port users. Dar-es-Salaam port charges are as much as 150% - 200% of the equivalent charges at the major ports in the Eastern and Southern African region, including Mombasa, Maputo and Durban, this latter the largest and most efficient port in the region. Delays at the port of Dar-es-Salaam are also the result of the underdeveloped telecommunication facilities within the port and between the port and the hinterland which are inadequate such that information provided is seldom timely and accurate, resulting in slow vessel turnaround, high storage charges, and general delays. Similarly the availability of only one ship's agent NASACO, and the monopoly enjoyed by AMI who doubles as both the manager of at least one berth, the Belbase for ZBR cargo, and as a clearing and forwarding agent, has not provided a basis for competition and cost-effectiveness.
19. It is also widely acknowledged that although the role of clearing and forwarding agents is crucial to the success of the ports, many of these personnel lack relevant training certification and experience, and are not efficient, honest and fair in their dealings with port users, customs authorities, and the port authorities themselves.

### ***Customs Services***

20. The cumbersome customs procedures at the ports are exacerbated with problems related to organisation of customs services in respect of road traffic at the border ports with high traffic levels such as Busia, Malaba, Isebania, Rusumo, and the Isaka transshipment depot in Tanzania. These offices do not have appropriate infrastructure to serve the increasing volume of traffic and the customs personnel are inefficient due to lack of adequate training and motivation. The location of some of the offices is inappropriate, and in many cases the working hours of adjacent customs offices vary which translate into prolonged waiting times at the border posts. Moreover, there are no adequate parking areas and trucks park at both sides of the road or in front of the offices while waiting for the formalities to be completed. It should be recalled that the same

formalities completed at one exit post are repeated at the entry post of the neighbouring country with all the monetary and time costs involved. These factors, which result in traffic jams at the border posts and increases costs and transit times, are exacerbated by the lack of an adequate telecommunications network which would allow all the custom offices to communicate amongst themselves, as well as with their central administrations.

### *The Railway System*

- 21 Available statistics indicate that deteriorating operating conditions for Kenya Railways Corporation (KRC) have affected the rate of overall cargo off/take from the port of Mombasa. The reasons given for poor locomotive and wagon availability include lack of spare parts, poor maintenance practices, failure to earmark funds for repairs and poor planning of equipment acquisition. These problems, which are exacerbated by the aging fleet of locomotives and rolling stock, a run-down track system and bridges, lack of proper co-ordination with KPA operations, poor interface with the lake services and lack of clear business orientation all lead poor turnaround of locomotives and wagons, and delays in cargo flows.
22. Freight tonnage hauled by KRC stood at some 3.5 million tonnes in 1992, but is targeted to reach 3.8 million in 1996. KRC's principal business share is largely the domestic market. Transit cargo, some 550,000 tonnes in 1992, does not receive any special categorisation, and there are no special facilities set aside to handle this component of cargo. The effect is that problems in the domestic cargo flows affect transit traffic movements. In order to enhance KRC's capacity to move more traffic on the northern corridor, an investment of some US \$50 million is needed to improve rolling stock and infrastructure. No source of funds has however been identified for the required investments.
- 23 Within Uganda, most of the rail network is very old, and in general, the condition of the track remains poor. The Malaba - Jinja - Kampala line (251 Kms) is generally in good condition except for some sections where the sleepers are worn out and require replacement. The entire line, however, requires re-ballasting. The rehabilitation of the Kampala - Jinja - Malaba section is a top priority as the country's imports and exports are being routed via Malaba by the block train services. The ferry links on Lake Victoria between Port Bell/Jinja and Kisumu (Kenya) and Mwanza (Tanzania) form an integral part of the rail network. URC needs some US \$100 million for its proposed projects up to the year 1997.
- 24 URC rail freight traffic increased steadily from 263,615 tonnes in 1985 to 491,047 tonnes in 1990. In 1991 however, freight traffic declined to 415,913 but this increased to 485,705 in 1993. Much of URC rail traffic is external: the 421,721 tonnes of Uganda's external trade carried on the URC in 1990 amounted to 86% of URC's freight tonnage in that year. The volume of rail freight traffic is sustained by government policy which directs all coffee exports to be moved by rail. In 1990 for example, coffee exports through Malaba amounted to 141,703 tonnes, equivalent to 31% of the Malaba traffic, or 29% of the total rail traffic in that year. Cotton traffic which had declined over the past years is beginning to pick up as shown by a rise

from 2,405 tonnes in 1990 to 7,433 tonnes in 1991. Growth in the construction industry has resulted in iron and steel traffic re-entering the list of commodities carried by rail. Similarly, URC marine freight amounted to 340,450 tonnes in 1990, 226,301 tonnes (66.5%) via Kisumu, and 114, 249 tonnes (33.5%) via Mwanza.

- 25 Much of the fixed infrastructure of TRC is old and requires replacement but, in the short term, the track is not the major constraint to increased performance. In recent years tracks have been relayed, ballasting increased, and bridges strengthened or replaced. The port of Kigoma has recently been rehabilitated, and has considerable excess capacity. A number of other initiatives are being tackled under the on-going world Bank financed Railway Restructuring Programme.
- 26 The rail/lake route from Dar-es-Salaam via Mwanza to Uganda began operations in 1986/87 using URC wagon ferries. TRC has experienced several capacity constraints on this route, and at one time URC hired some locomotives to TRC to help move cargo destined to Uganda. There have also been attempts to move cargo by road between Dar-es-Salaam and Mwanza where it is transhipped to Uganda ferry wagons. However this attempt has been frustrated by the condition of the road between Dar-es-Salaam and Mwanza, parts of which have remained in very bad condition.
- 27 TRC freight tonnage has stagnated at around 1.0 million tonnes between 1988 and 1992. While freight tonnages carried on the railway system have declined from 933,000 tonnes in 1988 to 924,000 tonnes in 1992, marine tonnages increased three fold from 43,000 tonnes to 137,000 tonnes during the same period. The increasing marine tonnage is related to the growing significance of the rail/lake route via Mwanza to Uganda. However, it is observed that TRC has been unable to expeditiously move traffic on offer at the port of Dar-es-Salaam, thereby remaining a weak link in the Central Corridor. It is understood that despite the equipment owned and significant salary increases in 1992, TRC management does not yet fully portray commercial orientation and labour morale and motivation are very low.

### ***Road Freight Transport System***

- 28 The fast growth of road freight industry in the East Africa region from late 1960s to mid 1980s can be attributed to the substantial decline in the service standards and efficiency of the rail transport system. During these early years, road freight business was very lucrative and attracted both experienced and inexperienced transport operators into the industry.
- 29 Due to expansion in the industry, vehicle fleets have grown indiscriminately in quantity but not in technical standards. The involvement of inexperienced operators has led to poor management of trucks and the varied vehicle fleet models in the region has increased the problem of spare parts acquisition. The situation has led to high cost of road transport services to consumers in the region resulting in poor vehicle utilization and hence low returns on investment for operators.

- 30 Currently, a large proportion of the vehicle fleet in Kenya is involved only in domestic haulage. Much of the import traffic at Mombasa lands with a clearing and forwarding name tag for a company registered in the country to which the consignment is destined. Hence, vehicles from the landlocked countries are delivering transit cargo to their countries from Mombasa leaving Kenyan based companies with little choice but to compete for domestic cargo.
- 31 The road freight vehicle fleet in Kenya is composed of very old vehicles, average 15 years old, whose operational efficiency is quite low, utilisation of 50,000 - 60,000 Kms a year. Although the industry was initially dominated by a parastatal KENATCO, at present, the industry is in the hands of private owners and operators. There are many vehicle models with varying capacities of upto sixty tons. It is understood that vehicle operators are burdened by high administrative costs due to the recent high inflation rates while freight rates have stagnated due to competition in the industry. Despite these problems, the industry has continued to carry over 70% of the total national freight, earning K£176 million in 1989 which rose to K£262 million in 1992 showing an increase of 49% over four years.
- 32 In Tanzania, fleet replacement has averaged 4% p.a which is inadequate compared to the over 15% replacement rate estimated as appropriate under poor African road conditions. To overcome this situation, the government in 1990 negotiated with several international private investors to increase a capacity in road haulage by granting duty free importation of vehicles and related spare parts. This incentive coupled with the prospects of high profitability levels attracted major transport companies to invest in the road freight transport industry. The lack of adequate restriction of axle load limits in Tanzania during the early 1990s also served as an encouragement for the new investors to bring in vehicles of high capacities, of upto 60 tonnes, which would provide a basis for even higher profitability.
- 33 However, the Government has by 1994 re-introduced duty on various aspects of haulage operations which has translated into considerable increases in operating costs. This, coupled with the increasing restriction in axle load limits has had a tremendous effect on margins, impairing the capacity of these operators to comfortably meet their committed financial obligations. The strict enforcement of axle load limits on vehicles has also reduced permitted payload, thus affecting revenue potential, reducing operating margins further. As of June 1994, a number of Tanzanian based operators had shifted their base of operations to Mombasa, focusing on ZBRU traffic. This move has beefed up the existing capacity in Mombasa and freight rates are falling drastically due to increased competition.
- 34 Public sector participation in Uganda road freight industry is minimal, though there is one government owned freight trucking and clearing company, Transocean (U) Ltd and one Co-operative Union, The Uganda Cooperative Transport Union Ltd (UCTU) which offer trucking services. In practice however, only the latter offers such services with the former relying on private subcontracting. Thus most of the transit traffic transportation is within the domain of private sector companies. These have been responsible for the transportation of most of the food stuffs, agricultural produce, livestock, industrial products and other freight in the country, and of a significant amount of Uganda's imports and exports through Kenya.

- 35 But the perhaps the major problem facing road transport in the region is the condition of infrastructure particularly along the routes through Tanzania to the LLCs. With the heavy investment made in the rehabilitating roads, the major emphasis must now be directed to adequate road maintenance and prevention of overloading, however, the problems of overloaded vehicles which threaten the benefits of road rehabilitation still persist. The main problem of axle load control is the lack of adequate legislation and enforcement equipment, however, every country in the region is understood to be concerned.

### *Marine Services*

- 36 Lake services continue to play an increasingly important role in the movement of transit cargo - with Lake Victoria serving both the Central and Northern Corridors. In addition, Lake Tanganyika serves the Central Corridor. The problem is that there have not been co-ordinated lake services in the sub-region. Services are not scheduled and ferries sail on demand. Operationally it would appear that there are no major problems in the rail/lake interface, probably arising from the current excess capacity of the ferries. However, investment and rehabilitation of lake facilities has been minimal. This has led to deterioration of these facilities and lack of some basic equipment needed for safety and communications in marine operations. It is understood that the lake services are run without internationally accepted standards necessary to ensure safety of life, navigation and prevention of pollution. There has also been cases of accidents arising from improper handling of ferries by unqualified personnel. Another major problem is the lack of an up-to-date and enforceable legislation to govern safe maritime activity particularly on Lake Victoria. An inland waterway transport agreement providing minimum internationally accepted standards for the conduct of safe maritime activity that should form the basis of harmonised national legislation has been prepared, but not yet discussed. Moreover, the Permanent Technical Committee set up in 1990 by the PTA Council of Ministers to formulate a co-ordinated development programmes on inland waterway transport has never become functional.

### *Co-ordination of ZBRU Traffic*

- 37 There are also sub-regional, regional and continental organisations which influence the current structure and functioning of the transport industry. These include; Transit Transport Co-ordinating Authority (TTCA), East African Co-operation Agreement (EACA), Eastern and Southern Africa Common Market (COMESA), all of which develop policy measures which act as checks on transport costs. The current problem in these organisations is lack of political goodwill and financial support from some of the member countries they represent. As the TTCA is charged with the co-ordination of transit traffic through the northern corridor, the closing of the Uganda/Rwanda border renders the traditional Northern Corridor route to Rwanda and Burundi inoperational with the implication that the TTCA role is currently limited to Uganda traffic, and that movement of the bulk of the transit traffic in the region is not co-ordinated by any specific authority. It also means that the former strict distinct categorisation of the Northern and Central Corridors is no longer valid. Road routes emanate from Mombasa, but leave the traditional Northern Corridor route at various stages to join road connections from Dar-es-Salaam to Rwanda

and Burundi. Currently there is no road connection to Rwanda and Burundi via the old Northern Corridor route. As it were, the role of the TTCA has shrunk as a co-ordinator of the Northern Corridor traffic.

### ***Major Cost Components***

38 Four major cost components have been identified as comprising the overall costs of transportation from the ports of Mombasa and Dar-es-Salaam to the landlocked countries. These are:-

o **Port Charges:** after the revision of the port tariff at Dar-es-Salaam in September 1992, this port is perhaps currently the most expensive transit port in the East African region, including Mombasa, Maputo and Durban. The high tariff had a devastating effect on the port's throughput in 1993, a decline from 5.1 million tonnes in 1992 to a mere 2.9 million tonnes in 1993, 44%. In terms of relative costs, charges for transit traffic at Mombasa are only 43% and 45% of the equivalent charges at Dar-es-Salaam, for general cargo and containers, respectively. Similarly domestic cargo rates at Dar-es-Salaam are about twice as much as the equivalent costs at Mombasa. This analysis does not include time costs related to inefficiencies and delays at each port.

o **Clearing and Forwarding Charges:** most transit cargo from Mombasa inevitably crosses more than one border, as compared to transit traffic at Dar-es-Salaam where there is only one border crossing. The crossing of two border posts entails increased transactions both at Mombasa and the respective border posts. Similarly, the detailed involvement of CFAs in Mombasa including verification of containers, posting of security bonds, involvement with the police and escort convoys, cancellation of bonds, and general financing costs all combine to generate clearing and forwarding costs which are over and above the equivalent costs at Dar-es-Salaam. It has been estimated that C&F charges could average as much as 6.5% of CIF at Mombasa compared to 3.5% of CIF at Dar-es-Salaam, which has relatively simpler procedures which are less cumbersome.

o ***Freight Costs***

-**By Route:** the rail/lake connections between Dar-es-Salaam and Mwanza to Port Bell, and between Dar-es-Salaam and Kigoma to Bujumbura have the lowest freight rates for traffic to Uganda and Burundi respectively. Notwithstanding the Isaka rail/road system offers the greatest potential for Rwanda and Burundi cargo. The traditional Northern Corridor road route (now inoperational), although previously recognised as the most convenient transit route to the landlocked countries of Rwanda and Burundi, has currently no cost advantage over the Isaka rail/road system, which together with the Dar-es-Salaam - Kigoma rail/lake ferry connection are the most cost effective routes to Burundi and Rwanda. The Kigoma rail/ferry connection to Burundi is particularly cost effective for general cargo traffic. Notwithstanding, the proposed road/ferry alternative route from Mombasa via Kisumu and Kemondo Bay would have an overall lower cost structure, compared to the two routes in the Central Corridor.

**-By Mode:** the freight costs related to the road mode are generally higher than the equivalent rail or rail/ferry combinations. It is observed that road freight costs are higher than rail because they include inter alia transit charges payable by the transporter on transit which include transit goods licences, entry permits, transit bonds, border fees, temporary road licences, foreign vehicle permits, toll charges and foreign commercial licences selectively applied by different transit countries at varying levels, depending on whether the vehicle carrying cargo to the landlocked country is registered in that country, or in another country. An analysis of these charges indicate that they amount to as much as 20% of the direct freight costs (11 - 14% of the total costs of transport). Notwithstanding the above, roads in good condition, such as the Malaba route are associated with costs tending towards the equivalent rail or rail/ferry costs.

Road transport operations within the region are also subject to police checks at make-shift road blocks operated by various police departments. It is understood that substantial sums of money are paid unofficially and corruptly to police officers manning these road blocks in the pretext of enforcing road traffic regulations. For example, drivers spend as much as US \$20 between Mombasa and Malaba. Road transporters have also been prosecuted and fined large sums of money or have corruptly paid their way because of overloading.

**-General Cargo versus Containers:** general cargo rates and those applicable for containers are fairly similar for each transit route in the region consequently, container traffic does not benefit from the concept of containerisation particularly for importers. When containerisation was introduced in East Africa in 1965, necessary handling equipment were installed at both the ports of Dar-es-Salaam and Mombasa to facilitate the speedy handling and movement of container traffic. However, these equipment and facilities have been outstripped by the increasing containerised traffic. Moreover at Mombasa, containers are sometimes stripped. At Dar-es-Salaam, the stacking areas are several kilometres from the port - this local movement is costly to the shipper. Finally the charges related to demurrage of containers in transit, and the costs related to the return of empty containers, all combine to increase the costs of containerisation in the region with no benefits accruing to the importer. Indeed, there are instances in this study in which it has been found that the overall cost of transportation of containerised traffic is higher than the equivalent costs of general cargo movement.

- o **Costs due to inefficiency and delays in transit:** It is assumed that for each consignment, the importer has a normal budgeted transit time for purposes of planning, 12 days for Uganda, and 15 days for both Rwanda and Burundi. On this basis, all the routes in the region exhibit average transit times in excess of the budgeted transit time. It is argued that the excess transit time can be related to excess funding costs, assuming cost of working capital at 20% and inflation at 20%. These additional costs have been estimated to be between US\$111 and US\$597 for a 40 ton general cargo consignment for all four Uganda routes, and between US\$139 and US\$426 for all the routes to Rwanda and Burundi. These ranges are fairly similar for containerised traffic to the three countries.

**Transit Times and Major Cost Components (US \$)**

(Assuming 40 ton General Cargo with CIF Value of US \$10,000)

Routes	Transit Times (days)	Port Charges	CFA Charges	Inland Transport	Additional Costs of transit	Total Cost	Cost/Ton
<b>UGANDA</b>							
Malaba - Rail	22	450	650	3256	157	4513	113
Kisumu - Rail/Lake	31	450	650	3082	295	4477	112
Mwanza - Rail/Lake	52	1040	350	2231	597	4218	105
Malaba - Road	23	450	650	3200	179	4479	112
<b>RWANDA</b>							
Kigoma - Rail/Lake	37	1040	350	4164	426	5980	150
Isaka - Rail/road	32	1040	350	4171	290	5851	146
Dar - Road	29	1040	350	5275	257	6922	173
Isebania - Road	30	450	650	7000	310	8410	210
<b>BURUNDI</b>							
Kigoma - Rail/Lake	41	1040	350	2564	336	4290	107
Isaka - Rail/road	32	1040	350	4171	290	5851	146
Dar - Road	30	1040	350	5675	262	7327	183
Isebania - Road	31	450	650	7000	310	8410	210
<b>ALTERNATIVE ROUTES</b>							
Kemondo Bay - Rail/Lake/Road	31(33) <sup>1</sup>	450	650	3788	306	5194(5138)	130(128)

<sup>1</sup> Figures in brackets assume rail wagons loaded on wagon ferries at Kisumu instead of road vehicles.

### ***Total Costs of Transportation***

- 39 The analysis provided in this study (see the table opposite) indicates that there is a fairly uniform cost pattern for all the four routes to Uganda, with no clear cost advantage for any, although container traffic appears to be slightly more expensive. However, the cost patterns for routes to Rwanda and Burundi vary widely, with the Isaka rail system being perhaps the most cost effective transit route for all categories of cargo. The rail/lake Kigoma connection is also preferable for Burundi traffic. As is clear, these cost patterns favour the Tanzania routes, with the traditional Northern road route to Rwanda and Burundi having no cost advantage but remaining a competitive road route if it were to be re-opened because of its established infrastructure.

### ***Recommendations***

- 40 At present, the Landlocked Countries pay up to 90% of CIF value of imports ( assuming US \$10,000 CIF value and weight of 40 tonnes) as total transportation costs of their cargo. The effort is to reduce this proportion in the context of developing low cost routes. Similarly, transit security in a region so dependent on imports for its lifeline would be achieved, only to the extent that cargo movement is not tied to one port, route or mode, such that cargo flow is not disrupted by external factors. In the East African Region transit security can only be achieved with access to both ports of Mombasa and Dar-es-Salaam and the availability of both rail (or rail/ferry) and road modes of transport. These two objectives have been difficult to reconcile because in often times the diversification of routes and modes to ensure a steady flow of cargo negates the low cost considerations. Any recommendations made to achieve the objectives of the LLCs must also recognise the objectives of the transit countries which relate to the minimization of their infrastructure cost. In the following paragraphs we enumerate some key issues which need to be addressed as a basis of making the movement of transit traffic cost effective and the routes and modes more competitive.
- 41 There is little doubt that additional investment in infrastructure is a priority to the solutions of the low cost objectives of the LLCs. However, additional investment will only be justified by traffic levels, and it is clear that the transit countries will not make investments just on the basis of projected transit traffic levels, because the routing decisions of this traffic remain unpredictable and are influenced by factors outside the control of the transit countries. The LLCs have also lacked initiative which would assure the transit countries of their longer term commitment to routing decisions. In this context many investment decisions will be viewed as risky on individual country basis, and their implementation will not be achieved unless they are recognised as regional projects, and co-ordinated at that level, through donor support. Notwithstanding the investment needs, it does appear that additional investments in infrastructure in the region will not necessarily provide more capacity, or provide a basis for lower costs, or make major improvements in the transit system, and that maintenance and preservation of the existing infrastructure must be the main priority, through better management and technical assistance.

*The Ports of Mombasa and Dar-es-Salaam*

- 42 The first important step in enhancing efficiency at both the ports is to initiate a comprehensive preventative maintenance programme, with the objective of keeping port equipment in running order instead of spontaneous breakdown repairs. Such a programme should be contracted out to separate private management. Notwithstanding the re-orientation of maintenance management, the general management of both the ports need to be more commercially orientated, with managers being appointed on the basis of their professional backgrounds, rather than on political considerations.
- 43 The ports must also be transformed to act more as focal points for co-ordinating all efforts aimed at rendering quality services with regard to transit traffic rather than simply pursuing the traditional role of ports which was confined to loading and discharging of goods from/to vessels. The ports authorities need to interact more closely, and to play a leading role with the different major players in the transportation chain including the shipping agents, clearing and forwarding agents, transport operators, custom officials, and shippers. Unless this is done, the efforts of each player remain piecemeal with the effect of an overall poor level of service for the port. The new orientation, coupled with improved operating procedures, training and improved remuneration of labour, improvement in information flows and safety procedures, will go along way in the enhancing the overall performance of the ports even at the current levels of investment in infrastructure. This co-ordination role will also facilitate consultation with key players in the port, so that important decisions such as tariff issues are not arrived at arbitrarily.
- 44 As a basis for strengthening the role of the KPA/THA as co-ordinators of various actors in the transportation chain at the ports, there is need for a unified information system within the ports so that shipping and cargo information can be shared. This would involve computerising the individual activities at the port, as is already proposed for Mombasa, and linking the information of the various activities. Similarly, direct phone/fax communication between the transit countries (particularly Tanzania) and the Landlocked countries should also be ensured to facilitate the notification of bills of lading and other necessary documents in this manner.

*Clearing and Forwarding Issues*

- 45 The role of clearing and forwarding agents is crucial to the success, of the port, and yet to date the procedures for licensing these personnel do not involve the ports authorities, and the vetting of the basic requirements of their trade. It is recommended that the KPA and THA take a more active role in the licensing of these personnel in the future, and in their training so that they are not left to learn ports procedures through “on the job training” but through structured and certificated training in ports procedures. It has been suggested that a CFA should be subjected to as many as five years apprenticeship in the clearing and forwarding of domestic cargo before they are certified to handle transit traffic. It would also be of benefit to the port authorities, in their efforts to address the cumbersomeness of customs procedures and regulations to effectively review CFA operations by enforcing a code of conduct and penalties as a basis for improved

ports operations. For the port of Dar-es-Salaam, it is recommended that the Government of Tanzania should liberalize the clearing and forwarding and the shipping agency businesses, particularly where AMI and NASACO are involved, as a basis for fostering competition and improved quality of services.

### *Customs Procedures*

- 46 Customs procedures are widely reported to be cumbersome at both ports of Mombasa and Dar-es-Salaam particularly for Mombasa where customs verification, transit bonds and other requirements have been cited as bottlenecks. The TTCA and other stakeholders have proposed harmonised procedures and requirements such as the Transit Pass or PTA regional bond guarantee. A rapid release system for containers is also currently being implemented with more proposals for curbing fraud already made. A study on Customs Fraud and Traffic Diversion in the Northern Corridor has been proposed since 1991 and will be undertaken commencing January 1995 with EEC funding.
- 47 There is also need to carry out infrastructure development and modification especially at the high traffic posts at Malaba, Busia and Isebania, which though already realised, can not be executed due to lack of funds. In addition, adequate telecommunications network within the Customs Departments has been proposed to enable speedy communication between customs offices and their central administrations. The implementation of such a project requires a study and financial support.

### *The Railway Systems*

- 48 Continued rehabilitation of the railway network and rolling stock are a priority, in the East African region, and the donor community has been very responsive to improvement of infrastructure and facilities, however, total funding is always lacking. It is estimated that KRC alone requires some US \$50 million in order to enhance its capacity to move more traffic, such as the upgrading of the Nakuru - Kisumu branch line. URC needs some US \$100 million for its proposed projects besides the fleet of 400 new wagons received and 1000 wagons rehabilitated since 1992. Priority projects identified for URC include the rehabilitation of the Kampala - Malaba and the Kampala - Kasese branch lines. In TRC some of the problems are being tackled through the on-going World Bank financed Railway Restructuring Programme (RRP) through infrastructure rehabilitations, improvement of capacity, operations performance and financial targets. TRC has for example acquired a container stacking crane (through Belgian financing in 1993) to improve handling facilities. TRC also secured funds from EEC for the development of the Isaka Inland Transit Depot. Despite these efforts, improvement in communication between the ports and the landlocked countries, such as Advance Cargo Information Systems (ACIS) are still a priority. It is acknowledged however, that additional investment per se will not improve capacity; there is a strong case for better management practices which should be advocated by governments, donors and employees of organisations concerned. This should involve the restructuring of the railway managements, gearing railways to commercial operations, regular

reviews of operational performance parameters, organisational structures, investments and the management of finances.

- 49 Increased co-operation and co-ordination between KRC and URC, and between TRC and URC to raise capacity and quality of rail services is another priority area. Such co-operation has been achieved to some extent, and URC now holds separate monthly meetings with KRC and TRC, and some form of agreements or memoranda of understanding exist. The co-ordination among railways in the region should also be emphasised between them and the major key players in the transportation chain which include ports, CFAs, customs and other multi-modal and service agencies. There should be development of inter-railway marketing and forwarding arrangements to avoid duplications and to provide for mutual revenue collections. Harmonized transportation plans and coordination of activities with road/marine transport should also be initiated.

### *Marine Services*

- 50 Experiments in the utilisation of ferries in Lake Victoria to carry trucks and trailers loaded with transit traffic destined for Rwanda and Burundi between Kisumu and Kemono Bay have proved possible. This therefore is a major area of potential for increasing ferry utilisation and needs to be explored and actively marketed. This calls for the improvement of the hinterland roads from and to the Bukoba - Biharamulo road from the Kemono Bay ferry terminal. Other issues to be addressed should include:-
- o The proposal to establish autonomous marine sections within URC, KRC and TRC which has been on record since the early 1980's, should be accorded a more serious thought. It is considered that in the first instance, a study on the modalities for the establishment of a regional organisation to operate ferry services on Lake Victoria should be undertaken. The study should include traffic levels, the structure and scope of the regional organisation, funding levels, source of funds, manpower requirements etc.
  - o The TOR for the design and upgrading of the Kemono Bay - Biharamulo road should be reviewed by the Government of Tanzania to include the potential traffic via Kisumu and Kemono Bay. It is understood that upgrading of the road has attracted several donors' interests, including the African Development Bank (ADB), but the limitations of a low IRR has delayed firm commitment. Donors and international organisations such as EDF, UNDP, DANIDA and UNCTAD have been requested to offer their assistance in the implementation of this recommendation including the funding of the proposed investment studies to justify the exploitation of the route.

***Road Transport***

- 51 Overloading is a major factor of road transport in the region. This is causing premature deterioration of the road network. The various governments have been urged to monitor the importation of trucks and local assembly to ensure conformity with the relevant regulations on axle loads and vehicle dimensions to alleviate road transport costs and infrastructure damage. This calls for organisation of sensitization seminars for road hauliers to examine the relationship between transport costs, overloading and road deterioration and to emphasise on the need for axle load controls.
- 52 The formation of a group of experts on road infrastructure has been proposed by the TTCA and UNCTAD has sponsored the study to assist in its formation. The study among other things reviewed the functioning of the SATCC working group on road infrastructure with a view to the formation of a similar group. The work programme for the proposed working group would typically include the identification of sub-regional road sector projects, review of road design standards and specifications, formulating strategies, updating road inventory and promoting road safety measures on international transit routes. The UNCTAD study showed that technical assistance is critical for the effectiveness of the working group. Donor support will be required for the various activities. Initial negotiations with potential donors to finance the road inventory and technical assistance programme to the proposed working group has been suggested, with UNCTAD and UNDP being requested to co-ordinate contact with donors. It is also to be noted that the TTCA has presented a proposal for a Road Management Study to the EEC for financing from the balance of funds allocated under the Lome III programme to which EEC has already agreed in principle.
- 53 Member states have also been urged to accelerate measures to establish adequate road maintenance funds from user charges. It is ideal to have an inter-ministerial committee in each country consisting of representative from public works, finance, transport and economic planning to ensure the success of road maintenance through user charges. This should go hand in hand with continuous traffic surveys in each country and in the region at large.

***Competition in the Road Sector***

- 54 Increased competition among in-country transport operators as well as inter-country operators is a priority in the region as a basis of reducing the current high cost of road transport operations. However, this may not be achieved unless the issues that govern road transport costs are known. This calls for a regional study on road transport costs to be done to address the issue of vehicle models operating in the region now thought to be too many for specialised and high quality maintenance. The study should also:
- o address the possibility of harmonizing duty on imported vehicles and spare parts for the approved vehicle models, an analysis of optimal truck engine capacity and fuel consumption patterns, and the issue of fuel costs, duty and taxes;

- o examine the extent of government protection on certain transport operators in the region; and
- o make recommendations for alleviating market distortions for implementation by the national governments objective of reducing road transport costs in the region.

### ***Regional Co-operation***

- 55 The member states of the NCTA should review the constitution of the NCTA to include Tanzania and the Central Corridor routes. In addition the member states should authorize the role of the TTCA to include co-ordination of all transit traffic in the region, and along all the routes. The TTCA should also be charged with the responsibility to monitor the implementation of any protocols, conventions or resolutions of the Africa Sub-Continental bodies such as COMESA and EACA. The TTCA should also work mutually with other national bodies including the truckers associations such as the KTA, and Clearing and Forwarding Associations such as TAFFA, amongst others in order to promote better management and operational practices of transit traffic. Finally, the TTCA should continue to co-ordinate studies which have impact on transit traffic, including a study to facilitate the establishment of a data bank to facilitate an information system for transit traffic in the region. A number of these studies have been identified in the TTCA's workplan for 1993/94, and funds are being sought.

### ***Training***

- 56 Among the roles proposed for the expanded TTCA, training should occupy a central place. Seminars on customs and other transit procedures to respond to the need of exporters and importers and other stakeholders in transit traffic appear to be a priority. Already the TTCA have organised such seminars through the assistance of UNDP and UNCTAD attended by economic operators from both the public and the private sectors and representatives from embassies of member state and delegates from sub-regional organisations. Although the TTCA has planned a number of other seminars over the last several years, many of them have not come to fruition because of lack of funds.

### ***Route Options***

#### ***Uganda***

- 57 Uganda is partly dependent on the capacity of the KRC and URC to move its cargo, and partly on the road haulage industry, both in Kenya and Uganda. The further priority to increase co-operation and co-ordination between KRC and URC to raise capacity and quality of rail services cannot be over emphasized. Increased rail movement capacity and efficiency such as evidenced by block trains and commissioning of ICDs at Kisumu and Eldoret, amongst others, could divert a substantial volume of traffic to rail. In this way, transport costs to Uganda will be reduced, the financial position of the railways would be increased and damage to roads in both countries would be reduced.

- 58 Uganda will however continue to use the road connection via Malaba and the rail/ferry connection via Mwanza as its principal security routes. For this latter route, the major constraint is the limited TRC capacity to move cargo between Dar-es-Salaam and Mwanza, and the condition of the road route between the two centres. The TRC capacity will be further constrained when the Isaka system is fully developed as the principal route between Dar-es-Salaam and Rwanda and Burundi. Therefore, the achievement of transit security via Dar-es-Salaam implies that the road route between Mwanza and Dar-es-Salaam is fully rehabilitated, and the wagon ferry network re-organised to accept both trucks and rail wagons. In the case of Malaba road, transit security will only be achieved through additional costs.

***Rwanda and Burundi***

- 59 The present trend of having increased transit traffic to ZBR going through Dar-es-Salaam is likely to increase even further in the short-run, being the influence of the Isaka system. Currently, most of this traffic is handled through Isaka and Kigoma both of which are served by TRC due to lack of good road connections from Dar-es-Salaam. In many respects, therefore, increased movement capacity and improved operating efficiency on the TRC are key to the strategy of meeting many of the objectives of Rwanda and Burundi. For both countries, the objectives of low cost transport is likely to be achieved by the efficient operations through the rail/road Isaka route. For Burundi, TRC offers additional capacity via Kigoma. The increasing traffic via Dar-es-Salaam has already sent signals to the Kenya Government to streamline port operations at Mombasa, and improve rail services.
- 60 TRC capacity constraints mean that Rwanda and Burundi will continue to seek transit through Mombasa port to achieve transit security. However, the only current operating route from Mombasa to Rwanda and Burundi is the road route via Isebania, which however has no comparative cost advantage to the proposed alternative rail/ferry/road route via Kisumu and Kemono Bay. The rehabilitation and upgrading of the Isebania road is, however, on-going on its various sections, and it is probable that this will have a downward pressure on the transport costs along it. If however the Rwanda Uganda border were to be re-opened, the traditional northern corridor route from Mombasa via Malaba to the landlocked countries would constitute the principal alternative route to the Dar-es-Salaam based routes.