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# Comparative Transportation Cost Analysis in East Africa

## *Final Report*

**Gordon Anyango**
**The Management Center**
**Nairobi, Kenya**

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# Contents

# Foreword

Due to the limited size of their international markets, African countries need to combine their efforts, target, and subsequently transcend intraregional trade if they want to develop their economies sustainably. This necessity is recognized and accepted in theory by a number of East African leaders. So far, however, attempts at regional integration in practice — whether at the institutional or the market level — are moving at a slow pace.

The regional transportation network is also in need of urgent overhaul if it is to effectively service food distribution objectives during food emergencies. Given the complementarity between the state of the regional transport infrastructure (road, rail, sea/lake, and air) and the timeliness and cost of cargo delivery, it is critical to assess the relative costs, ease, and timeliness of transporting cargo (especially perishable agricultural exports) using conventional and nonconventional routes. Since East Africa has, over the past few decades, experienced prolonged civil conflicts, droughts, famine, and food insecurity in the face of increasing population growth rates and deteriorating real per capita incomes, it is also essential and timely to comprehensively examine the comparative costs of transportation in the subregion.

In East Africa, the regional transport industry is centered around the ports of Mombasa and Dar-es-Salaam. The Northern and Central Corridors, which simply comprised the rail and road infrastructure linking Mombasa and Dar-es-Salaam to the landlocked countries, developed over time from the two ports. Railways and roads have provided access to exploit most productive resources in the majority of the countries of East Africa. However, air and oil transport also account for some of the subregion's transit traffic. Regional air cargo is mainly destined for European markets.

Most regional air transport is used in emergency situations to deliver food stuffs, medicine, and other relief supplies. Unfortunately, with the passage of time, the low-cost-transit transport system of landlocked countries in East Africa has been threatened by factors including political instability, civil insecurity, rapid increase in traffic, the closure of the Uganda/Rwanda border in 1990, and poor maintenance. The ports of Mombasa and Dar-es-Salaam continue to experience a myriad of operational problems. The customs services at the ports are cumbersome and often of poor quality.

The use of effective transportation cost approaches can facilitate regional trade. In addition, such approaches can expedite relief food distribution to food deficit countries and greatly assist in redressing the structural grain deficit problem that is so very much a key feature of East Africa's food security picture.

This study extensively reviews the literature, and collects and analyzes data on various aspects of transportation costs in the region, especially to and from the two main sea ports in East Africa — namely Mombasa and Dar-es-Salaam — to selected destinations and/or up to the landlocked countries of Uganda, Rwanda, and Burundi. By so doing, the study makes a significant contribution to earlier efforts to quantify, investigate, examine, and minimize costs of transporting goods from the ports of Mombasa and Dar-es-Salaam. Low-cost transport in East Africa is important partly because it promotes more efficient marketing systems, and facilitates regional and international trade, which in turn enhance food security. The achievement of food security is one of the region's key development challenges articulated by USAID and also represents a major strategic objective of various ongoing sustainable development initiatives. By

emphasizing trade and underscoring the importance of lowering transport costs so as to promote food security, this study offers a new policy option that may guide USAID's work in addressing the challenges of assuring national and regional food security in East Africa. Promoting trade and sustainable development in Africa is also in the national economic interest of the United States, as such an investment enhances market development in Africa for American goods and services. Taken together, the benefits envisaged from this study will potentially contribute toward the achievement of USAID's goals of "broad-based economic growth achieved" and "lives saved, suffering reduced and development potential reinforced," as well as enhance the ability of field missions to achieve strategic objectives within their country strategies.

Mr. Anyango's innovative treatment of the concept of comparative transportation cost analysis, as well as the underlying issues and problems facing the industry, is thorough and exhaustive. His extensive use of survey research data based on responses from numerous people interviewed in several countries across East Africa as part of the study's methodology is reflective of the market-based orientation of his investigation. His findings on constraints and weaknesses of the transport infrastructure and facilities, as well as transportation rates, demonstrate the gravity of the bottlenecks that face the industry and the urgency with which Government, at the national and/or regional levels, using donor and international financial assistance must address this problem.

This report is a major eye opener on the subject of transportation cost analysis in East Africa and should form the basis for future policy formulation, and technical and financial assistance strategies on the subject. This report is one in a series of studies on Africa's regional trade and agricultural comparative advantage, a joint activity of the USAID Africa Bureau's Food Security and Productivity Unit in the Office of Sustainable Development, Productive Sector Growth and Environment Division (AFR/SD/PSGE), and the Regional Economic Development Services Office for East and Southern Africa (REDSO/ESA).

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We are grateful to senior officials and other employees of relevant transport organizations and associated industry players in the region. Since it is not possible to personally thank every individual, we hope that you will accept our sincere gratitude.

For the provision of data on which much of this study is based, special thanks to Kenya Railways Corporation, Tanzania Railways Corporation, Uganda Railways Corporation, Kenya Ports Authority, and Tanzania Harbors Authority. We are grateful to officials of customs departments in the region, clearing and forwarding agencies and regional transporters for their cooperation and valuable information used in this study.

# Glossary of Acronyms and Abbreviations

| | |
|---|---|
| ACIS | Advance Cargo Information Services |
| ABD | African Development Bank |
| AMI | Agence Maritime Internationale |
| BIF | Bond in Force |
| BP | British Petroleum |
| BUJ | Bujumbura |
| CBS | Central Bureau of Statistics |
| CDO | Customs Documentation Officer |
| CFA | Clearing & Forwarding Agents |
| CIF | Cost, Insurance and Freight |
| CMB | Coffee Marketing Board (Uganda) |
| COMESA | Common Market for Eastern and Southern Africa |
| CR | Clean Report of Findings |
| CTLA | Central Transport Licensing Authority |
| CTL | Commercial Transaction Levy |
| DANIDA | Danish International Development Agency |
| D&DOs | Declaration & Disposal Order |
| DWT | Dead Weight Ton |
| EAC | East Africa Community |
| EACA | East Africa Cooperation Agreement |
| EACL | East African Conference Lines |
| EARC | East African Railway Corporation |
| EARH | East Africa Railways and Harbors |
| EC | European Community |
| ECA | Economic Commission for Africa |
| EDF | European Development Fund |
| EEC | European Economic Community |
| ESAL | Equivalent Standard Axle Loads |
| FCL | Full Container Load |
| FOT | Free on Truck |
| GDP | Gross Domestic Product |
| GOK | Government of Kenya |
| HGVs | Heavy Goods Vehicles |
| HT | Harbor Ton |

| | |
|---|---|
| ICD | Internal Container Depot |
| IDA | International Development Agency |
| IGOs | Inter-Governmental Organizations |
| IRP | Integrated Road Program |
| IRR | Internal Rate of Return |
| JKIA | Jomo Kenyata International Airport |
| KBO | Kagera Basin Organization |
| KBY | Kemondo Bay |
| KENATCO | Kenya National Transport Company |
| KPA | Kenya Ports Authority |
| KPC | Kenya Pipeline Corporation |
| KRC | Kenya Railways Corporation |
| KTA | Kenya Transport Association |
| LCL | Less than Full Container Load |
| LLCs | Landlocked Countries |
| LPG | Liquified Petroleum Gas |
| MoCW | Ministry of Communication & Works |
| MoWTC | Ministry of Works, Transport and Communication |
| MPRO | Mombasa Port Release Order |
| MTI | Ministry of Trade and Industry |
| NASACO | National Shipping Agencies Company |
| NCTA | Northern Corridor Transit Agreement |
| OAU | Organization of African Unity |
| OSCARO | Operational Simplified Costing for African Railways |
| OTRABU | Organization Transportes Regionaux Au Burundi |
| POL | Petroleum, Oil and Liquids |
| PTA | Preferential Trade Area |
| RCTD | Road Customs Transit Declaration |
| RMVACs | Regional Motor Vehicle Allocation Committee |
| RETCOS | Regional Transport Companies |
| RRP | Railway Restructuring Program |
| SGS | Societe Generalle du Surveillance |
| SATCC | South African Transport Coordinating Conference |
| STIR | Societe des Transportes Internationaux due Rwanda |
| TAFFA | Tanzania Association of Freight Forwarders |
| TAN | Tax Assessment Notice |
| TEU | Twenty Foot Equivalent Unit |
| THA | Tanzania Harbors Authority |

| | |
|---|---|
| TLA | Transport Licensing Authority |
| TLB | Transport Licensing Board |
| TRC | Tanzania Railways Corporation |
| TSC | Tanzanian Shippers Council |
| TTCA | Transit Transport Coordination Authority |
| TZA | Tazara |
| | |
| UCTU | Uganda Cooperative Transport Union |
| UNCTAD | United Nations Conference on Trade and Development |
| UNDP | United Nations Development Program |
| URA | Uganda Revenue Authority |
| URC | Uganda Railway Corporation |
| USAID | United States Agency for International Development |
| | |
| VAT | Value Added Tax |
| VDS | Vessel Delay Surcharge |
| | |
| ZBRU | Eastern Zaire, Burundi, Rwanda and Uganda |

# 1. Introduction

## PURPOSE AND SCOPE OF STUDY

The purpose of this study is to present a comparative analysis of in-country transport costs for the countries of the region, namely Kenya, Tanzania, Uganda, Rwanda, and Burundi and transit costs along different transportation routes from Mombasa and Dar-es-Salaam to the landlocked countries (LLCs), as a basis for understanding the actual transportation costs related to domestic and transit traffic. Therefore, at the country level, the study provides an analysis of the direct transportation costs for general cargo, along identified specific routes. Regionally, the study identifies the current transportation routes, and the financial and economic costs associated with different categories of transit traffic, namely general cargo, containers, and petroleum products to the various LLCs.

Transport cost variables include both financial and economic costs. In-country transport costs include costs incurred due to the inability of rural farmers and businessmen to move their produce to markets profitably (for the farmer) and cost effectively (for the consumer). In domestic transport, the important consideration is on existing linkages between areas of agricultural and industrial production to areas deficient in production capabilities but with high economic demands on foods and services produced elsewhere. Also, in each of these countries, there are climatic differences which cause agricultural production deficits in certain areas while resulting in surplus in others. Efficient distribution of food within a country thus depends on the cost-effectiveness of transport linkages between areas of production and consumption.

In Kenya, tea and sugar cane have been known to go bad in farms due to transportation linkages which are not profitable. For example, sugar cane in one growing area with an inoperational factory is often not transported for crushing at another factory because it becomes unprofitable to do so, causing a production deficit in the country, which affects food security. Similarly linkages which are not cost effective often result in food consumer prices which are unaffordable and which usually results in some form of government subsidy or price control of the commodity. People have been known to go hungry in areas of deficit, mainly the eastern and northern parts of the country, while there is food surplus in western parts of the country. The same applies to the Karamoja area of north eastern Uganda in relation to south eastern parts of the country mainly the Mbarara region where food production is quite high. In Tanzania, the Bukoba and the Mount Kilimanjaro areas are very productive and, in good harvests, can feed large parts of the Tanzanian territory.

Cost effective linkages can also facilitate regional trade. For example, before the construction of the railway between Mombasa and Uganda, the cost of conveying goods to Uganda from Mombasa was about £K240 (US$100) per ton, using human porters and taking the better part of a year to get goods to Uganda. The present average cost of carriage on the railway system is approximately US $60 per ton, but it takes only 3 - 4 days to do the same journey. Obviously commerce was impossible in any scale before the construction of the railway, since so few goods could bear the transport costs. The result was that only largely non commercial supplies for missions and administration could move. The cost-effectiveness of

the railway today has therefore facilitated trade between Kenya and Uganda, as goods can bear transport costs.

With regard to transit traffic, the governments of the landlocked countries in the region pursue several objectives which have been difficult to reconcile. These are:

- development of low cost, efficient transit routes;
- diversification of transit routes and modes to provide additional transit security; and
- development of national capacities for international transport which includes the provision of adequate transit transport and the development of inter-linkages between the national trunk and the international trunk transport infrastructure.

It is widely reported in the literature[1] that the remoteness of most LLCs from world markets contributes to the high transport costs which these countries have to bear. Although the degree of remoteness of individual landlocked countries varies considerably, in all cases, overseas trade entails the shipment of goods through the sovereign territory of another state, and in some cases through more than one state. In the East African Region, transit traffic to the landlocked countries of Uganda, Rwanda and Burundi entails passing through Kenya and Tanzania (the coastal countries), and Uganda for some of the traffic to Rwanda and Burundi. The passage through other countries entails additional costs which the coastal countries themselves do not incur for their cargo, and which the shippers invariably have little control over.

The transit costs to the landlocked countries are not only a function of distance. Indeed, in many cases in road transport in the East African region, freight rates are destination based and do not vary with the length of the actual route taken. Costs escalate because of inadequate transport facilities, inefficient transport management, unreliable communications between the ports and the landlocked countries, complicated customs and documentation procedures, and many other official and unofficial costs related to road use in the coastal or other transit countries. Experience in the region also indicates that (political) relations between the landlocked countries and the transit countries, security aspects and development priorities of the transit countries and availability of backhaul cargo are also of critical importance in determining transit costs. It should be clear to the reader that the transit transportation costs include both the direct and indirect costs of transit, this latter not often determined.

The LLCs have continuously reviewed their status as countries dependent on dominant and specific routes for their exports and imports. On the one hand the availability of two international ports in the region has reinforced the development of transit transport corridors which optimize the low cost and transit security objectives. On the other hand, the LLCs have focused on increased investment in road transport industry notwithstanding the existence of other modes. This mode of transport has dominated all the other modes in domestic as well as regional and international trade, because of its flexibility and speed. As regional trade increased, investors in each country and the respective governments recognized the high potential there is in earning foreign exchange through engaging in transit transport. Hence, each government encouraged its nationals to invest in this new found area. To hasten the take off pace, parastatals were formed to lead the way before private investors came in.

## REGIONAL ECONOMIC PERSPECTIVE

The five countries in the East African region are characterised by economic problems which are common to many developing countries. The average regional annual gross domestic product (GDP) growth rate in 1992 was 2.2 percent compared to an annual population growth rate of 3.06 percent for all the countries covered by the study. The combined population of the inhabitants of the region is estimated to be 82. 4 million.[2] Over 80 percent of this population is rural with farming as the major economic activity.

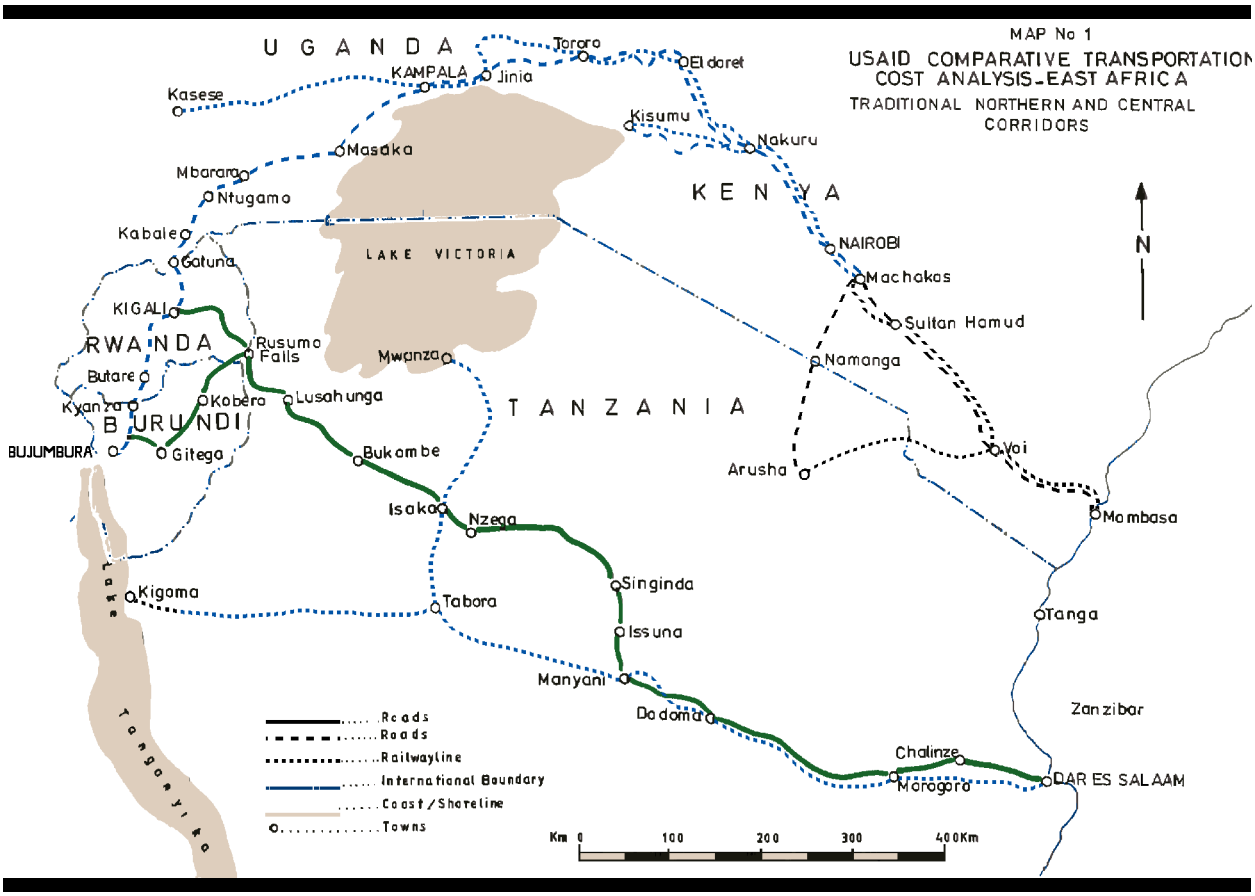
The relatively high population growth rate has had a negative effect on food production in that, food production per capita has declined by 10 percent from 407 Kg in 1981 to 367 Kg in 1991 within the region.[3] The real average agricultural growth rate for the region in 1992 was 2.04 percent with Rwanda and Kenya contributing less than 0.1 percent of the total growth rate by country. Since then there have been events ranging from civil strife, political instability and drought which are believed to have reduced the above real regional agricultural growth rate further. These indicators imply the continued dependency of the region on external food purchases, aid and international trade.

In a region of widespread poverty and food shortages, transport is seen as a basic ingredient of survival for peasant farmers and refugees who are faced with civil strife and starvation.[4] In the current decade, the lifeline of survival of over 40 million Sub-Saharan African refugees will be the arrival of food aid supplies by water, road, rail and air. Ten percent of this refugee and displaced persons population is believed to exist in the Eastern and Central African region.

Similarly consumers face increased prices for food supplies due to inadequacies in the transport distribution systems. In this region, the unavailability of motorized transport for hire and the failure to maintain roads in adequate conditions has restricted both cash crop sales and food circulation, even within the national boundaries of each of the five countries. This has resulted in a failure to market surplus crops, thus leading to reduced income generation locally. For example, in 1988 in Tanzania, half of the cotton harvest, 80 percent of the rice paddy and half of all seeds, fertiliser and herbicides were lost due to inadequate rural transport. The same problems of inadequate domestic transport systems exist in all the other countries in the region.

At times food supplies are piled up on the docks or in ships at Mombasa and Dar-es-Salaam, the two major ports in the region, due to lack of sufficient trucks, fuel and spare parts. Other delays are caused by persistent damages on the railway systems, transit insecurity due to civil strifes, border closures and dilapidated road systems. This decline of the transport systems, especially the regional railway systems which have been the backbone of regional transport, is a major obstacle to efficient transportation in Eastern Africa.

The major transit routes in the region were constructed with the aim of shipping agricultural raw materials to the ports for transhipment to markets in Europe. For example, the railway system in East Africa was originally built to provide a means of linking Uganda with the outside world; it thus became the Uganda Railway. The intra and inter-country function of the railway developed much later when opportunities for regional trade became significant. After independence, each country strove to participate actively in international trade through the establishment of industrial basis and the promotion of commercial farming by the local people. Regional trade was also emphasized as evidenced by the various agreements and treaties signed to promote regional trade. This called for increased investments in infrastructure for in-country and international transport needs. As the need for these investments increased, the question of investment maintenance became paramount among the investors and the users of such




facilities. Countries once freely linked to the coast by railway and road networks have had to pay for their goods to transit through the networks of the coastal countries, namely Kenya and Tanzania. For the landlocked countries, namely Uganda, Rwanda and Burundi, this charge is over and above the maintenance costs of their domestic transport infrastructures and facilities to cater for increased local needs.

## HISTORICAL REGIONAL TRANSPORT PERSPECTIVE

Traditionally, the regional transport industry in East Africa, particularly with respect to transit traffic, is centered at the ports of Mombasa and Dar-es-Salaam. From these two ports has evolved what has been termed the Northern and Central Corridors, respectively. In the 1960s and 1970s, the two corridors simply comprised the rail and road infrastructures linking Mombasa and Dar-es-Salaam to the landlocked countries. Therefore the Northern Corridor comprises the 1333 Km rail network from Mombasa to Kampala and the road routes from Mombasa via Malaba and Busia to Kampala. It also comprises the road network running along the Kampala/Kasese railway, and the road network from Kampala to Mbarara and Kabale, reaching Rwanda through Kigali and Butare, and on to Bujumbura, much of which is in an improved state. Similarly the Central Corridor comprises the Dar-es-Salaam/Kigoma rail network (1254 Km), connecting to Bujumbura by ships and barges on Lake Tanganyika, and to Rwanda by road. The road component of this latter corridor is a much later creation, but now leads from Dar-es-Salaam via Dodoma, Singida, Nzega to Lushaunga into Rwanda and Burundi. *Map I* gives the major nodes in traditional Northern and Central Corridors.

The structure of the regional transport industry must be seen from the perspective of these two corridors. They provided the lifeline between the coastal (Kenya and Tanzania) and landlocked countries (Eastern Zaire, Burundi, Rwanda and Uganda); these latter abbreviated as ZBRU to denote their common and unfortunate dependence on the other countries' infrastructure and facilities for their imports and exports.

The port of Mombasa has over the years handled more imports to and exports from the region, than did the port of Dar-es-Salaam. Specifically, the port of Mombasa and by implication, the Northern corridor, was responsible for a significant proportion of the transit traffic to the ZBRU countries. Earlier figures are not available, but by 1982 Mombasa was still handling some 470,000 tons of transit cargo to ZBRU countries compared to 111,000 tons at the port of Dar-es-Salaam; which however was also handling significant amounts of transit traffic to Malawi and Zambia. While the rail network in the northern corridor (then operated by the East African Railways Corporation covering the networks in Kenya, Uganda and Tanzania) was responsible for much of the Uganda traffic, Kenyan based road transporters were the major beneficiaries of the concentration of transit cargo traffic at the port of Mombasa and the Northern corridor, providing almost exclusively the transport capacity to Rwanda, Burundi and Eastern Zaire.

Kenya based transporters did not limit their participation to Mombasa and the Northern Corridor. The Kenya National Transport Company (KENATCO), a Government of Kenya (GoK) parastatal founded in 1967, with a fleet of 350 heavy commercial vehicles, subcontracted 100 of them to the Dar-es-Salaam based Tanzania Road Services to exploit the growing potential of the port of Dar-es-Salaam for transit traffic from Zambia and Malawi. Although the road transport market expanded tremendously between 1970 and 1973, the collapse of KENATCO in the early 1980s gave way to many small and medium sized Kenyan operators to enter the transit traffic market.

The collapse of KENATCO came after the collapse of the East African Community (which operated the East African Railways and Harbors Corporation) and the division of its assets to the newly established Kenya Railways Corporation (KRC), the Uganda Railways Corporation (URC) and the Tanzania Railways Corporation (TRC). The effect of the establishment of the new corporations was the loss in economies of scale, and the subsequent fall in the level of services provided by the railway network in the transportation of cargo throughout the region. Conversely the increasing number of road transporters provided an enabling environment for competitiveness with the implications of a high level of efficiency and stability of tariffs.

The political instability in Uganda in the late 1970s and early 1980s was to become the first threat to the dominance of the Northern Corridor. On the one hand, the security situation of the Northern Corridor was at stake, and when borders with Uganda were not closed, transit times had increased significantly and the quoted freight rates to the ZBRU reflected a risk premium. On the other hand efficiency at the port of Mombasa was declining, mainly occasioned by a large stock of old equipment, management and labor problems, cumbersome customs and documentation procedures all which served to increase the transit time through the port. The increasing use of the Central Corridor was responsible for the decline in transit traffic handled at Mombasa from 470,000 tons in 1982 to 374,000 tons in 1985, while at Dar-es-Salaam, the volume of ZBRU transit traffic handled increased from 111,000 tons in 1982 to 213,000 tons in 1985. Inevitably, new alternative routes to the ZBRU countries which ensured security to both cargo and vehicles in transit, and which would provide a basis for shortened transit times and stable tariffs, were increasingly being sought.

The declining dominance of the Northern Corridor was exacerbated when the Government of Kenya

(GoK) introduced various aspects of road user and transit charges through Kenya so that infrastructure could be maintained, and cumbersome transit procedures, both of which have combined to continually increase overall costs of transportation along the Northern Corridor.

## THE NORTHERN CORRIDOR TRANSIT AGREEMENT (NCTA)

It is against the above background that the Northern Corridor Transit Agreement (NCTA) was contracted with the objective of simplifying and harmonizing procedures relevant to the expeditious movement of goods in transit. The NCTA was signed in 1985, covering nine major areas, or protocols. The key provision of the NCTA was the establishment of Transit Transport Coordination Authority (TTCA) which is charged with the responsibility of the achieving of the aims of the NCTA, particularly matters related to transport policy and operational coordination of transit traffic. The TTCA comprises the ministers responsible for transport matters in each of the contracting states, Kenya, Uganda, Rwanda, Burundi and Zaire. A notable omission to the TTCA was Tanzania which has seen the efforts of the TTCA as that of promotion of increased use of the Northern Corridor, against her own infrastructures in the Central Corridor. The TTCA has an executive board and a Transit Transport Coordinator (TTC) based in Mombasa. However, although Tanzania is not a member of the Executive Board, it has participated in TTCA's deliberations as an observer.

The TTCA which was set up in 1988, has exerted satisfactory efforts to enable the Northern Corridor to sustain its traditional role as the main route to the landlocked countries. However, the NCTA has not been fully successful in reducing delays related to cumbersome transit procedures, or the level of transit charges along the Northern Corridor. It is argued that since the agreement, transit restrictions within Kenya have noticeably increased as customs and police authorities have enhanced surveillance of transit cargo. The role of the TTCA was further subdued by the closure of the Uganda/Rwanda border since 1990, which made it impossible for vehicles using it to enter Rwanda and Burundi.

Thus over the last several years, the landlocked countries have sought new routes to reach Mombasa and Dar-es-Salaam to meet both low cost and security objectives. For example the closure of the Rwanda/Uganda border in 1990 resulted in the increased use of the road routes in Northern Tanzania through Mwanza and Isebania to rejoin the Northern Corridor to Mombasa. Similarly the landlocked countries have additionally invested in transport facilities to reduce their reliance on facilities provided by the transit countries. The establishment of Organization Transportes Regionaux Au Burundi ( *OTRABU*) of Burundi (now defunct), Societe des Transportes Internationaux due Rwanda ( *STIR*) of Rwanda and *Transocean* of Uganda have been specific initiatives in response to the need to achieve transit security.

## METHODOLOGY

To address these issues effectively, it is important for the reader to understand transport cost relationships. There are two dimensions to transport, space and time. Better transport means that goods can be moved more cheaply through space from point of production to the point of consumption. In this way transport has the effect of widening markets, with all the possibility of economic growth that it entails. In the East African region, and indeed for many developing countries, low cost transport particularly facilitates regional and international trade, which provides a basis for enhancing food security. However the current magnitude of transport costs in the region has not facilitated the achievement of these objectives. In the second dimension, time, improved transport enables big economies to be made in the use of capital. Conversely, lack of adequate transport results in the tying of capital, and inefficient use of scarce resources.

Increased transit times are prevalent, restricting the efficient use of capital.

Therefore, in order to understand the magnitude of transport costs in the region, the study team extensively reviewed the literature on various aspects of costs in the region, and visited many institutions and organizations in Kenya, Uganda and Tanzania, collecting information and interviewing people in these institutions and organizations. The complete list of all literature reviewed, published and unpublished, is included as Appendix I. Similarly, the list of all people interviewed is provided as Appendix II. The data and information collected concentrated on transportation costs to and from the two main sea ports in East Africa, namely Mombasa and Dar-es-Salaam to selected destinations en-route and/or up to the landlocked countries of Uganda, Rwanda and Burundi. The fact that the study team identified road, rail and lake transport as the major transport modes in cargo haulage in this region made it necessary for a high priority to be accorded these modes during the transportation costs analysis exercise.

The study team could not make visits to Rwanda and Burundi due to insecurity in that region but has generated statistics through personal interviews with Rwandan and Burundi businessmen in Kenya and also used published secondary data obtainable from Kenya, Tanzania and Uganda to determine the traffic levels and identify transport cost components along alternative routes to Uganda, Rwanda and Burundi from Mombasa and Dar-es-Salaam.

The study was originally issued in September 1994, and the major findings were presented and discussed at the specifically convened East African Transportation Symposium which was held in Arusha, Tanzania in June 1995. As the study had identified, the transportation costs in the region were exceptionally high and detrimental to economic development, the symposium thus adopted the theme of "Cutting the Costs", and was attended by stakeholders in the transportation industry in the region. These included representatives from Government ministries in Kenya, Uganda and Tanzania, representatives of parastatals and other public bodies providing transportation services in the region, posts, railways, customs and private sector operators. This revised study report thus now reflects the additional inputs which have been provided and/or suggested by these stakeholders.

In this study report domestic costs of transport for the coastal countries are analyzed for major nodes between the agricultural and industrial productive areas and the sea ports of Mombasa and Dar-es-Salaam for export produce. On international transit transport, it has been important to distinguish between the total costs of transport which the user has to meet and the actual rates and charges demanded by the form of transport used. Therefore the costs to the shipper are identified as comprising port handling charges, clearing and forwarding charges and freight charges and the cost of interest charges on the capital locked up in goods in transit. Even though nobody pays such charges when funds are not borrowed, the consignee will forego the earning power of the capital locked up in the form of goods on their way to the market. It is assumed that normal transit time exists for both imports and exports, and that as transit time becomes longer, and over and above the normal, costs are incurred by the shipper by way of extra interest charged by banks for the period equivalent to the "longer than normal" transit time, and through capital erosion related to inflationary trends in the region. There is also a whole range of official and unofficial charges which are particularly relevant to road transit transport in the region which the transport operator has to meet out of freight rates charged, and which therefore are indirectly costs of transport to the shipper.

## ORGANIZATION OF THE STUDY

This study is organized around six main chapters excluding this introductory chapter. In Chapter 2 a comparative analysis is made of the ports of Mombasa and Dar-es-Salaam, and individual routes and/or a combination of routes emerging from these two ports to the landlocked countries are identified, including a presentation of the condition of infrastructure and facilities associated with their use. In Chapter 3, an overview of the regional transport industry is presented while in Chapter 4 a detailed description of the clearing and forwarding procedures for cargo and associated costs are presented. The domestic and regional freight flows and freight rates are discussed in Chapter 5 while in Chapter 6, a detailed comparative cost analysis by route, and mode is made for different cargo categories. In Chapter 7, we summarize our conclusions, indicate policy implications, and make our recommendations mainly on how the regional transit and domestic costs can be minimized. Chapter 7 also presents proposed action plans to achieve the recommendations.

# Chapter 2. Transport Infrastructure and Facilities

## INTRODUCTION

In this chapter, we discuss the transport infrastructure and facilities which are used to transport goods within the domestic economies of the five countries and those for transit traffic. The chapter is structured in three distinct but related sections.

In the first section, a comparative description of available infrastructure and facilities for handling traffic at the ports of Mombasa and Dar-es-Salaam is made. Equipment at the two ports are considered and analytically compared to indicate port handling capacities and efficiency. In the second section, the location and conditions of various domestic infrastructure and facilities are considered to indicate linkages to food production and distribution locally. We also relate local transport infrastructure and facilities to international transport facilities to determine the existing linkages. The third section is devoted to the identification and comparative analysis of transit transport route infrastructure and facilities by mode from the two ports to the landlocked countries of Uganda, Burundi and Rwanda. The condition of each route identified is discussed and constraints noted as a basis for future infrastructure and facility development so as to reduce transport costs along the various routes by mode and to improve on food production and distribution regionally.

## MOMBASA AND DAR-ES-SALAAM PORTS INFRASTRUCTURES AND EQUIPMENT

Mombasa port is the largest port in the East African region, is well bestowed with equipment and facilities, and has a natural harbour whose berths do not require constant dredging while the quays are firmly established. The 13km approach channel is reported to be dredged to 13.4m and tidal range is 4m on spring tides and 2.5m length are permitted to enter the port, however the normal limit for night navigation is a vessel of 198m in length. Ships with dangerous cargos are only allowed during daylight hours. Tidal current strengths during spring tides also limit entry to daylight hours. The port has a backup area of 20 hectares. The port is managed by the Kenya Ports Authority (KPA), a GoK parastatal.

Dar-es-Salaam port, managed by Tanzania Harbours Authority (THA) is a smaller port than Mombasa but lies on the western side of a sheltered natural harbour. The narrow entrance channel has four bends and a minimum water depth at low tide of 7.4m. The port accommodates conventional vessels of up to 175m in length, and with tide allowance, of 9.0m to 9.5m draft. The limited depth of the entrance channel, the winding approach and present restrictions of daylight navigation constrain overall port operations. There are however approximately 54 hectares of available port backup land.

In 1992, Mombasa handled 1500 deep sea ships compared to 600 handled in Dar-es-Salaam. All the ships calling in Mombasa were on international voyages. Coastal traffic is insignificant compared to Dar-es-Salaam which handles an average additional 1000 coastal ships annually. Mombasa therefore handles

a greater volume of international cargo to and from Kenya herself and the neighbouring landlocked countries than does Dar-es-Salaam. Despite the high ship traffic at Mombasa, the average harbour time per ship for the five year period from 1988 to 1992 was 6.0 days compared to 4.6 days at Dar-es-Salaam, although the trend at both ports is increasing.

Dar-es-Salaam has 11 deep berths (8 general cargo and 3 container) compared to 16 (11 general cargo and 3 containers) at Mombasa. Despite the limited shipping throughput at Dar-es-Salaam, within the deep sea general cargo section of the port, storage consists of 73,500$m^2$ of covered storage areas, and 82,700$m^2$ of open storage. This can be compared with general cargo facilities at Mombasa which include 13 main transit sheds with a total area of 114,000$m^2$. Dar-es-Salaam has one facility for offshore mooring and discharging of crude oil direct from vessels to refineries in Dar-es-Salaam and Ndola in Zambia while Mombasa has two such facilities (one for crude oil imports and one for refined petroleum products) at Shimanzi and Kipevu oil terminals. In addition Mombasa has a cold storage facility with an area of 1,247$m^2$ and a capacity of 4,562$m^3$. There are also three dry bulk berths totalling 315m in length, two-berth lighterage wharf, an explosives jetty and two dhow jetties.

The container terminal at Dar-es-Salaam has a total area of 18 hectares with a quay length of 550m, compared to the container terminal at Mombasa which occupies 20 hectares with quay length of 596m. Dar-es-Salaam however has had to build two Inland Container Depots (ICDs) in the hinterland at Kurasini (10km) and Ubungo (1km) outside the port area. Similarly, while both transit and domestic cargo use the same facilities in Mombasa, Dar-es-Salaam has designated facilities for transit and domestic cargo.

### *Handling Equipment*

In any port, handling equipment and marine craft are critical for fast ship turn around and cargo off-take from the port area. Availability and serviceability of these equipment is a key determinant of port operational efficiency. In Table 2.1 we present the available handling equipment at Mombasa and Dar-es-Salaam. Mombasa has more than double the cargo handling equipment available in Dar-es-Salaam. Most of the equipment in Mombasa and Dar-es-Salaam are relatively old, however, most of the cranes at Mombasa are mobile as opposed to the fixed cranes found in Dar-es-Salaam. Mombasa also has relatively modern gantry container cranes having acquired 16 and withdrawn 11 since 1987. Most of the old equipment at Mombasa are in respect of conventional cargo which has been declining compared to containerised cargo which has been increasing. It is also understood that most of the equipment at the port of Dar-es-Salaam are obsolete and need replacement if the port is to compete effectively.

### *Port Capacity and Throughput*

The installed capacities and the operational efficiency of the two ports is reflected in the volume of cargo handled each year. Mombasa has a theoretical capacity of 22 million tons against 7 million tons at Dar-es-Salaam. However, while the port of Mombasa would have a practical capacity[5] in excess of 10 million tons annually, including 250,000 TEUs, the capacity of the port of Dar-es-Salaam after addition of a third ship to shore gantry crane, and completion of a number of improvement programs currently ongoing is estimated to be in the order of 4 million tons, which includes approximately 2.1 million tons or containerised cargo, equivalent to 215,000 TEUs.

***Table 2.1 Composition of Cargo Handling Equipment in Mombasa and Dar-es-Salaam 1992***

| Type of Equipment | Mombasa | Dar-es-Salaam |
|---|---|---|
| General Cargo: | | |
| Fixed Portal Cranes | 7 | 29 |
| Mobile Portal Cranes | 96 | 23 |
| Floating Cranes | 1 | 1 |
| Container Terminals: | | |
| Ship to Shore Gantry Cranes | 4 | 2 |
| Railway Mounted Gantry | 2 | 1 |
| Rubber Tyre Gantry | 11 | 6 |
| Highway Tractors | | 12 |
| Terminal Tractors | | 17 |
| Fork Lifts (42 tons) | | 2 |
| Fork Lifts (16 tons) | | 3 |
| Total | 121 | 96 |

*Source: KPA, THA*

In practice however, cargo throughput at the two ports is influenced by many factors rather than just operational handling facilities. Economic conditions in the region also play a major role in determining the volume of cargo through the two ports. Table 2.2 gives the volumes and various categories of cargo handled in the two ports between 1992 - 1994. While Mombasa has consistently handled some 8 million tons during the three year period, throughput at Dar-es-Salaam declined from 4.6 million tons in 1992 to 4.15 million tons in 1994. Both ports handled 80 percent imports and 20 percent exports in 1994, compared to 26 percent and 23 percent for Mombasa and Dar-es-Salaam respectively in 1992. Dar-es-Salaam has also experienced a decline in imports, while at Mombasa imports volumes have been increasing.

***Table 2.2 Ports Throughput - Mombasa and Dar-es-Salaam (`000 tons) (1992 - 1994)***

| | Mombasa | | | Dar-es-Salaam | | |
|---|---|---|---|---|---|---|
| | Imports | Exports | Total | Imports | Exports | Total |
| Dry Cargo | 3930 | 1459 | 5389 | 1370 | 701 | 2071 |
| Bulk Liquids and Oils | 2680 | 200 | 2880 | 1749 | 156 | 1905 |
| Total 1994 | 6610 | 1659 | 8269 | 3119 | 857 | 4150 |
| Total 1993 | 5216 | 2774 | 7990 | 3454 | 1031 | 4485 |
| Total 1992 | 5909 | 2082 | 7991 | 3537 | 1065 | 4602 |

*Source: KPA and THA*

Following the completion of the port container terminal with two inland container depots, containerised traffic at Dar-es-Salaam has increased by 52 percent, from 64,504 TEUs in 1990 to 97,755 TEUs in 1993. However this declined to 90,450 TEUs in 1994. Mombasa handles a much higher level of containerised traffic, although this has remained stagnant around 135,000 TEUs during the years 1990 and 1992, but increased to 144,137 TEUs in 1993, and to 160,293 in 1994.

The two ports play a significant role in facilitating the movement of transit traffic. However while Mombasa does not have an exclusive transit traffic area[6], Dar-es-Salaam has designated specific areas for transit traffic to different countries. Specifically Dar-es-Salaam port has a container depot which handles Zambian cargo, and the British Petroleum (BP) shed which is used for handling Uganda fuel cargo. In the recent past Rwanda has been negotiating with the Kenyan Government to be allocated a plot to build its own cargo center, and it is understood that an area has already been earmarked. In 1993, transit throughput at Mombasa was recorded at 1.1 million tons, (slightly up from 1.09 million tons in 1992), representing 16.4 percent of total port cargo throughput. At Dar-es-Salaam, the transit cargo amounted to 1.284 million tons (representing 28.6 percent of its total throughput) this being 17 percent above the Mombasa transit throughput. However a large proportion of the transit traffic handled at Dar-es-Salaam, 841,979 tons (59 percent) in 1993, 1,221,836 tons (77 percent) in 1992, and 1,170,252 tons (70 percent) in 1991 was to/from Zambia and Malawi. A lot of relief food has come through Dar-es-Salaam in recent years to countries in Southern and Central Africa. However, of more relevance to this study is the transit traffic in respect of ZBRU countries, which amounted to 475,368 tons compared to 700,081 handled at Mombasa in 1993, as Table 2.3 indicates. It is clear from this table that since the late 1980's the volume of imports passing through both ports have increased quite significantly while the volume of exports have stagnated, although a few peaks have been recorded, one year taken with another.

***Table 2.3 Transit Traffic to ZBRU Countries (tons)***

| | Mombasa | | | Dar-es-Salaam | | |
|---|---|---|---|---|---|---|
| | Imports | Exports | Total | Imports | Exports | Total |
| 1982 | 236,736 | 232,605 | 469,341 | 44,971 | 65,727 | 110,698 |
| 1985 | 143,049 | 231,146 | 374,155 | 83,571 | 122,171 | 205,742 |
| 1988 | 180,093 | 169,199 | 349,292 | 284,105 | 137,728 | 421,833 |
| 1991 | 233,363 | 278,902 | 512,265 | 207,605 | 172,884 | 380,489 |
| 1992 | 487,224 | 224,604 | 711,828 | 159,417 | 121,895 | 281,312 |
| 1993 | 455,271 | 244,810 | 700,081 | 330,018 | 145,350 | 475,368 |

## IN-COUNTRY TRANSPORT INFRASTRUCTURES AND FACILITIES

In-country transport in East Africa has continued to improve due to increased domestic food production for the expanded domestic markets. Urban centers and towns have developed from agricultural collecting centers becoming an important feature of road/railway junctions, commonly referred to as “Makutano” in Kenya. These include Kitale, Nyahururu, Eldoret, Nakuru and Nanyuki all in Kenya, Moshi, Iringa, Mbeya, Songea and Lushoto in Tanzania and Mbale, Kabale and Mbarara, in Uganda. Many of the agricultural collection centers are well connected to the hinterland and the international transit transport network. These towns are within the high agricultural productive areas of their respective countries.

### *In-Country Railway Systems*

The railway system in East Africa was originally built to provide a means of linking Uganda with the outside world; it thus became the Uganda Railway. As Kenya developed, interests and practical control of the railway increased, and the name was thus changed to Kenya Uganda Railway. In 1948, another, and more important change was made, when the Kenya - Uganda Railway was united with the Tanganyika railway to become the East African Railways and Harbours. The traditional railway system in East Africa comprised the mainlines from Mombasa to Kisumu, Nakuru to Kampala and Dar-es-Salaam to Kigoma with a branch at Tabora to Mwanza, see map 2 opposite.

The principal focus of the railway was to provide a means to transport raw materials exports to the coast. In Kenya, branch lines were later laid especially to the former white highlands. The main line segments were the *Voi - Taveta, Sultan Hamud - Kibini, Konza - Magadi, Nairobi - Thika - Nanyuki, Gilgil - Nyahururu, Tambach - Moi's Bridge - Kitale and Kisumu - Butere* . It can rightly be argued that the in-country railway line segments in Kenya are reflective of the exploitative potential of the places they transverse. These branch lines continue to be used to transport both industrial and agricultural inputs and outputs to/from the various centers to the markets in Nairobi, Mombasa, and Kisumu among others. They also feed the international transit line in exports.

In Tanzania, the railway network has only two short in-country segments which connect with the international transit line. One is the Kaliua - Mpanda line in the west near Lake Tanganyika. The other rail segment connects the Tanzania rail line with Tazara between Kilosa and Kidetu. The other rail segments which may be considered as an in-country line is the Moshi-Korogwe - Tanga and Hale - Ruva lines.

The railway line infrastructure in Uganda wholly reflects the initial aim of its construction, namely to transport goods to the coast. However, there is an in-country railway segment connecting Busembatia - Mbulamuti to the main line at Jinja. This connection was made to facilitate the harvesting and marketing of cotton and cane sugar from Kagira Sugar Mills.

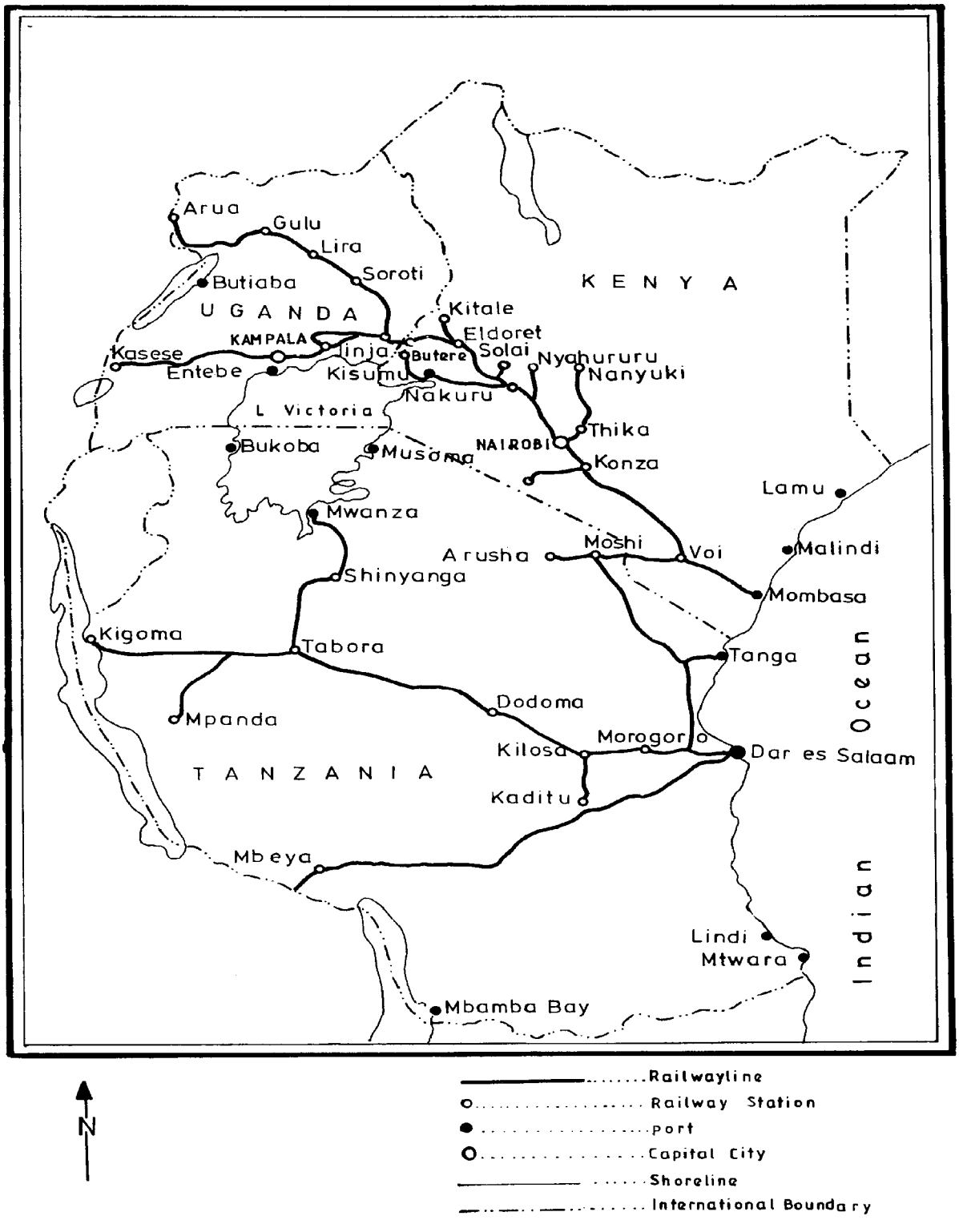
### *In-country Road Network*

The road network in East Africa is mostly earth or gravel. However, in agriculturally high productive areas and along the major transit corridors, many are bitumenized. The major fact to note is that the in-country trunk roads are concentrated in the productive areas leaving out large parts of the less productive areas without roads or with roads which are poorly attended to due to low traffic flows (see map 3). Examples of such areas include Northern and North Eastern Kenya, Central and Southern Tanzania and North Eastern Uganda. The above areas comprise of range lands with little crop production.

## REGIONAL TRANSIT RAILWAY SYSTEM

There have been two main railway routes from the ports of Mombasa and Dar-es-Salaam to the land locked countries; the traditional rail route from Mombasa via Malaba to Kampala and Kasese, and the Dar-es-Salaam - Kigoma route. In recent years, however these routes have been complemented by new additional routes on their branch lines across Lake Victoria, leading to the emergence of the Mombasa - Kisumu - Kampala, and the Dar-es-Salaam - Mwanza - Kampala routes, see map 4.

Map 2 DISTRIBUTION OF PORTS AND RAILWAYS IN KENYA UGANDA AND TANZANIA



### *The All Rail Route - Mombasa - Malaba - Kampala - Kasese (1331 Km)*

The railway line from Mombasa has been used since the beginning of this century when its construction was completed. It is 1082 Km long within Kenya, up to Malaba, and 251 Km long between Malaba and Kampala. The line carries heavy loads using block trains daily between Mombasa and Nairobi and at least once a week between Nairobi and Kampala. Traffic carried along this line from Mombasa is about 2.5 million tons annually. One train load on average carries 1200 tons. The line capacity is for 14 trains either way including an average of two passenger trains along the same lines daily. However, 16 up and down trains can be managed daily although in normal practice only 13 trains are planned daily. The frequency of these passenger trains increases up to 6 trains during times of high demand like public holidays.

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 Km) is laid of 80lb/yd rail, and 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 service.

### *Rail/Lake Route - Mombasa - Kisumu - Kampala (1211 Km)*

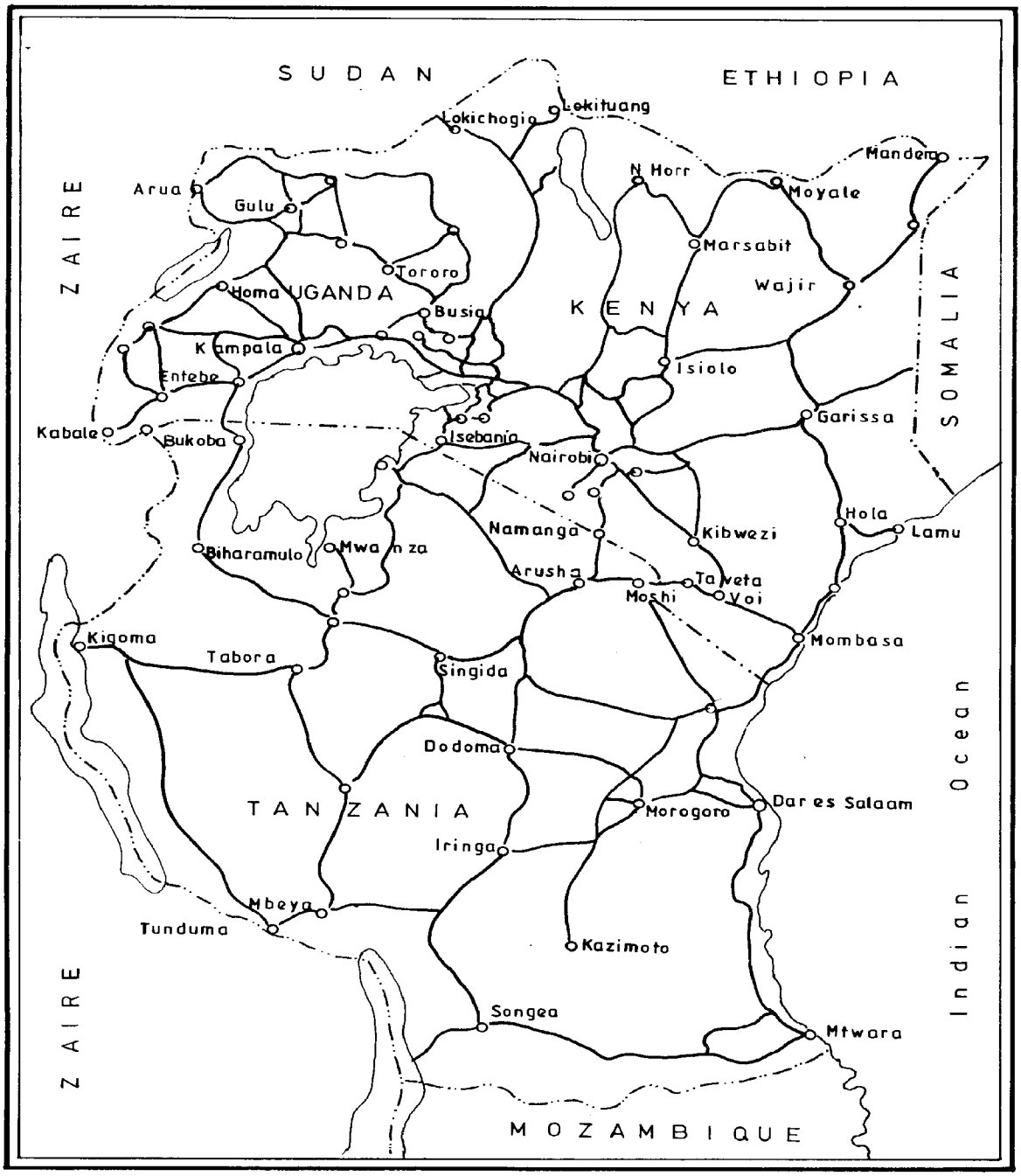
This route is 929 Km between Mombasa and Kisumu, and 282 Km between Kisumu and Port Bell. Port Bell is linked to Kampala by a new 9 Km rail line. It is essentially a branch route that leaves the main line at Nakuru and extends to Kisumu, and which is complemented by the lake route from Kisumu to Port Bell. The Jinja route has fallen into disuse since the opening of Port Bell Terminal in 1992. This route is now used as the alternative to the all rail route although its usage is increasingly diminishing due to the efficiency of the block trains via Malaba. However, the railway line between Nakuru and Kisumu has axle load limitations which preclude the use of high rated locomotives. This bottleneck should be overcome when the proposed project to upgrade it to main line standards is implemented. The use of this route is however set to be emphasized with the opening early in 1994 of the KPA's ICD and the Kenya Pipeline Company (KPC) oil pipeline terminal at Kisumu.

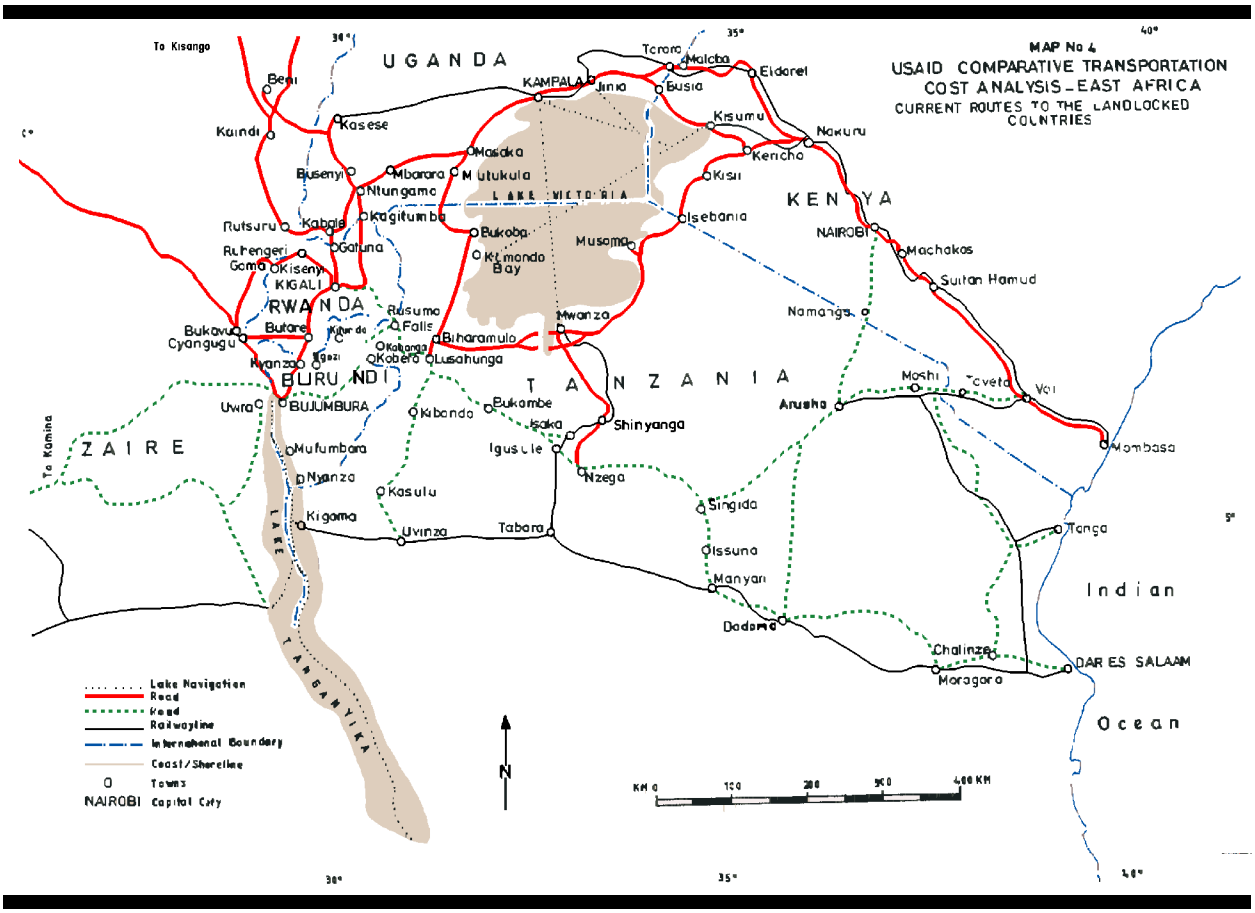
### *The Rail/Lake Route Dar-es-Salaam via Kigoma*

The traditional route for ZBR cargo is the 1,254 Km central line of TRC to the port of Kigoma, trans-shipment to *Arnolac and Batralac* barges, and final delivery to the port of Bujumbura. Other than TRC, management of the system has been undertaken by the private sector; the Belbases[7] at Dar-es-Salaam and Kigoma have been managed by *Agence Maritime Internationale (AMI)*, a Belgian multinational clearing and forwarding company. Currently however, AMI has ceased to manage the Belbase at Dar-es-Salaam which is now part of THA facilities. However AMI remains the Kigoma port manager. *Arnolac* and *Batralac* are privately owned, and Bujumbura port, though government owned, is privately managed.

Much of the TRC fixed infrastructure on this route i.e track, bridges, telecommunications equipment, terminal facilities, are old and requires replacement. The track is a major source of accidents and loss of revenue. Available statistics indicate that 55 major accidents, representing 38.4 percent of all major accidents in 1994 occurred because of track defects. In particular the Dar-es-Salaam - KIGOMA line was closed for a total of 909 hours (37.8 days) during 1994 due to major accidents. This however represented a decline of 67 percent from the line closure recorded in 1993, which stood at 1515 hours (63.125 days).

## Map 3: Major Road Distribution in E. Africa






A study completed on behalf of the World Bank in 1989 indicates that the port of Kigoma was rehabilitated in the late 1980 and its container handling capacity enhanced by the provision of a Belgium-funded container crane. It is indicated that as a result, the port currently has considerable excess capacity. The study further indicates that, the port of Bujumbura has capacity to handle at least 400,000 tons per annum, but is only 50 percent utilized. The maintenance of the port infrastructure has been the responsibility of the Government and was neglected for many years. To remedy the accumulated maintenance needs, the French Government funded a port rehabilitation project which was completed in early 1989. The planning of this project was undertaken without the participation of port management, and the works were done to an unnecessarily high standard, while other desirable improvements were not included. No additional capacity will be required at the port for many years. The French Government has cancelled part of the debt, but it is unlikely that the port can generate sufficient revenue to service the outstanding loan.

## *The Rail/Lake Route Dar-es-Salaam - Mwanza - Kampala*

The rail/lake route from Dar-es-Salaam to Mwanza shares the same facilities with the Kigoma route up to Tabora, see map 4. The route comprises the 1,230 Km Mwanza line of TRC, 450 Km by ferry across Lake Victoria, to Port Bell - a total distance of 1,680 Km. In addition the route consists of a recently built 9 Km rail connecting Port Bell to Kampala. As we indicated above, most of TRC fixed infrastructure on this route is old and requires rehabilitation. However while the line between Tabora and Kigoma was closed for a total of 178 hours during 1994 because of major accidents, the Tabora-Mwanza line was closed for only 16 hours, representing an 87 percent improvement from the previous year 1993, when it was closed for 126 hours. TRC has experienced severe capacity constraints on this route, which is now also responsible for Rwanda and Burundi cargo up to Isaka. Attempts to move cargo by road between Dar-es-Salaam and Mwanza for transhipment to Uganda by ferry wagons has been frustrated by the condition of the road between Dar-es-Salaam and Mwanza ports, which has

remained very poor.

## REGIONAL ROAD ROUTES

In the past years, there were two distinct road/rail/lake corridors from Dar-es-Salaam and Mombasa respectively. However, with the continued development of new infrastructure and expansion of existing ones coupled with political turbulence in the region, road routes that share infrastructure in the two corridors have developed where the traffic flow direction is dictated mostly by the level of security, operational efficiency and state of road infrastructure and support facilities. Delineation of the road routes in the following paragraphs will demonstrate this aspect clearly. Mention is also made of en route facilities which support transit traffic activities like accommodation, eating places, transit times and security in the route comparative analysis. Due to the shared infrastructure from both Dar-es-Salaam and Mombasa, routes from each port are considered as independent segments rather than as corridors, as has been the case in the past.

### *Road Conditions*

The Ports of Mombasa and Dar-es-Salaam are linked to the region's hinterland by road network infrastructure of varying standards. Whereas most of the international road network along the Northern Corridor is paved, particularly in Kenya and Uganda, constant maintenance, rehabilitation and upgrading is required in many road segments. There are ongoing projects in all the five countries supported by donors to enhance the capacity to maintain the roads.

In Kenya, a strategic plan is being prepared as part of the 3rd Highway Sector Project. One of the main features of the plan is the removal of road tolls and the introduction of a fuel levy which will generate funds to maintain the road network.

In Uganda, a four-year main roads maintenance program (FY 94/95 - 97/98) to be financed by a consortium of donors has been drawn covering all aspects to do with highway maintenance, investment and capacity building. Within the framework of the program, the European Union will finance the South Western Uganda Road Maintenance Program (SWURP). The objective of the 3-year program is to control the road deterioration in South Western Uganda and to preserve the capital investments in the Northern Corridor route rehabilitated in 1990/1991. The program estimated to cost ECU 24 million will involve the rehabilitation and maintenance of over 2,050 Km of trunk roads of the Northern Corridor and its related feeders in the South West Region. Consultants will soon be invited to submit tenders/proposals and physical implementation is scheduled to begin in 1996.

In Rwanda a road maintenance program is underway supported by the European Union and the World Bank. The Kigali - Butare - Akanyaru road linking Rwanda and Burundi is also in a poor condition and will soon be rehabilitated with a grant from the European Union.

Many Tanzania roads pose a problem to both domestic and transit cargo shipments due to their poor state because they are not paved and are impassable during wet weather. To alleviate this problem, in 1990, the Government completed preparing a strategy for stabilizing the road network (both trunk and regional road networks) which is designed to bring about 80 percent of the trunk road network and 50 percent of the regional road network including some 3000 Km of essential district and feeder roads to good condition by the year 2000. This is done under the IRP I which is part of the Sixth Highway Project financed by the World Bank and other 16 bilateral donors at a cost of US $850 million. At least 10 percent of the investment is to be raised through the Government development budget.

The IRP strategy provides a comprehensive approach to integrate the implementation of key road investments with major policy and institutional reforms. This will support Tanzania's Economic Recovery Program by removing bottlenecks to the expansion of exports, farm production and business reliability through better road infrastructure and road transport services that will reduce road transportation costs for both freight and passengers. The focus of IRP II will be to continue the momentum to achieve the road condition target as well as reinforce the process begun under IRPI, i.e., to decentralise implementation of road rehabilitation and maintenance activities to the regional level

through appropriate organizational changes and increased contracting of works.

The road route from Mombasa to the landlocked countries via Malaba (Northern Corridor) dominates in transit traffic because of its better condition and high security standards. However alternative routes have emerged over the past several years and currently, there are five road routes, 4 from Mombasa and one from Dar-es-Salaam to the landlocked countries, (see map 4). These road routes are:

- Mombasa - Nairobi - Eldoret - Malaba - Kampala - Masaka - Mbarara - Kigali - Bujumbura (the traditional Northern Corridor);

- Mombasa - Nairobi - Nakuru - Kisumu - Busia - Kampala - Masaka - Mbarara - Kigali - Bujumbura. (part of the traditional Northern Corridor);

- Mombasa - Nakuru - Kericho - Kisii - Isebania - Musoma - Mwanza - Biharamulo - Lushaunga - Bujumbura/Kigali;

- Mombasa - Voi - Moshi - Arusha - Singida - Nzega - Lushaunga - Kigali - Bujumbura, a relatively new route from Mombasa via Central and Northern Tanzania to Rwanda and Burundi; and

- The traditional Central Corridor route, Dar-es-Salaam - Dodoma - Singida - Nzega - Lushaunga - Kigali/Bujumbura. This road joins the newly constructed Isaka to Biharamulo road just after Nzega, some 20 Km before Kahama.

## *Road Routes from Mombasa*

*Mombasa - Nakuru - Malaba - Kampala - Masaka - Mbarara - Kabale - Kigali -Bujumbura Road Route (2042 km)*

The road conditions along this Northern Corridor route have generally improved following the completion of various road rehabilitation projects funded by the European Union, the World Bank, ADB and bilateral donors. The major bottleneck at present is the Nairobi-Mombasa road (500Km). The condition of this road worsened towards the end of 1994 following heavy rains and an upsurge in traffic. Substantial sections of the road require urgent rehabilitation. It is understood however that the World Bank has postponed consideration of Kenya's £50 million loan request for this section pending new discussions on some policy issues. The road route from Nairobi to Malaba on the Kenya-Uganda border (381 Km) is paved and in good condition. The road between Malaba and Kampala is also paved but some sections need to be rehabilitated due to poor drainage. The Kampala - Masaka -Mbarara road is also tarmacked but due to neglected maintenance, the road had deteriorated but it is being rehabilitated. Normal maintenance works are also taking place in certain sections of this road. The total road link distance between Malaba and Gatuna on the Uganda/Rwanda border is 666 Km, making the route from Mombasa to Rwanda be some 1547 Km. However, at Mbarara, 26 Km before the Rwanda border two distinct alternative routes emerge namely:

- route through Kabale to Gatuna on the Rwanda-Uganda border proceeding to Kigali and Butar;

- through Ntungamo to Kagitumba and Mirama hills then to Kigali and Butare: the bitumenization of this road between Ntungamo and Kagitumba is a priority project, as a result of a feasibility study commissioned by the EEC to identify the possible alternatives of improving the road links between Uganda, Rwanda and Burundi; and

- from Kigali the meeting point of the two routes, vehicles reach Bujumbura through Butare either via Kayanzu Province or the old route via Kanyaruho in Ngozi Province. The total distance covered from Mombasa to Kigali is 1683 Km, and to Bujumbura is about 2042 Km. This road route has been favored because it is paved and in good condition throughout. In 1991, Rwanda rebels blew up the Gatuna bridge on the Rwanda - Uganda border increasing transit difficulties along this route. This bridge is yet to be re-constructed, but a temporary bridge has been in place since 1992. Uganda has received funds from the European Union for the re-construction of this

bridge as an emergency program. The route has good communication facilities, adequate en-route hotels and restaurants, lodging facilities and service stations.

*Mombasa - Kisumu - Busia - Kampala Road (1148 km)*

This road route enjoys the same infrastructures as those described above up to Nakuru where it branches to Kericho and then Kisumu covering 302 km from Nairobi. The road is not popular to transit traffic from Mombasa because it meanders and is not built to as high standards as the Nakuru - Eldoret - Malaba road which is more direct to the border. Much of the traffic in this road, which rejoins the Malaba - Kampala route at some 30 km after Tororo, are tankers carrying export POL products to Uganda and Zaire, and a few improved second hand vehicles transiting to Uganda.

*Mombasa - Nakuru - Kisii - Isebania - Musoma - Mwanza - Biharamulo - Lushaunga - Kigali/Bujumbura Route*

The third road route to Rwanda and Burundi from Mombasa is the one through Isebania on the Kenya-Tanzania border. The road passes through Nairobi - Nakuru -Kericho - Kisii then Isebania covering a distance of 994 Km from Mombasa. After Isebania, the road runs southwards along Lake Victoria shoreline to Mwanza, 370 Km from Sirari/Isebania, see map 5. While the road is paved and in relatively good condition up to Migori, 20 Km before Isebania, the rest of the road to Mwanza and Biharamulo is in a poor condition, but there are ongoing construction works and more contracts are under way for rehabilitation of the road between Isebania/Sirari and Mwanza. Specifically:

- The 100 Km between Migori - Isebania/Sirari to Makutano is under construction under EEC funding, and will be completed by the end of 1994.

- Makutano - Nyanguge (235 Km): feasibility study undertaken under EEC funding. Recommendations for re-surfacing (overlay) and tender to be advertised in second half of 1994: this section will be implemented under the IRP II.

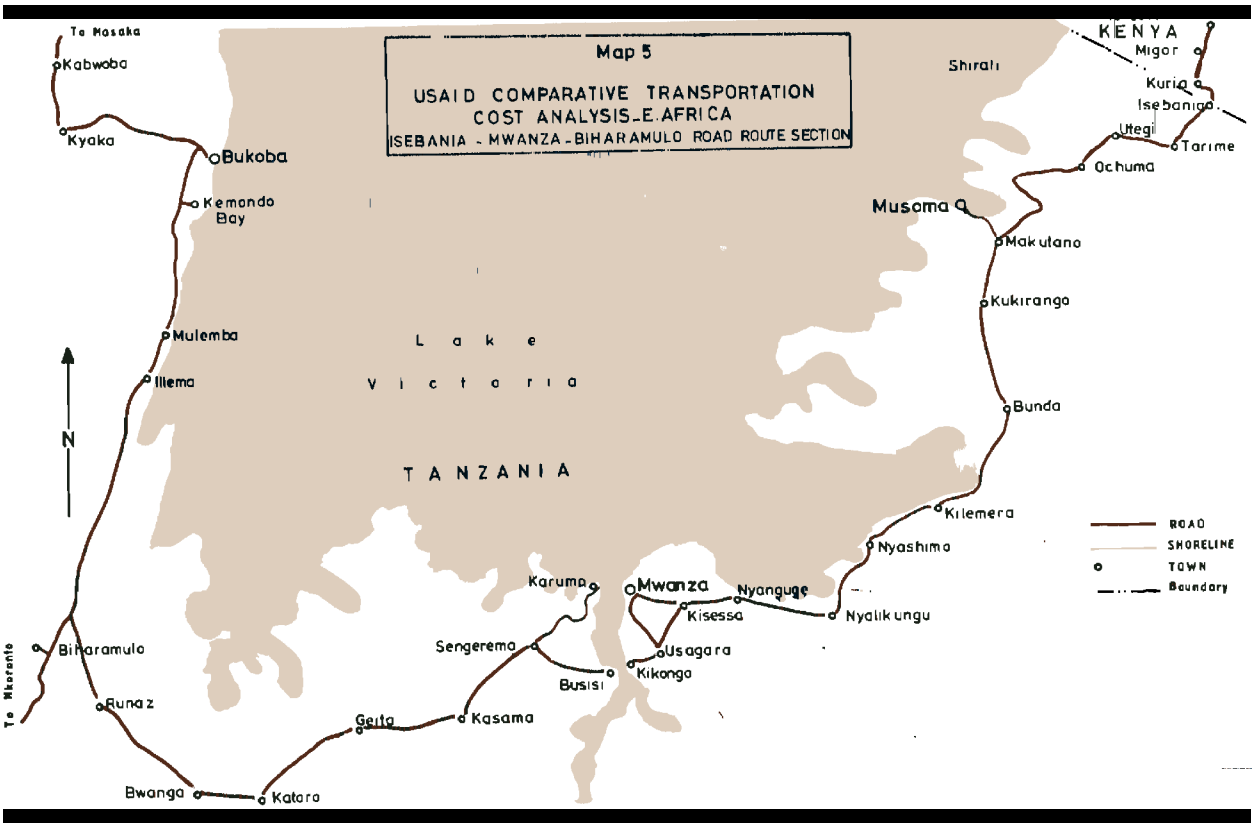
- Nyanguge to Mwanza (35 Km) is in design stage to be rehabilitated together with the 10 Km Mwanza Airport Road.

In addition to the above on-going and proposed road rehabilitation projects, there is a proposal to construct a by-pass from Kisesa (18 Km before Mwanza), southwards to Usagara, 10 miles south of Mwanza. The by-pass will shorten the current route through Mwanza to Usagara by 21 Km, and 60 percent of the design work has been completed. There are two ferry services to cross the gulf at Mwanza, (see map 5):

- The Mwanza - Karumo ferry crossing from Mwanza town to Karumo, some 3 Km away. This is a privately operated ferry with capacity of 2 - 3 heavy goods vehicles, but it is more preferred by buses.

- The Kigongo - Busisi ferry which is accessed through Usagara, 10 kilometers south of Mwanza. This ferry is operated by the Government of Tanzania and has a capacity of 4 - 5 heavy goods vehicles.

From the two ferries the roads re-unite at Sengerema leading to Geita, Biharamulo, Lushaunga and Rusumo on the Tanzania-Rwanda border covering a distance of 362 Km. Because of the poor condition of the Sengerema to Biharamulo road, many vehicles prefer to travel southwards to Isaka, via Shinyanga, to take advantage of the new Isaka - Biharamulo road. However, the road between Usagara via Sengerema and Geita to Biharamulo (270 Km) will be rehabilitated under a 3 year gravelling program funded by the Government of Tanzania and IDA. This will provide a short cut to the Isaka connection which is altogether 460 Km to Biharamulo. The total distance covered through this route from Mombasa is 1698 Km up to Rusumo. Since the border between Uganda and Rwanda is closed, this transit route is fairly busy and about 1000 goods vehicles per month pass via Isebania/Sirari.




*Road Route From Dar-es-Salaam*

The major road route is the Dar-es-Salaam - Dodoma - Singida - Nzega - Isaka - Kahama - Lushaunga - Biharamulo covering a distance of 1029 Km (see map 4). The road is paved from Dar-es-Salaam up to Dodoma (460 Km) and is in good condition after being rehabilitated. From Dodoma onwards via Singida to Kahama, the road is gravel and is in very poor condition and is earmarked for rehabilitation before 1996. The road however poses serious problems during the rainy season and there are plans to up-grade it using funds from IDA, EC, ADB. This up-grading is expected to be completed by the year 2000 and will cover the whole distance from Dodoma to Mwanza. The poor condition of this road between Dodoma and Nzega is a major bottleneck to Dar-es-Salaam road operators who are increasingly reluctant to use it, thereby restricting the availability of road transit capacity which in turn has put an upward pressure on road tariffs. As already indicated this road joins the newly constructed Isaka to Biharamulo road just before Kahama. Thus from Isaka, transit road routes to Rwanda and Burundi would be the same as those used via Isaka from Mombasa Port.

## THE ISAKA RAIL/ROAD SYSTEM

The rail/road route from Dar-es-Salaam via Isaka, on the Tabora - Mwanza railway line (see map 4) is currently the shortest route to Rwanda, Northern Burundi and Goma in Zaire. Transit traffic is moved by TRC from Dar-es-Salaam to Isaka where an interchange to road vehicles is achieved. At Isaka, a hard standing container terminal has been constructed, financed by EC, with a capacity of 500 containers, (c.c 20,000 tons) against the original planned 43,000 tons. There is also a small general cargo transit shed with a capacity for 1,620 tons (against the original planned 46,000 tons). The construction of a second general cargo transit shed of equal capacity (1,620 tons) is on going, under the specially funded Isaka Transit Terminal Phase II. These facilities belong to TRC. However, there is a bulk oil

depot, privately owned, with total capacity of 2,100 tons (3 tanks of 700 tons each for white oils, diesel and fuel oils). Isaka has been operational since 1992, but was commissioned in January 1994. The bulk oil depot has been operational since 1986. There is a customs office at Isaka but social infrastructure is not yet in place.

From Isaka there is a paved highway in very good condition through Lushaunga (341 Km) to Kobero on the Burundi border and Rusumo on the Rwanda border (338 Km). The distance from Isaka to Kigali is 480 Km.

### *Potential Alternative Routes*

*Alternative Road Routes*

There are road routes from Mombasa and Dar-es-Salaam whose potential has not been fully realized mainly due to their low traffic flows coupled with the poor state of some road segments. At the moment, these road routes exhibit very low traffic levels and are only used when the major rail/lake/road routes are not available for use. These potential alternative road routes (see Map 4) include:

- The Mombasa - Taveta - Arusha - Mwanza route: which would considerably shorten the distances to Rwanda and Burundi from Mombasa. However, past studies have shown that the road would have an adverse impact on the environment since it passes through Serengeti National Park and would require the construction of a heavy commercial vehicle crossing bridge at Taveta. The studies have found this investment difficult to justify due to its cost magnitude against the potential traffic levels from Rwanda and Burundi which are considered low. However, vehicles are currently using this road through Arusha to Singida and Nzega to join the Isaka - Biharamulo road at Kahama.

- The road route from Dar-es-Salaam to Masaka via Biharamulo and Bukoba: which has been used and found viable if only it is up-graded. The major problems with this route are the low marshy lands through which it passes, making it impassable during the rainy season. This road is scheduled for up-grading under the IRP II although not among the current priority projects. Once up-graded, the comparatively longer distance from Dar-es-Salaam to Kampala and lack of transit facilities may inhibit its use as opposed to the Mombasa - Malaba - Kampala route.

- The Dar-es-Salaam - Moshi - Arusha - Namanga - Nairobi - Kampala Route: This road is now fully paved except for a short 10 - 15 km stretch just before Moshi. It was used by tankers transporting fuel from Dar-es-Salaam to Kampala in 1992 when the route through Bukoba was impassable and the lake/rail route through Mwanza could not cope with the Uganda cargo from Dar-es-Salaam. This is not a direct route from Dar-es-Salaam to Kampala because it meanders and has Kenya as an extra transit country to Uganda. The scheduled up-grading of the Bukoba road under the Kagera Basin Organization (KBO) will offer a definite road route alternative for Uganda because it is direct and has Tanzania as the only transit country.

## RAIL/ROAD/LAKE ROUTES

Currently, the only contemplated new rail/lake route is the Tanga - Arusha - Musoma - Port Bell route. This alternative route would require the construction of a railway line between Arusha and Musoma, approximately 400 Km. This route has been proposed to serve mainly transit traffic to Uganda, for which it would provide optimum transit link through a ferry connection between Musoma and Port Bell. However, preliminary studies have shown that the investment will not be economically viable and would cause adverse environmental damage. Again, it has been considered that as traffic from Uganda alone would not justify the investment, the rationale for its development should be based on regional considerations which should override national interests and/or capabilities. There is therefore the need to source funds for a feasibility study which will incorporate the regional potential of the route.

A key issue in the rail sector is the need to start planning for the extension of the existing rail network to Rwanda and Burundi. Various studies on this subject have been carried out including a major study undertaken by KBO. Most of the

studies showed that it would take a very long time to recover the capital invested in new construction projects. Nevertheless it is observed that potential traffic exists and the groundwork for a long term railway project should be undertaken.

## *Road/Rail/Lake Routes*

Two road/rail/lake alternative connections across Lake Victoria have been proposed. These are the Mombasa - Kisumu - Kemondo Bay and the Mombasa - Kisumu - Kagitumba routes. The Kemondo Bay route is of interest to both Rwanda and Burundi while the Kagitumba route (see Map 4) would mostly benefit Rwanda.

*Kisumu - Kemondo Bay*

Kemondo Bay has a well developed terminal for wagon ferries with a good linkspan to handle any of the ferries now operating in Lake Victoria. An evaluation mission from the TTCA Secretariat in 1992 identified six general cargo transit sheds with total area of 3,000 sq m, a marshalling yard of 4,000 sq m, adequate parking space for trucks, security lighting, one mobile crane and good communication facilities.

The TTCA team noted the lack of a railway line linking the port to the TRC system. This situation leaves two clear options of moving transit traffic through Kemondo Bay. The first alternative is to load railway wagons onto wagon ferries at Kisumu and thereafter to transfer the same to road transport at Kemondo Bay. This alternative is likely to be time consuming and risky due to the possible pilferage of goods during transhipment. It will also require investment in a shunting engine and the laying of shunting rail lines at the port. The other alternative is to load trucks on wagon ferries at Kisumu and to continue the journey by road from Kemondo Bay. Trial runs on the latter have been made using *M.V. Uhuru,* a wagon ferry owned by KRC.

The major constraint to the development of this potential route is the condition of the road link between Kemondo Bay and the Bukoba - Biharamulo road. This road link has a series of steep gradients which will have to be reduced to allow the climbing of loaded trucks. The road is also narrow and would require widening to allow the safe passage of trucks and other categories of traffic. The rest of the road from Biharamulo to Rwanda and Burundi borders is in good condition, or undergoing rehabilitation. A detailed study on the road was completed in the early 1990s within the framework of the IRP I, and funded by the African Development Bank. Under the study, the Kemondo Bay - Biharamulo road was broken into two sections, namely, Kemondo Bay to Mulemba, and Mulemba to Biharamulo. The results of the economic study show that the Kemondo Bay - Mulemba section has an Internal Rate of Return (IRR) of 9.91 while the IRR for Mulemba - Biharamulo is 2.43.

The position of the World Bank and the Government of Tanzania was that for any gravel road to qualify for upgrading within the IRP, it must show an IRR greater than 12 percent. It is clear however that the study did not consider a possible upsurge in transit traffic due to developments at Kisumu or the planned developments in the region, particularly those of the *Kagera Basin Organization* (KBO). Accordingly another study has now been completed under the auspices of KBO which has planned to improve and modernize the entire 270 km Lusahunga - Biharamulo - Kemondo Bay - Bukoba - Mutukula road. The KBO has organised a donor's round table conference to mobilise resources required for the realization of the agreed action program.

*Kisumu - Kagitumba Route*

Kisumu - Kagitumba route has been proposed for use by oil barges across Lake Victoria and up the Kagera River to Kagitumba. A study undertaken by the Economic Commission for Africa (ECA) was however not exhaustive on the potential of this route. There is no information on the navigability of River Kagera and the required improvements. It is understood that there is a disused hydro-electric generating plant on this river which may cause considerable problems in the development of the route. The heavy investment required may therefore not be justifiable considering the low petroleum oil demand from Rwanda, which is the potential major beneficiary of the project.

Kisumu rail/lake route will benefit greatly from on-going and planned future investments which will provide cost

effective transport for international traffic as well as enhancing transit security. In addition to the proposed up-grading and rehabilitation of the Nakuru - Kisumu branch line (216 Km) to allow the usage of heavier trains and also increase train speeds, the construction of KPA's Inland Container Depot (ICD) and the oil pipeline has been completed. It is envisaged that all these facilities will provide a basis for increased transit traffic through Kisumu, particularly if the potential benefits of the Kemondo Bay route were to be exploited.

It is noted however that effective lake transport services will not improve through increased investments alone. Studies by TTCA have indicated the need to reorganize lake transport operational activities by delinking marine services from the three railway corporations (KRC, URC, TRC) and scheduling the services of the wagon ferries to increase predictability by shippers. This would enhance shippers confidence in using these services. The current implementation of the Advance Cargo Information Services (ACIS) in KRC will improve cargo tracking and if ferry services are reorganized, traffic flow is likely to improve significantly across the lake.

*Kampala - Kasese - Busenyi - Ntungamo - Kagitumba Rail/Road Route*

The Kampala - Kasese line was built between 1952 and 1956 using light weight non-standard second hand rails and sleepers. These materials were manufactured around 1900 and had earlier been laid in Tanzania from where they were uprooted. The rail is a mixture of 40 and 60 lbs/yd with non-standard fittings, and it is considered that the track has outlived its usefulness. The resulting weak rail track material together with lack of maintenance are major causes of frequent derailments and this restricts wagon loading capacities. The rehabilitation of this section has been identified as a priority but only emergency repairs have been carried out by URC Construction Unit. Plans to carry out major rehabilitation of the line have not materialised due to lack of funding mainly because the investment cannot be justified in the light of the low traffic demands from Rwanda, Burundi and Zaire. Spain and Italy which were understood to have offered to rehabilitate the line have pulled out quietly. The major bottleneck to the viability of this project is the decline in copper industry, and the consequent abandonment of Kilembe mines which were the original impetus for the construction of the line. Only a small stretch of 40 km from Kasese to Kamwenge has been upgraded in 1988 using the IDA credit No 1986 - UG of US $7m. For the rest of the work, it has been proposed to update the economic feasibility and design study carried out in 1985. In that study, two scenarios were proposed, the renewal of the entire line (333km) at a cost of US $100m giving a life of 50 years, or the renewal of 148 Km, and rehabilitating the remainder, using the existing salvage material. This would cost US $60m, giving a life of 15 - 20 years.

Studies have however shown that, establishment of transit facilities at Kasese would greatly benefit North Eastern Zaire. However the lack of a good road connection between Kasese and Kagitumba in Rwanda would increase the cost of the required investment for Rwanda and Burundi through Kasese. The good road connection between Kampala and Kagitumba through Masaka and Mbarara is an effective competitor to the road connection from Kasese and the investment on this route may therefore only be justified if transit traffic from Zaire is significantly high enough to sustain an ICD at Kasese.

## *Border Facilities*

Problems related to the organization of customs services in the East African region are numerous at the borders. Border posts with high traffic such as Busia, Malaba, Isebania, Rusumo, etc., have problems of organization. These offices do not have appropriate infrastructure to serve the increasing volume of traffic and the customs personnel are insufficient. Even the location of some offices is inadequate. Due to lack of parking areas, 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 border post are repeated at the entry post of the neighbouring country with all the frustrations involved.

All the above factors result in traffic jams at the border posts and provoke the increase of costs and transit times. It should be noted that these offices also work for goods which are traded between two neighbouring countries. Despite the measures taken, there are offices where transit formalities are still giving problems.

The Malaba Customs Post on the Kenya/Uganda border carries the heaviest traffic on the Northern Corridor and facilities on the Kenyan side have been improved. The Government of Uganda has secured funds from the ODA and EU for the improvement of infrastructure and superstructures on the Ugandan side. Facilities at the Isebania border post have recently been improved. The effort is for the creation of adjacent customs offices with adjacent control areas so that the physical verification of trucks and goods can be jointly organised in order to avoid the repetition of offloading and re-loading operations. The offices at Busia, Gatuna and Ishasha are yet to be improved.

In addition to the physical infrastructure, most border customs offices often open late and close temporarily at lunch-break; notwithstanding that, countries in the region have agreed that adjacent border posts be open everyday including Sundays and holidays from 8.00 a.m. to 5.00 p.m.

## MODAL COMPETITION INFRASTRUCTURES

All modes of transport compete with each other for available freight in the region. There are however, those modes of transport that take cargo which would otherwise go by other modes under normal circumstances. An example is the airlifting of relief food from the ports due to urgency. Another is the transportation of petroleum oil liquids through the oil pipeline to spare road infrastructure from damage and reduce traffic accidents on the roads. Such requirements bring both air and pipeline transport into direct competition with road and rail transport.

### *Oil Pipeline Network*

Kenya has an oil pipeline extending from Mombasa to Nairobi (449 Km). The pipeline has now been extended to Kisumu and Eldoret in Western Kenya and has enough storage capacity to supply white petroleum fuels to the landlocked states as well as Western Kenya. Track loading is on progress at Nakuru, Kisumu and Eldoret. In addition railway loading facilities have been provided at Eldoret. The next logical extension of the pipeline is now from Eldoret to Malaba on the Kenya-Uganda border. The Kisumu arm of the pipeline has no oil jetty connecting the pipeline terminal to inland water way in Lake Victoria and this hinders the operations of an oil barge from Kisumu to the landlocked countries.

*Inland Ports*

KPA has developed Inland Container Depots (ICDs) at Kisumu and Eldoret both for domestic and transit traffic markets. The main incentives that would make shippers use the ICDs would be fast transit times and simplified customs procedures. In Uganda dry customs ports exist at Jinja, Nakawa and Mbale.

*Air Transport Infrastructures*

The region is bestowed with seven international airports, namely, Dar-es-Salaam and Kilimanjaro in Tanzania, Moi (Mombasa) and Jomo Kenyatta (Nairobi) in Kenya, Bujumbura in Burundi, Kigali in Rwanda and Entebbe in Uganda. All the airports are in satisfactory condition. Expansion and rehabilitation works are however taking place on Moi in Mombasa, Jomo Kenyatta in Nairobi and Entebbe to ensure adequate capacity for increased traffic. Moreover, Kenya has proposed to undertake the construction of a third international airport at Eldoret which should increase the number of international airports in the region to eight.

# Chapter 3. The Transport Industry

## INTRODUCTION

In this chapter we examine the structure of the national and regional transport industry. Landlocked countries rely on transit systems that traverse other sovereign states and for this reason lack total control of their cargo. The facilities made available and the procedures influence both the transit time and the costs of transport.

The main modes of transport in the region are rail and road, with the latter being dominant. In recent years, however, a combination of modes are in use including the rail/lake mode particularly to Uganda, and more recently rail/road system through Isaka to Rwanda and Burundi.

## THE RAILWAY SYSTEM

The railway network traverses three of the five countries being considered in this study. These are Kenya, Tanzania and Uganda all of which act as transit countries to Rwanda and Burundi. The railway networks in these countries are operated by the Kenya Railways Corporation (KRC) Uganda Railways Corporation (URC) and Tanzania Railways Corporation (TRC) all of which were established in 1977 after the dissolution of the then East Africa Railways and Harbours (EARH).

### *Kenya Railways Corporation*

The railway network in Kenya is run by Kenya Railways Corporation (KRC) under the KRC Act of 1978 which requires the KRC to operate on commercial principles so as to earn a return on capital invested. In the past the KRC was required, as a matter of GoK policy, to assist in the haulage of strategic commodities such as imports of food and agricultural inputs below economic tariffs. This, coupled with GoK control of railway tariffs contributed to the corporation being unable to break even and from time to time required financial assistance. It is understood that the position has now changed, and KRC may now set its own tariffs without necessarily referring to the Government for approval. However, KRC has a Memorandum of Understanding with the GoK whereby, inter alia, KRC is to be compensated by the government for undertaking non-commercial activities on GoKs request.

Kenya has a 2100 mile single track railway system which passes through the major industrial and agricultural areas connecting Nairobi and Mombasa. The principal lines connect Mombasa with Malaba, and Nakuru to Kisumu. In total the railway is connected to 163 stations throughout the country, and three Inland Container Depots (ICDs) located in Embakasi, Kisumu and Eldoret. The line between Mombasa and Malaba is old but in reasonably good condition. Some sections will require rehabilitation. The Nakuru - Kisumu branch line has weight restrictions and therefore cannot take heavy locomotives beyond class 87. Track relaying and ballasting is an on-going activity, as rehabilitation of bridges and signal facilities. A permanent bridge has been constructed across the Ngai Ndethya River while the installation of a number of sidings are at various stages of completion. However the maintenance of signalling and

telecommunications network and equipment is severely constrained by lack of adequate resources. This has been exacerbated by theft of overhead copper wire which has in the past paralysed train control circuits west of Nairobi, and is slowly spreading to the station to station circuits. Vandalism and theft of sola r panels in the Mombasa - Nairobi section is also on the increase.

In 1994, KRC operated 198 mainline, branch-line and shunting locomotives, compared to 218 units in 1992 and 199 in 1993. KRC locomotive fleet compr ise of classes 94/93/92/87 mainline categories: classes 72/71/62 branch-line categories and classes 35/46/47 shunting categories. The KRC locomotive fleet is composed of old units, the most recent mainline locomotive being acquired in 1987, and the oldest in 1960. Thus the condition of a significant proportion of the locomotives is rated as poor with a small proportion being fair and none being rated as good. In this respect, KRC in 1994 hired 10 main line class 9 5 locomotives from South Africa for use between Mombasa and Nairobi.

The vital attribute of the locomotives is availability which is a measure of the quality of maintenance, expressed in the average number of locomotives serviceable compared to the total fleet. The dail y locomotives required are based on KRC Business and Operating plans. The total requirement is based on the maintenance cover required to support 75 percent availability. The availability of the mainline class locomotives peaked at 53.6 percent during the financial year 1990/91 but has declined to 46.5 percent in 1993/94, while the availability of shunting locomotives classes 35/46/47 has virtually stagnated at jus t below 50 percent since 1990/91. In addition to the age of the locomotive fleet, KRC attributes the fall in the performance of locomotives to inadequate budgeting and general lack of vital spare parts which has resulted in the skipping of some maintenance ser vices and/or repairs and long down-time in the depots and workshops. The availability of the KRC locomotive fleet is summarized in Table 3.1.

***Table 3.1 KRC Locomotives Availability***

| Performance/Year | 90/91 | 91/92 | 92/93 | 93/94 |
|---|---|---|---|---|
| Locomotive Availability | | | | |
| Mainline | 53.57 | 51.71 | 49.67 | 46.5 |
| Branch-line | 46.7 | 46.7 | - | - |
| Shunting | 49.3 | 49.3 | 48.3 | 48.8 |
| | 52.2 | 50.6 | 47.3 | 47.2 |

*Source: KRC*

Another effect of the old age profile of KRC locomotives is the reliability of available locomotives, measured in terms of both the number of failures and Kilometers per failure. For the mainline category, KRC recorded a 27 percent improvement on the number of failures from 1262 in 1992/93 (average 5. 7 failures per locomotive per year) to 918 (4.6 failures per locomotive) in 1993/94. The number o f Kilometers per failure decreased for the mainline category however from 9197 Kms in 1988/89 to a low of 3796 Kms in 1991/92 but increased to 5054 Kms in 1992/93 and 5520 Kms in 1993/94. Similarly for the shunting category, there was a decline in the number of kilometers per failure from 3525 Kms i n 1988/89 to 2207 Kms in 1992/93 before recovering to 2379 Kms in 1993/94. This improvement i n reliability is attributed to the capacity to manufacture spare part s for locomotives which has been enhanced, and the foundry plant which is in the process of being modernized.

As of 30 June 1994, KRC operated a total of 6,408 wagons rep resented by 4775 boogies and 1,633 four wheel wagons, giving a total of 11,183 wagon units[8]. A total of 3,181, or 49.6 percent were covered goods wagons. However statistics available for 31 August 1995 indicates a total of 11,941 wagon units whose conditions were given as follows:

| | Number | Percent |
|---|---|---|
| Fit | 6,890 | 57.7 |
| Sick | 2,130 | 17.8 |
| In Workshop | 822 | 6.9 |
| Labelled for Repair | 1,997 | 16.7 |
| Withdrawn/Surveyed | 102 | 0.9 |
| | 11,941 | 100.0 |

Wagon availability which is targeted at 90 percent has decli ned from 87 percent in 1987/88 to only 70.7 percent in 1992/93 declining to 63.8 percent in 1993/94. Of specific importance is the wagon turn-around, which is a measure of the efficiency of the wagons operations. In 1987/88 KRC wagon turn- around level was 17.45 days. This declined in the period between 1989/90 and stood at 19.6 days. KRC wagon turn around betwee n 1990/91 and 1992/93 improved from 17.4 to 15.6 days but this declined to 16.2 in the year 1993/94. In practice the supply of empty wagons has been consistently exceeded by the demand especially along the Mombasa line. This reflects the imbalances between traffic from the coast and traffic to the coast. This imbalance in traffi c results in high empty running, which in terms of w agon unit kilometers has averaged some 20 percent in the past several years.

Freight tonnage hauled by KRC stood at some 3.1 million tons in 1991/92, 2.5 million tons in 1992/93, with a further decline to 2.33 million tons in 1993/94. Since 1989/90, KRC has recorded a significant 37 percent decline in freight tonnages moved. However the plan is to move 3.0 million tons of freight i n 1995/96, increasing to 5.3 million tons in the year 2000. KRC's principal business share is largely th e domestic market, where it faces stiff competition from road hauliers. Transit cargo, some 305,000 tons 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 traffi c movements. Other factors which have in the past affected KRC o perations include the lack of coordination between itself and other players in the transportation chain, including KPA and customs, which lead t o delays in cargo movement. As a result of these weaknesses, K RC has often been criticised for contributing to congestion at the port of Mombasa. Increased competition from the oil pipeline as well as the increased insecurity and accidents have led to suspension of rail services on major railway links for some period s which has also contributed to declining cargo volumes. These problems are exacerbated by management issues, particularly those related to low labor morale which is reflected in poor productivity and a lack of clear business orientation, which result in delays in cargo flows and poor turnaround of locomotives and wagons.

In order to achieve the planned traffic projections, both capacity and efficiency will have to b e improved system-wide through the implementation of certain important capital investments. Details o f individual projects and the spread of expenditure are given in the program of capital expenditure of th e investment plan whose total is Kshs.5 billion, see Table 3.2. While no source has been identified for the required funds, it is clear that the required Kshs.5 billion (US $90 million) of capital expenditure is beyond the capacity of the Corporation to finance through inte rnal sources. It is therefore envisaged that two loans

will be raised. A commercial loan of Kshs.3 billion (c.a US $55 million) will be raised in 1996/97 at an interest rate of 10 percent annum, repayable over twelve years and will have no grace period. A second loan of Kshs.2 billion (US $35 million) will be negotiated and the draw down will start in 1998/99. The rate of interest is expected to be at a 10 percent with a five year grace period, repayable over twenty years.

***Table 3.2 Capital Investment Plan, 1995/96 - 1999/2000***

| | Total (Ksh. million) |
|---|---|
| 1. On-going projects | 530 |
| 2. 3rd Railway project | |
| a. Locomotives overhaul/ re-engining | 1,107 |
| b. Signalling and telecommunications | 465 |
| c. Track rehabilitation | 235 |
| d. Technical assistance and training | 123 |
| e. Provision of training equipment at R.T.I | 45 |
| f. Renovations at R.T.I | 11 |
| g. Purchase a new distribution computer system | 68 |
| h. Contingency | 592 |
| Sub-total | 2,646 |
| 3. Other Projects | 1,592 |
| Total | 4,768 |
| Exchange rate US $1 = Kshs.45/= | |

Consequently, the current KRC focus is geared towards the consolidation rather than the expansion of the railway services. However, KRC plans to extend railway links to the newly established Export Processing Zones to facilitate the transportation of export commodities produced in these zones. The capacity of KRC to provide freight transport services for Kenyan and transit imports and exports is thus still not yet fully realised because of the technical, management and operational limitations.

KRC operates one wagon ferry, *M.V. Uhuru* which operates mainly between Kisumu and Port Bell. This ferry made 57 voyages in 1991/92 moving 170,128 tons of cargo compared to 20 voyages and 29,975 tons the previous year. During 1992/93, the ferry moved 90,229 tons which represented a 47 percent decline from the 1991/92 peak. During 1993/94 marine tonnage sharply decreased further by 54 percent to 41,292 tons. The observed fall in overall performance was due to the fact that there has been a shift in the mode of movement of transit traffic from the lake route to the rail route through Malaba. An agreement between KRC and URC requires that *M.V. Uhuru* make one voyage for every two made by URC wagon ferries.

### *Uganda Railways Corporation*

The URC was established in 1977 following the break-up of the EAR&HC and is responsible for both rail network in Uganda and marine services on Lake Victoria. The URC route network is approximately 1250 Km in length. All the lines are single track of one meter gauge, supplemented in stations by passing and switching track as well as marshalling yard tracks. The present URC network is formed essentially of two lines running West and North from Tororo, plus a loop which is the old single route from Busembatia to Jinja that remained after the construction of the direct link. The two lines resemble a fork from east to west branching at Tororo after a short common section from the Kenyan border at Malaba to Tororo. The lines terminate at Kasese and Pakwach respectively.

The URC rail system comprises old rails, with some sections such as the Kampala - Kasese line which was built of second hand rail materials. Track condition is therefore poor, and is a major cause of accidents.

The mainline from Kampala to Malaba which comprise 80lb Long Welded Rails (LWR) is understood to be in fairly good condition, and accidents have rarely occurred. The line is ballasted to a much stronger formation; however continued maintenance is necessary, and this is being provided by URC. The main problem lies with gradients on the Jinja - Kampala section. Previous studies have shown that a re-alignment of this section is desirable, however finances have not been secured.

The URC has contracted track maintenance on the Kampala - Kasese line to local private engineers, who are understood to be employing ex-URC employees. The contractors are paid on quality and quantity of track maintenance, as supervised and inspected by URC engineers.

The ferry links on Lake Victoria between Port Bell/Jinja and Kisumu (Kenya) and Mwanza (Tanzania) form an integral part of the rail network. The Jinja port link was reinstalled in the mid 1980s. The Port Bell line was inaugurated in January 1992 after the construction of a 9 Km rail line from Kampala to a new ferry terminal at Port Bell. This lake/rail link had been up-rooted after the 1960/61 flooding of the port infrastructure on the Lake Victoria in Uganda.

In 1977 the URC inherited virtually no locomotives and rolling stock from the former EAR & H. Recent investments in the URC have included those in ferry vessels (to provide linkage through Lake Victoria), locomotives (last locomotive purchases were from Germany in 1984/5), rolling stock and other equipment. A diesel locomotive workshop has also been constructed, new signalling and telecommunication systems have been installed, and a full fledged railway construction unit has been established. Recently the URC has constructed 10,000$m^2$ of the former Nakivubo swamp with reinforced concrete providing a container terminal.

By 1991, these efforts had seen URC acquire 61 mainline locomotives with 84 percent being the effective fleet. Twelve shunting locomotives had also been acquired with availability of 67 percent in that year. Between 1991 and 1992, average utilization of locomotives declined from 25,000 Km to 14,500 Km per year and only 50 percent of all the mainline locomotives were available for use at any one time while less than 50 percent of the shunting locomotives were available. These problems persist to date despite continued investments. There are, however, no plans for new locomotives and that the number in stock are enough if properly serviced and utilised. The URC has completed a study to commercialise the operations of Nalukolongo workshops with a private investor being the major shareholder. It is understood that the privatised workshops will require a commitment from the Kenyan and Tanzanian railways for maintenance of a number of locomotives over a given period of time.

URC also owns a large stock of wagons as shown in Table 3.3. Since its formation in 1977, URC has written off 18 percent of her wagon fleet due to lack of wagon repair facilities in the country and in 1993 the effective fleet was 20 percent less than the original total in 1992 mainly due to accidents and lack of spare parts. Availability records also indicate wagon availability of about 80 percent between 1990 and 1993.

***Table 3.3 Wagon Stocks in URC - 1991***

| Type of Wagon | Number in Stock | Percent of Total |
|---|---|---|
| Covered | 1,071 | 67 |
| Open | 241 | 15 |
| Tankers | 236 | 15 |
| Livestock | 8 | 1 |
| Commuter | 13 | 1 |
| Ballast Hoppers | 22 | 1 |
| Total | 1,591 | 100 |

Source: URC

Specifically, at Table 3.4 the performance indicators for wagons between 1990 and 1993 are presented.

***Table 3.4 Performance Indicators for Wagons***

| | 1990 | 1991 Target | 1991 Actual | 1993 Target |
|---|---|---|---|---|
| Availability percent | 78 | 80 | 83 | 82 |
| Load per wagon (tons) | 37 | 34 | 33 | 34 |
| Turn-round via Kisumu (days) | 28 | 25 | 31 | 25 |
| Turn-round via Mwanza (days) | 35 | 30 | 28 | 25 |

*Source: URC*

URC operates three wagon ferries *MV Pamba, MV Kaawa, MV Kabalega*, which ply mainly from Port Bell to Mwanza and Kisumu. Each of the wagon ferries can carry 22 wagons of 40 tons each per trip, i.e 880 tons per voyage. However, this level of utilization is above the actual average of 740 tons per trip or 1480 tons per round trip. Therefore, 80 percent load factor is attained per trip. Despite the high load factors the frequency of sailing is still below optimum. URC targets 110 round trips per annum per vessel however, in recent years only a maximum of 80 trips per vessel has been achieved.

URC rail freight traffic increased steadily from 263,615 tons in 1985 to 491,047 tons in 1990. In 1991 however, freight traffic declined to 415,913 tons but this increased to 485,705 tons in 1993. Much of URC rail traffic is external: the 421,721 tons of Uganda's external trade carried on the URC in 1990 amounted to 86 percent 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 handled by rail. In 1990 for example, coffee exports through Malaba amounted to 141,703 tons, equivalent to 31 percent of the Malaba traffic, or 29 percent of the total rail traffic in that year. Cotton traffic which had declined over the past years picked up as shown by a rise from 2,405 tons in 1990 to 7,433 tons in 1991. Growth in the construction industry has also resulted in iron and steel traffic re-entering the list of commodities carried by rail.

Similarly, URC marine freight amounted to 340,450 tons in 1990, 226,301 tons (66.5 percent) via Kisumu, and 114,249 tons (33.5 percent) via Mwanza. Of the total marine freight, exports amounted to 142,867 tons (42 percent) with coffee exports at 128,145 tons or 90 percent of exports, while imports comprised 197,583 tons (58 percent).

A new physical constraint to rail/lake services in Uganda is the water weed that is rapidly spreading in Lake Victoria. The weed has seriously affected marine services at Port Bell. The European Union has purchased a water hyacinth harvester to fight the water weed. The machine removes between 80 to 150 tons of water weed per hour. The harvester was expected to be operational at Port Bell by June 1995. The rehabilitation of the Jinja pier will be necessary as an interim measure while the problem is being tackled.

### *Tanzania Railways Corporation*

TRC has the jurisdiction to operate the railway network in Tanzania. The railway network is 2,605 km of mainline and branch-line track and 377 Kms of sidings and mostly serves the high potential regions of Tanzania which produce over two thirds of the exported agricultural products and 80 percent of the marketed cereals and food grains. TRC also operates marine services on Lakes Victoria and Tanganyika. Marine services are offered from Mwanza and Musoma in Lake Victoria and from Kigoma in Lake Tanganyika.

Much of TRC infrastructure, track, bridges, signals terminal facilities etc are old and requires replacement. Under the on-going Railway Rehabilitation Project (RRP), tracks are being relayed, ballasted and welded; some 600 Kms of track had been relayed by end of 1995. Rehabilitation of bridges and communication facilities is also on-going funded by KFW. There are also plans to improve at least 3 terminal facilities, and the marshalling yards in Dar-es-Salaam. Several projects have however been funded with specific funds including the Isaka Transit Terminal Phase II, link line strengthening, and rehabilitation and relaying of branch lines.

TRC locomotive holding stock as at the end of 1994 comprised 66 mainline, 25 branch-line and 29 shunting, making a total of 120 locomotives. This fleet was the same as that held in 1993 but represented an increase of 3 mainline locomotives acquired in 1993. Of the 120 locomotives, 34 are classified as Diesel Hydraulic, while 86 are Diesel Electric. Shunting locomotives are categorised classes 35/36/37, branch-line locomotives as classes 64/65 and mainline locomotives as classes 87/88/89. TRC indicates that despite that locomotives inherited from the former East African Community are very old and need rehabilitation, traction capacity would be adequate. TRC is however faced with difficulties in sourcing of spares parts for some 35 Canadian originated GEC locomotives whose engines and transmissions must be rebuilt. TRC traction capacity is also constrained by lack of adequate workshop facilities but it is understood that CIDA are undertaking consultancy studies with a view to helping out.

*Locomotive Availability*

The overall availability of TRC locomotives (all classes) was 53 percent compared to 50 percent in 1993, nevertheless below the target of 60 percent. The overall availability of shunting locomotives was 5 0 percent against a target of 48 percent, compared to 54 percent achieved for both branch-line and mainline locomotives against a target of 59 percent. TRC indicates that factors contributing to the less than target availability included high number of casual repairs, accident repairs, waiting for spare parts and for major overhauls.

*Locomotive Utilization*

Overall utilization for mainline and branch-line locomotives in 1994 was 325 Km per loco-day [9] in use against the target of 433 Km. This can be compared to an average of 372 Kms achieved in both 1992 and 1993, see Table 3.5. All locomotive types performed below set targets but the higher average for classes 88 and 89 mainline is clearly indicative of the longer hauls in which they are deployed. Overall thi s unsatisfactory performance was due to terminal delays at main depots, speed restrictions, accidents , frequent loco failures and the use of 64/73/87 class locomotives on engineering trains/pick ups.

***Table 3.5 Average Utilization per Loco-Day (Kms/day)***

| Class of Locomotive | Target 1994 | Actual | | | |
|---|---|---|---|---|---|
| | | 1994 | 1993 | 1992 | 1991 |
| Branch-line | | | | | |
| 64xx | 350 | 223 | 245 | 289 | 208 |
| 65xx | 350 | 308 | 364 | 429 | - |
| 73xx | 300 | 245 | 218 | 172 | 186 |
| Mainline | | | | | |
| 87xx | 450 | 241 | 194 | 234 | 293 |
| 88xx | 500 | 369 | 405 | 426 | 373 |
| 89xx | 500 | 409 | 381 | 326 | - |
| Overall | 433 | 325 | 372 | 372 | 333 |

*Locomotive Reliability*

Locomotive reliability is indicated by both the number of failures per given period, and the number o f kilometers a locomotive performs before the next failure. The overall number of locomotive failure s decreased from 562 in 1993 to 535 in 1994, giving an average of 5.9 failures per locomotive per year, in 1994, compared to 6.18 failures in 1993. Failures were most common for the mainline locomotive s recording between 8 and 12 failures per locomotive per year, compared to branch-line locomotives which

ranged between less than a failure to 4 failures per locomotive per year. Table 3.6 represents the reliability of main and branch line locomotives in terms of the number of kilometers performed before a failure. While TRC maintains a target of 40,000 Kms per locomotive before failure the annual average has declined from 11,345 Kms in 1992, to 10,042 Kms in 1993 to 9,555 Kms in 1994. The relatively poor performance against targets and the falling reliability implies a constrained capacity for TRC.

***Table 3.6 Locomotive Reliability (Km per failure) 1993 - 1994***

| Class of Locomotive | Holding Stock | Target 1994 | Actual | |
|---|---|---|---|---|
| | | | 1994 | 1993 |
| Branch-line | | | | |
| 64xx | 21 | 40,000 | 32,775 | 9,814 |
| 65xx | 4 | 40,000 | 54,398 | 36,710 |
| 73xx | 15 | 40,000 | 10,621 | 12,862 |
| Mainline | | | | |
| 87xx | 7 | 40,000 | 3,994 | 8,890 |
| 88xx | 35 | 40,000 | 9,031 | 14,426 |
| 89xx | 9 | 40,000 | 6,240 | 10,435 |
| Overall | | 40,000 | 9,555 | 10,042 |

## *Wagon Stock and Availability*

TRC total wagon stock declined from 2,511 units in 1993 to 2,246 units in 1994 (10.5 percent), see Table 3.7. Covered wagons represented 48 percent of the 1994 stock which included 40 wagon tanks acquired during 1994. During 1994, 305 wagons were also withdrawn from service, a large proportion of which were the covered wagons. The ownership of only 142 container wagons against a potential workload of some 8,000 containers passing through the port of Dar-es-Salaam every month (some 260 per day) is further indicative of TRC constrained capacity.

In 1994, overall wagon availability was targeted at 86 percent, but was recorded at 79 percent compared to 78 percent in 1993. Specifically only some 1669 wagons were available in 1994 compared to 1890 in 1993. This level of capacity is considered less than satisfactory, considering the available workload. The less than satisfactory availability is considered to be related to the old age of the wagons which has necessitated a high level of casual general repairs, and the frequent accidents which have put a large number of wagons out of use. A significant 29 percent of all major accidents in 1994 were the result of wagon defects. The restricted output of the Dar-es-Salaam workshop is also a major factor in wagon availability. Notwithstanding the turnaround times of wagons for Kigoma and Mwanza has been maintained at about 13 days.

***Table 3.7 Wagon Availability 1992 - 1994***

| Type of Wagon | Holding Fleet | | Actual | | |
|---|---|---|---|---|---|
| | 1994 | 1993 | 1994 | 1993 | 1992 |
| Covered | 1,080 | 1,236 | 82 | 78 | 83 |
| Open High | 331 | 394 | 76 | 71 | 74 |
| Open Low | 198 | 277 | 76 | 71 | 52 |
| Containers | 142 | 142 | n/a | 86 | 82 |
| Tanks | 274 | 234 | 76 | 74 | 69 |
| Cattle | 95 | 98 | 63 | 60 | 70 |
| Ballast | 75 | 75 | n/a | 88 | 88 |
| Phosphate | 50 | 50 | 80 | 74 | 80 |
| Refrigerated | 1 | 1 | n/a | n/a | n/a |
| Total | 2,246 | 2,511 | 79 | 78 | 76 |

TRC freight tonnage has stagnated at around 1.0 million tons between 1988 and 1992 (see Table 3.8), but increased by more than 30 percent to reach 1,382,000 tons in both 1993 and 1994. Domestic freight tonnages carried on the railway system in 1992 increased by 23 percent to reach 881,000 tons in 1993 but dropped to 816,000 tons in 1994. Similarly transit freight tonnages increased significantly from 207,000 tons in 1992 to 324,000 tons in 1993, (56.5 percent) and to 418,000 tons in 1994, (29 percent). Transit traffic tonnages reflect the increasing utilization of the Isaka rail/road route to Rwanda, Burundi and Zaire, and the significant volumes of relief cargo destined to these areas passing through the port of Dar-es-Salaam. The increase in transit traffic is also reflected on increasing performance of marine transport which was recorded at 177,070 tons in 1993, 29 percent above the 137,000 tons in 1992, although this declined to 148,681 tons in 1994, which is indicated as 7 percent below the target of 158,871 tons. Available data indicates significant marine activities on Lake Tanganyika for traffic to Burundi, Rwanda and Zaire. The shortfall represents delays in loading and offloading of cargo at foreign ports of Bujumbura, Kalundu and Mpulungu and periodic suspension of services to Bujumbura due to political unrest in that country.

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. As of September 1995, TRC had a backlog of some 200,000 tons at the port of Dar-es-Salaam, principally because of lack of adequate wagon capacity. Overall traffic moved by this date was 3 per cent below target because of the high level of cargo retention at the port. It is also noted that acceptance of relief cargo, which through 1994 and 1995 have represented a high proportion of transit traffic, and which was not adequately catered for in TRC programs, is undertaken at the expense of other commercial cargo.

## ROAD FREIGHT TRANSPORT SYSTEM

The fast growth of road freight transport industry in East Africa 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.

***Table 3.8 TRC Freight Tonnages (`000 tons)***

| | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 |
|---|---|---|---|---|---|---|---|
| Rail | | | | | | | |
| Local[10] | 709 | 618 | 674 | 719 | 717 | 881 | 816 |
| Transit | 224 | 284 | 253 | 203 | 207 | 324 | 418 |
| Sub-total | 933 | 902 | 927 | 922 | 924 | 1,205 | 1,234 |
| Marine | 43 | 92 | 69 | 108 | 137 | 177 | 148 |
| Road Services | 6 | 6 | 4 | 4 | 0.2 | 0 | 0 |
| Grand Total | 982 | 1,000 | 1,000 | 1,034 | 1,061 | 1,382 | 1,382 |

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 as such, the return on investment has been very low in recent years. The varied vehicle fleet models in the region have increased the problem of spare parts acquisition. This is complicated by the existence of increased foreign exchange scarcity to import both vehicles and spare parts. 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.

In the paragraphs below, we consider the organization of the road transport industry in three of the five countries covered in this study namely Kenya, Uganda and Tanzania. Areas of major interest cover vehicle fleets and their utilization, vehicle ownership, fleet composition and the role of the government as a regulator of the industry. The activities of the transport associations are considered. We also look at the recommendations made under TTCA, Eastern and Southern Africa Common Market (COMESA) Treaty and the Treaty establishing the African Economic Community under the OAU charter. Regulatory measures on overloading, road maintenance, toll charges and fuel levies are also considered.

## *Road Freight Industry in Kenya*

The road freight industry in Kenya comprise large and medium sized trucks whose fleet is estimated to be 40,000 vehicles, which represents about 10 percent of the total vehicle population in Kenya. The industry is polarised into a few major transporters and a large number of small transporters. The major transporters have fleets of up to 100 vehicles with a few having a fleet in excess of 200 vehicles. However, the smaller transporters own about 60-70 percent of the industry's fleet and carry nearly 75 percent of the available cargo. The major freight transport companies namely *Signon freighters, Bayusuf Transporters, Rongai Investments, Transpares* and *Highway Carriers* indicated that they are basically involved in domestic transport activities. Field surveys also indicated that international cargo lands at the port with a clearing and forwarding name tag of a company registered in the country to which the consignment is destined. Hence, foreign registered companies are delivering transit cargo to their countries from Mombasa leaving local companies with little choice but to compete for domestic cargo.

It is understood that the road freight vehicle fleet in Kenya is composed of relatively old vehicles whose operational efficiency is quite low. The Kenya Transport Association (KTA), a local truckers association

for the promotion of transport entrepreneurship in 1994 estimated that this fleet was on the average 15 years old and average utilization of only 50,000 Kms per year per vehicle. Available statistics indicate that over the 5 year period 1990 - 1994 sales of trucks of all categories declined from 2547 units to only 1627 units. It is believed that the high cost of new vehicles is the major factor impacting negatively on fleet replacement. Transporters have been concerned at the duty and VAT component of new vehicles, which together with the cost of insurance (which has increased significantly in recent years) have depressed operating margins considerably.

At its inception in the 1960's the industry was dominated by a national parastatal known as the *Kenya National Transport Company (KENATCO)*. This parastatal collapsed in the late early 1980's and gave way to private investors. To date, the industry is in the hands of private owners and operators. There are many vehicle models with varying capacities of up to 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 the problems, the industry has continued to carry over 70 percent of the total national freight, earning K£176 million in 1989 which rose to K£262 million in 1992 showing an increase of 49 percent over four years.

A significant feature of the road freight industry in Kenya is the mandatory requirement that operators of Heavy Goods Vehicles (HGVs) observe axle load limits and weigh bridges have been installed in Mariakani, Athi River, Gilgil and Thika to monitor overloading. The enforcement of axle load limits and traffic regulations are done by the police in conjunction with officers from the Roads Department of the Ministry of Public Works and Housing (MoPWH). It is estimated that the average load factor is only 65 percent reflecting the implementation of this regulation, but also as a result of roads in poor condition in the light of the aging fleet of vehicles in the industry. Notwithstanding the above, as a result of tariffs which remain depressed mainly due to competition, overloading to maximise revenue per load is encouraged which further contributes to the faster road surface deterioration.

The industry operations suffer from management related issues: it is understood that the industry has grown indiscriminately in terms of vehicle numbers, but not in technical standards. Many of the current managers in the industry do not have adequate knowledge of the road transport businesses they are running. Operators lack management skills including proper bookkeeping, operational planning, marketing and costing which would facilitate better management and cost effectiveness in business. KTA is responsible for organizing seminars to discuss transport issues, to devise effective vehicle maintenance techniques and educate its members accordingly, to advocate for good fleet management through proper record keeping and to lead in negotiations on tariffs, tax reductions and foreign exchange regulations affecting road hauliers. Currently, these activities are not carried out effectively due to KTA's weak position occasioned by the existence of large multinational companies in the industry which are not members. At present, only the Mombasa branch of the association is active in the country.

Currently the longer haul vehicles are driven by the revenue potential of transit cargo to and from the landlocked countries (Uganda, Rwanda, and Burundi) which are more lucrative than that accruing from local trips. Thus where a transporter has a choice of local or transit cargo, the transit cargo will be preferred.

### *Road Freight Industry in Tanzania*

The number of licensed vehicles in the Tanzanian trucking industry is uncertain because the Central Transport Licensing Authority (CTLA) ceased compiling such figures in 1981. It is however estimated

that by 1990, there were over 72,000 vehicles plying the roads, of which, trucking fleet was about 18,000 vehicles. Majority of the trucks (78 percent) were privately owned with the remainder belonging to parastatals which include six Regional Transport Companies (RETCOs). Large inter-regional operators including RETCOs achieve the highest productivity levels with trucks achieving 40,000 - 70,000 Km per year. Crop authorities and small owners who use vehicles as auxiliary to other activities achieved as little as 10,000 Km per truck per year.

Reliable road transport statistics are not available for RETCOs whose vehicle fleet comprises less than 10 percent of the national truck traffic. It is however estimated that 85 percent of all the trucking activity in Tanzania is done by private operators. Manson and Gilling, 1984, in their study of "Road Transport Policy, Practice and Role of the Public Sector", estimated that 1.63 billion ton-kilometers are done by road truckers. At the time, the average load factor was 50 percent indicating an almost complete absence of back haul cargo. There was excess capacity then but this was lost through the ageing of the fleet and by 1990 the capacity was inadequate to move cargo from Dar-es-Salaam Port resulting in prolonged port delays and congestion.

Fleet replacement has averaged 4 percent p.a which is inadequate compared to the over 15 percent replacement rate estimated as appropriate under poor Africa road conditions. To overcome this situation, the government in 1990 negotiated with several international private investors to provide 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 like *Africargo, Highway Carriers, Interfreight Panalpina, Nas Hauliers,* among others, all of which invested 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 up to 60 tons, which would provide a basis for even higher profitability.

However, the Government had by 1994 re-introduced duty on various aspects of haulage operations which have 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. One operator indicated that the re-introduction of the duty had de-stabilised their cash flow and that they were not able to meet repayment on a US $3 million foreign loan which was part of their investment in 1990. In addition, the strict enforcement of axle load limit on vehicles has reduced permitted payload, thus affecting revenue potential, reducing operating margins further. As of June 1994, a number of these Tanzanian based operators, including *Nas Hauliers Limited,* had shifted their base of operations to Mombasa, focusing on ZBRU traffic. This move has beefed up the existing capacity in Mombasa where freight rates were now falling drastically due to increased competition.

A study undertaken by Louis Berger International for USAID in 1987, shows that, to regulate the trucking sector, the Ministry of Trade and Industry (MTI) is responsible for determining the type and quantity of trucks to be imported as well as recommending their regional distribution. It also awards import licenses for spares to franchise and bazaar dealers. The Prime Minister's office reviews and agrees to proposed allocation of imported vehicles while the Regional Motor Vehicle Allocation Committees (RMVACs) determine the allocation of vehicles between various regional end users. At present the Ministry of Finance, Planning and Economic Affairs, through its Customs and Sales Tax department, is the sole collector for the bulk of user charges. Another road revenue raising agency is the Transport Licensing Authority (TLA) under the Ministry of Communication and Works (MCW). All the collected revenue is directed initially to the central general pool in the Ministry of Finance.

### *Road Freight Industry in Uganda*

Road transport has continued to serve a useful purpose in Uganda and with the current improvements in road network the number of vehicles on the road has increased steadily since 1986. New vehicle registrations have however remained stagnant at about 6,000 vehicles per year. There was an increase in new vehicle registrations from 6,459 vehicles to 6,816 (5.5 percent) between 1988 and 1989. Since then, there has been a steady decline of new registrations over the years up to 1992. Between 1989 and 1990, vehicle registrations declined from 6,816 to 6,282 showing 8.5 percent decline, between 1990 and 1991 the decline was 3 percent and between 1991 and 1992, 6,152 and 5,864 vehicles were registered respectively, showing a decline of 5 percent. Despite the decline in new registrations, privately owned vehicle fleets on the road have increased from 27,732 in 1985 to 44,604 vehicles in 1992 an increase of 60 percent. With a decline in new vehicle registrations, this increase in running fleets is attributed to rehabilitations of old fleet. This increase in vehicle fleets and the improvement in road network has led to stabilization of freight charges.

Public sector participation in freight transport in Uganda is minimal. There is however one Government parastatal freight trucking company, *TransOcean (U) Ltd* and one Cooperative Union, the *Uganda Cooperative Transport Union (UCTU)* which offer trucking services. However it is indicated that TransOcean's operations as a trucking company has significantly declined over the last few years, and as December 1995, it owned only 5 heavy haulage trucks, although it was awaiting to receive an additional 30 trucks. Thus TransOcean has relied on subcontracting the haulage of a significant amount of cargo it receives as it also doubles as a Clearing and Forwarding organization.

UCTU is currently perhaps the leading Ugandan road transport operator, owning some 80 heavy haulage trucks as at December 1995. UCTU operations extend to many local Ugandan destinations, and to a number of PTA countries including Zaire, Sudan, Tanzania, Rwanda and Burundi. The major item of transport has lately been relief food purchased by Aid organizations in different parts of Uganda, and that component imported through the port of Mombasa which reach Kampala by rail, but are destined to these destinations. UCTU also focuses its operations on import containers through the port of Mombasa and steel imports from Nairobi, Mombasa and Eldoret. The major export items are however cotton and coffee, the transportation of this latter which is now liberalised after many years of monopoly by Uganda Railways Corporation.

The third Ugandan road transport operator is Mukwano, a locally incorporated business currently operating some 40 or 50 heavy haulage vehicles. It is understood that Mukwano entered the Ugandan transport scene in the late 1980's and that prior to this in the early 1980's, the company was involved in basic commerce and industry, manufacturing of soap and other similar items. Most of Mukwano's business is currently along the Northern Corridor focusing on both relief foods and Ugandan imports and exports through the port of Mombasa.

In addition to the three Ugandan based road transport operators, there are a number of smaller operators (interims of trucking capacity) comprising individuals and corporate operators, also operating in the Ugandan market. Together these smaller type operators own a significant proportion of the total fleet. International road transport operators, among them Transfreight, Interfreight, and TransAmi are also represented in Uganda, and account for the movement of a large proportion of transit traffic to and from Uganda. It is also understood that GDC Hauliers Limited, a Zimbabwean based heavy haulage operator with about 500 trucks in different parts of Africa would be establishing a branch office in Kampala in early 1996 to focus on the movement of white oils and dry cargo.

Notwithstanding the above, it is understood that available road transport equipment is not enough for Ugandan cargo, and a large proportion of it is old, averaging ten years. This has implications for high costs of operations. It is against this background that there is the need to improve railway services and to give incentives to private road transport operators to increase fleet.

The control and regulation of road transport services in Uganda is under the Transport Licensing Boar d (TLB) of the Ministry of Works, Transport and Com munications. The TLB is therefore responsible for vehicle licensing, inspection and allocation of transport routes. The procedure for acquiring a road licence involve s heavy taxation on the part of the transporter because of the Commercial Transaction Levy (CTL) component of the licensing fee, which is 100 percent of the cost of the road lic ence and must be settled before a road licence is issued. This pre-paid tax puts truck operators to a disadvantage when the truck is broken down and there is no economic activity. Transporters are anxious to know what will happen to this CTL component when CTL and Sales Tax are replaced by VAT proposed for the 1996 Uganda Government Budget.

It is also alleged that many foreign investors in the trucking business in Uganda have receive d preferential treatment with respect to importation of tax-free trucks, which makes local transporters unable to compete on an even ground. Road transport operations in Uganda are also constrained by th e competition from foreign registered trucks for internal transportation business. It is understood that there are cases of non-Kenyan or Ugandan registered truck engaged in transporting Uganda cargo from Kenya which COMESA regulations do not permit.

## REGIONAL AIR FREIGHT INDUSTRY

There are no scheduled cargo flights between Dar-es-Salaam, Kilimanjaro, Mombasa, Nairobi, Entebbe, Kigali and Bujumbura. The regional air cargo is mainly destined to European markets and is air lifted for connecting flights in Nairobi, Dar-es-Salaam and Entebbe. Such cargo is mainly horticultural produce and parcels. Most of this cargo is taken under the scheduled passenger flights. Air connections between Mombasa, Nairobi, Entebbe and Dar-es-Salaam are fairly frequent on a dai ly basis. Between Mombasa and Nairobi at times there are up to six flights per day by *Kenya Airways*. *Uganda Airways* also offers flights to Mombasa via Nairobi twice per week on Wednesdays and Fridays. There are also daily flights by Uganda Airlines between Nairobi and Entebbe while *Kenya Airways* offers some flights on this same route. *Tanzania airlines* offers frequent flights to Nairobi and Entebbe. Cargo transported in the passenger flights therefore depends on the type and capacity of aircraft and the number of passengers on board. This cargo capacity ranges between 1 - 5 tons per flight.

In Kenya, the air transport industry has been declining since 1989 mostly due to political uncertainties coupled with a difficult economic situation due to drought. The industry is now recovering and freigh t traffic is showing an upward trend. For example, between 1989 and 1990, total freight handled at th e Nairobi Airport was 95,115 tons and 85,505 tons, respectively, showing a decline of 10 percent. Between 1990 and 1991 there was a further decline in freight traffic of 13 percent, to 74,155 tons. This decline was reversed in 1992 when 84,224 tons were handled, showing an improvement of nearly 14 percent.

Uganda Airlines Corporation has a fleet of three aircraft, comprised of one F27 wholly owned by the corporation, one BAe 146 under joint management with *Air Botswana* and one B737 leased from *Air Malawi*. The Airline's performance improved greatly especially on the passenger traffic in 1993. On its scheduled services, the Airline in 1992 carried a total of 31,598 passengers, 90 percent above the 16,716 passengers carried in 1991, 107,071 Kg of cargo, 95 percent below the 1,983,940 Kg. carried in 1991 , 9,119 Kg of mail, 108 percent above the 4,378 Kg of mail carried in 1991.

Due to increased business volume, the Airline's sales reservations could no longer be handled manually and in July 1992, the airline computerised its sales reservations in Kampala and Nairobi. This has further stepped up the airline's reservations bookings although computerisation at the terminal in Entebbe Airport is awaiting completion of the rehabilitation work of the terminal building.

In Tanzania air transport exhibited some positive growth during the latter part of 1993. In July, August and November 1993, freight traffic volumes was 679,449 kgs, 731,075 kgs and 996,294 kgs respectively. Therefore, in the second half of 1993, air freight traffic increased by between 8 percent and 36 percent on a month by month basis. It is however noted that the national air carrier, *Air Tanzania* air lifts less than one third of the total freight traffic. Foreign operators transport more than 70 percent of the total air cargo most of which emanates from and/or is destined to international markets outside the East African region.

## OIL PIPELINE

The 449 Km oil pipeline from the Kenya oil refineries in Mombasa carries white petroleum products which include kerosene, diesel, aviation fuel, super and regular petrols. These products form the bulk of the petroleum oil products and their transport through pipeline has greatly eased the strain on the road network by tankers. The products are received from the refinery and stored in tanks at Changamwe where they are pumped in successive consignments to Nairobi. Heavy petroleum fuels including tar and heavy industrial diesel (black oils) are usually transported by road and rail from the refineries in Mombasa.

The pipeline has been extended westwards beyond Nairobi with a design to meet the requirements for Western Kenya and the neighbouring countries. The pipeline is capable of transporting its full design capacity of 1,815,000$m^3$ per annum between Nairobi to Sinendet and from there, 660,000$m^3$ per annum to Kisumu and 843,000$m^3$ per annum to Eldoret. The Kisumu terminal is capable of handling 343,000$m^3$ per annum and the Eldoret terminal 551,000$m^3$.

At Nakuru, Eldoret and Kisumu, modern storage and distribution depots have been constructed to deliver oil products to the oil companies and other customers. Eldoret has road loading facilities for onward road transport while Kisumu has both road and rail loading facilities. The oil pipeline is very important to the landlocked countries since exports could approximately increase by 50 percent to 900,000$m^3$ per annum.

The transportation of oil from Nairobi to Uganda, Burundi, Rwanda and Eastern Zaire has been mostly done by road. The commissioning of the oil terminals at Kisumu and Eldoret will drastically reduce road tankers east of Kisumu and Eldoret as well as the journey time for tankers travelling to neighbouring countries.

In 1993, the total amount of refined petroleum products pumped upcountry by the Kenya Pipeline Company (KPC) was 1,973,100 cubic meters, 6.1 percent above the 1,860,300 cubic meters in 1992. As shown in Table 3.9, the amount of light diesel oil increased by a significant 18.1 percent over the amount shipped in the previous year. During the year, shipment of motor spirit premium, regular and illuminating kerosene, dropped by 6.7, 5.2 and 7.6 percent respectively. This was attributed to substantial fall in demand for the products due to sharp price increases. Delivery of jet fuel and aviation turbo fuel by the pipeline increased by 9.5 percent and 26 percent respectively in 1993 compared to 1992. Table 3.9 also summarizes the oil pipeline throughput from 1989 - 1993.

It is understood that KPC is exploring various business ventures. For example, KPC can now import already refined products using the facilities at Kipevu in the port of Mombasa. Products are pumped directly from tanks

at Kipevu to Changamwe and from there to Nairobi. It may be possible for the landlocked countries to enter into contracts with KPC for receiving products at Mombasa and delivering them to Kisumu and Eldoret from where agents could arrange collection, clearance and onward transportation. Future plans of KPC include the construction of a jetty at Kisumu which would enable transport of oil products across the lake in oil barges. This is subject to a thorough analysis of the environmental impact of transporting oil on the lake.

***Table 3.9 Pipeline Throughput 1989 - 1993 (000 m $^3$)***

| Year | Motor Spirit Premium | Motor Spirit Regular | Kerosene Illuminating Oil | Light Diesel Oil | Jet Fuel* | Aviation Turbo | Total |
|---|---|---|---|---|---|---|---|
| 1989 | 337.0 | 281.0 | 237.3 | 684.3 | 268.0 | 69.3 | 1,876.9 |
| 1990 | 351.8 | 271.9 | 235.1 | 692.9 | 372.2 | 59.5 | 1,983.4 |
| 1991 | 328.5 | 256.3 | 218.3 | 661.8 | 308.9 | 57.3 | 1,831.1 |
| 1992 | 322.0 | 255.1 | 213.1 | 640.0 | 383.5 | 46.6 | 1,860.3 |
| 1993** | 300.3 | 241.8 | 196.8 | 755.7 | 419.8 | 58.7 | 1,973.1 |

*Source:* *Kenya, CBS*

* Includes Jet fuel in Mombasa from 1988

** Provisional

Although the construction of the pipeline depots at Kisumu and Eldoret has been welcomed by operators from the landlocked countries, it is predicted that their full utilization will have a constraining factor on cargo offtake from the port of Mombasa. It is argued that the utilization of the pipeline facilities as those of the ICDs at Kisumu and Eldoret hinge on KRC services which are already inadequate. Therefore a constrained railway will affect on the operations of the port. It is indicated that as a result, the improvement of railway facilities are a priority. Specifically the need to upgrade the Nakuru - Kisumu branchlines is a priority.

## FREIGHT TRANSPORT FACILITATING AGENTS

Freight transport facilitating agents in the region include Clearing and Forwarding (C&F) Agents who operate in liaison with the shipping agents, the consignees, the police and the customs officers to facilitate the clearing and transportation of cargo from the ports of landing. The issue of involvement and composition of these agents varies from country to country in the region. In some countries, government owned parastatals dominate the C & F industry while in others the private sector dominates. The level of police involvement and customs documentation processes also vary from country to country.

### *Agents in Kenya*

In Kenya the C&F industry is dominated by the private sector. There are major companies as well as small scale businessmen (commonly known as briefcase C&F Agents). These provide clearing services as well as transportation. At times they use own vehicles but may at times sub-contract small transporters. The briefcase agents

do the clearing but sub-contract the transport bit to earn a commission. The Government has no direct involvement in the C&F activities in Kenya except by providing regulatory services like licensing and registration of the operating companies. Many briefcase agents are not registered and have been blamed for contravening existing regulations. They rely on people's goodwill and personal contacts in their business activities. The large local companies are grouped together under the Kenya Clearing and Forwarding Association. This Association negotiates and determine baseline tariff rates for the various activities of the C&F Agents. With effect from January 1996, the Association has now the mandate to recommend CFAs for the issue or renewal of their Customs Agents Licences and which requires each practising CFA to be a member of the Association.

### *Agents in Uganda*

TransOcean (U) Ltd is the dominant parastatal in Uganda which has the tender to clear and forward all government cargo. The market is however fairly competitive and if it were not for the Government tender, the company may have collapsed. Its forwarding activities have collapsed and it now subcontracts the transportation of a significant proportion of cargo cleared to either the URC or to private road transporters. Large companies like *Interfreight Panalpina, Transami, Cargo Swift Forwarders* and many small companies have invaded the industry. Their aggressive marketing strategies as well as the increasing number of briefcase agents has resulted in cut throat competition and the survival of *TransOcean* remains to be seen. TransOcean is also the Manager of the Customs Depot at Nakawa. There is a newly formed Uganda Clearing and Forwarding Association to assist CFAs in negotiations for tariffs and to promote sustainable investment in the industry.

### *Agents in Tanzania*

In Tanzania, the C&F industry has been over the past several decades dominated by *Agence Maritime Internationale (AMI)*, a Belgian company with extensive interests in former Belgian (ZBR) countries in East Africa. Under the Belbase Agreement of 1921, AMI was appointed the managing agent of Berth No.1 at the port of Dar-es-Salaam, and Kigoma port which were exclusively reserved for ZBR cargo, thus in principle giving AMI the monopoly for clearing ZBR cargo. Under these arrangements ZBR cargo passing through Berth No.1 at Dar-es-Salaam port was supposed to be charged very little or no port charges at all. This agreement was however terminated in 1995 and AMI is no longer the manager of Berth No.1 at the Port of Dar-es-Salaam. It is understood however that AMI is negotiating its continued role as manager of the Kigoma Port with TRC which owns the facilities.

In addition to AMI, there are some 600 Clearing and Forwarding Agents operating from the port of Dar-es-Salaam, however, it has been observed that a large number of them are *brief case agents* lacking the necessary training to deal particularly with transit traffic. As at December 1995, another 105 potential CFAs were being interviewed for licensing. It has been suggested that stringent procedures be adopted in granting licences to CFAs to deal with transit traffic, as this is an important aspect of the marketing of both the port of Dar-es-Salaam and the routes along the Central Corridor. The termination of the former Belbase agreement with AMI may have been responsible for the reduction of its volume of cargo from 50 percent in 1994 to about 20 percent in 1995. It is also estimated that some 10 per cent of the 600 licensed CFAs in Tanzania may be responsible for the clearing and forwarding of some 50 percent of the total throughput at the port of Dar-es-Salaam.

### *Agents in Rwanda and Burundi*

*Societe des Transportes Internationale (STIR)* is a government parastatal with an upper hand in the clearing and forwarding of most of the freight to and from Rwanda. *STIR* also operates as a transporter with nearly

500 vehicles many of which are subcontracted from indigenous Rwandan transporters. In practice *STIR* has monopoly of Rwandan cargo at both Mombasa and Dar-es-Salaam. Imports are assigned to it through the Central Bank of Rwanda at the issuance of import licences. Similar arrangements existed for *OTRABU* in Burundi, which is now defunct freeing the C&F and transport market for Burundi cargo to private organizations and individuals.

## TRANSIT TRANSPORT REQUIREMENTS

### *Transit Bonds*

All transit goods from or to Mombasa need to have a transit bond posted in each transit country. The bonds are meant to protect the domestic markets of each transit country against loss of customs duty and sales tax if the goods are diverted into their markets. Due to differences in customs duties and sales tax, a Standard Bond has never been issued within the entire corridor, hence a separate bond is required in each transit country.

The bonds are normally arranged by Clearing and Forwarding agents through insurance companies and local banks, which guarantee payment of duty if the goods are diverted to the domestic economy. It has been estimated that the bond can add up to 3 percent of the CIF value to the cost of transit particularly for traffic to Burundi along the Northern Corridor. It is suggested that ways be sought to reduce costs and streamline the issuing of bonds. The Preferential Trade Area (PTA) bond guarantee scheme is perceived as a step towards the required simplification although the ratification of this scheme is still pending.

### *Transit Pass*

Historically, before independence in Tanzania in 1961, AMI was the only clearing and forwarding agent handling ZBR cargo at the port of Dar-es-Salaam. After independence AMI was granted a concessionaire status, and permitted to clear ZBR cargo using a transit pass without having to establish a transit bond. The transit goods are carried under a transit pass which is cancelled when the goods leave Tanzania. Originally all transit goods were moved by rail and were thus effectively under government control. There was thus no logical need for shippers to provide transit bonds.

However, effective 1 January 1995 the transit pass is no longer applicable for any transit cargo passing through the port of Dar-es-Salaam. All cargo has since then been bond posted, each bond covering 150 percent of the assessed customs duty and other taxes which the cargo would attract if it were diverted to the local market. It is understood that even cargo going by railway is now bond posted. Concessionaries will however continue to be exempted from posting bonds, however, this status is only given on government to government basis.

### *Police Surveillance*

In Kenya, the police require trucks not under escort to use a truck control form titled P27. This form requires trucks to travel using the designated routes and to check in at specified police check points as they travel through Kenya. This form is stamped and signed at the respective police stations. In Uganda, the Transit Vehicle Logsheet serves the same purpose as the Kenya's P27. This requirement is also used in Rwanda where all cargo goes to Magerwa in the vicinity of Kigali for customs clearance.

## OVERLOADING OF VEHICLES

The poor and deteriorating condition of road transit infrastructure is a serious problem. The transit countries often complain that transit traffic to and from the landlocked countries cause disproportionate damage to their roads because axle load limits are regularly exceeded. One of the main concerns of road planners and builders is axle load limit i.e. the maximum weight an axle can transmit to the road. This is because where there are overloaded axles, there is rapid deterioration of roads.

It is important for axle load regulations to be standardized at the regional level to correspond with the design standards of the roads and also to ensure that the same vehicles can cover a journey with the same load. The technical requirements for road vehicles from Mombasa and Dar-es-Salaam are contained in a PTA treaty which is geared to prevent undue rapid deterioration of road infrastructure through overloading. The maximum axle weights are given as: steering axle 8.0 tons, single drive/load axle 10.0 tons, tandem drive/load axle 10.0 tons and triple axle group 24.0 tons.

According to the present regulations, the total maximum laden weight of any vehicle should not exceed 46 tons. This particular limit has been found impracticable and the PTA has drafted a proposed amendment which states that the maximum laden weight for a truck with six or more axles shall be 53 tons, provided the legal axle limit is not exceeded. We also note the existence of vehicles with more than six axles and a capacity of over 60 tons in the region. Though few, these may require the PTA to revise the maximum vehicle capacity further.

Strict enforcement of axle load and other related regulations in Kenya started at the beginning of 1994 by carrying out random roadside checks on the highways and monitoring traffic flow in the affected road corridors. Similar measures are being instituted in Uganda following the commissioning of two weighbridges on the Malaba - Kampala road. Mobile weighbridges in both Kenya and Uganda are however indicated to provide a basis for heavy penalties for transporters. These weighbridges are small and can only take one axle at a time, resulting in cases of overloading even when load is not so. In Tanzania, the government will soon purchase new mobile and fixed weighbridges under the IRP to replace the existing ones. In addition, the government has revised the Road Traffic Act among other things and has announced new fees to be charged for overloading. The recent re-location of some Tanzanian based road hauliers with trucks of 60 tons capacity to Mombasa is indicative of the potential to violate lower axle limits, mostly through corrupt practices which will result in damage to the roads, which the intention is to protect.

## ROAD MAINTENANCE FUNDING

Road networks are deteriorating faster than the level of available resources to maintain them. This has contributed significantly to the high cost of road services on which the international movement of cargo is still heavily dependent. There is need to address the important issues of increasing the flow of resources for maintenance and their effective utilization. In Kenya, the government has abolished road tolls except for transit traffic and replaced them with a road maintenance levy to be collected on behalf of the government by oil companies. The Road Maintenance Levy Fund Act of 1993 enables the government to impose a road maintenance levy on petroleum fuels and establish an administration for the fund. This Act became effective in June 1994 after receiving presidential assent earlier in the year. The budgeted revenues for the levy fund amounts to some K£ 75 million in the financial year 1994/95.

With regard to maintenance funding in Tanzania, the long term policy and strategy is to achieve full funding from user charges in all modes of transport. Revenues for road maintenance are being collected

from road users mainly through the imposition of a levy on fuel consumption, which is deposited into a dedicated Roads Fund. This system was started in 1992 and at that time, Tshs.5 was collected per litre of petrol or diesel sold. At present Tshs.30 is collected of which Tshs.20 is allocated to trunk roads, Tshs.5 to district roads and Tshs.5 to Dar-es-Salaam roads. The total amount of money that will go into the road fund in 1994 is estimated at US$24 million. This amount is still low compared to the overall requirements but since the IRP got underway, government contribution to the maintenance budget has been increasing. There is an agreement between the government and donors to have full government funding of road maintenance by 1995/96.

At the regional level, inter-state road freight haulage has been subjected to various road user charges to meet the high cost of road maintenance. To facilitate this, the PTA has approved the use of harmonized road user charges. Currently, these charges are US $5 per 100 km for buses and US $6 per 100 km for HGVs with rigid chassis and having up to three axles. Other HGVs of more than three axles and all articulated vehicles are to pay US $10 per 100 km. The charges were approved with the proviso that the principle of reciprocity will be applied on countries charging more than the prescribed rates. It is understood that Burundi, Malawi, Zambia and Zimbabwe are applying the prescribed PTA rates. Tanzania is officially known to be charging US $16 per 100 km for HGVs with more than 3 axles and articulated vehicles and US $6 per 100 km for those with rigid chassis and having up to 3 axles without trailer. Uganda intends to charge US $27 per 100 km on HGVs with more than 3 axles and those that are articulated. The difference between full cost recovery rates in these countries is related to the initial road engineering standards. Roads which were initially of high standards but have now deteriorated require a high cost recovery rate to restore them to their initial state than roads which were of low engineering standards. The intended road transit charge by Uganda and the charge now applied by Tanzania are related to the initial road engineering standards before many of these roads deteriorated. Many of the Tanzanian roads were and still are of lower engineering standards than those in Uganda and hence the difference in road transit charges on full recovery basis.

## THE ROLE OF SUB-REGIONAL, REGIONAL AND CONTINENTAL ORGANIZATIONS

The sub-regional, regional and continental agreements that have influence on the current structure and functioning of the transport industry are the *Transit Transport Coordinating Authority (TTCA) Agreement, the East Africa Cooperation Agreement (EACA)* signed in Arusha in March 1994, the *Eastern and Southern Africa Common Market (COMESA)* treaty and the *Organization of African Unity (OAU) treaty establishing the African Common Market.* The TTCA memberships comprise of Kenya, Uganda, Rwanda, Burundi and Zaire. These countries are also members of the 22 countries of the Preferential Trade Area (PTA) which has been converted to COMESA after the signing and ratification of the treaty by a majority of the members states. All these countries are grouped together under the OAU charter and therefore resolutions passed at the sub-regional level are expected to be consistent with those passed or envisaged under the OAU charter. Important resolutions have been passed by these organizations on transport issues but implementation has not been totally effective.

The role of EACA, TTCA and COMESA in the transport sector has been to develop policy measures which in the long run act as a check on transport costs in roads, railways, air and maritime transport. The COMESA Treaty and the TTCA Agreement advocate for harmonization of various transport variables which contribute to cost.

Member states are urged to harmonize their laws concerning the equipment and vehicles used for inter-state transport within the common market. It is required that the formalities and documentation for the vehicles used in interstate transport within the common market be simple. Member states are expected to adopt common procedures for the harmonisation of road transit charges, and agree on measures for reduction and elimination of all non-physical barriers to inter-state transport within the common market. Likewise, member states in whose territories railways are operated are supposed to adopt common policies for development of railways and railway transport systems in the common market. These include tariffs, documentation procedures, packaging, marking and loading of goods on wagons for inter-state railway transport. The corporations should also cooperate in allocating adequate space for the storage of goods from each member state within their goods sheds.

In order to promote the provision of better and efficient air transport, the member states are to establish joint ventures to co-operate in the use of equipment, the pooling of aircraft maintenance and training facilities, the acquisition and use of fuel and spare parts, insurance schemes, the coordination of flight schedules and the improvement of managerial techniques and skills. Member states are to coordinate and harmonise their maritime transport policies and establish a common maritime transport policy. Members which finally have common navigable inland waterways are to coordinate and co-operate in the maintenance of safety in inland water transport services including the provision and maintenance of the right communication equipment to pick up distress positions in time. Concerning freight forwarders, customs clearing agents and shipping agents, persons should be allowed to register their businesses provided they fulfil the legal requirements within the country in which they seek registration.

Likewise, OAU Common Market Treaty recommends the facilitation of the transit traffic through territories of other member states in accordance with intra-community transit and transport facilities protocol. It recommends the simplification and harmonisation of trade documents and procedures, coordination of the various modes of transport in order to increase efficiency and agree on harmonized policies at regional and community levels with the aim of eliminating non-physical barriers that hamper the free movement of goods, services and persons.

The goodwill shown by these organizations is however not fully realised due to the way in which they are structured. The TTCA covers only the "Northern Corridor" transit route now vigorously losing traffic to Central Corridor. This arrangement has made TTCA be viewed as a facilitator of competition to the Central Corridor and has hindered effective participation of Tanzania and the other beneficiaries of the Central Corridor in its deliberations and commitments. On the other hand, the PTA now being transformed into COMESA seems to be getting too large for effective coordination and implementation of the transport related resolutions passed at its meetings. This and other issues have made some of the member states to affiliate themselves with the smaller sub-regional organizations of the East and Central Africa like EACA and KBO which they consider as potential alternatives to PTA. With this trend continuing, there is a possibility of another organization coming up in the South African region and hence confusing the situation even further.

# Chapter 4. Procedures and Costs

## INTRODUCTION

Procedures, arrangements and issues for cargo movement from the time it is landed at either the Port of Mombasa or Dar-es-Salaam until it reaches the consignee in any of the five countries in the subregion can be translated into costs, and represent a significant proportion of the overall cost structure. As procedures become easy to understand and simple to use, related costs fall, and vice versa. Some of the procedures and arrangements translate into direct costs of cargo movement, while some of them are embedded in the quoted freight rates for transportation, particularly if cargo has to be moved by road. The major players are Clearing and Forwarding Agents (CFAs), customs and port authorities, police authorities and transporters.

In this chapter we review and discuss the existing arrangements, procedures and issues related to cargo movement, first through the ports of Mombasa and Dar-es-Salaam, and second along the various routes along both the northern and central corridors. The review and discussion is provided as a basis for understanding the extent to which various costs, being the overall costs of cargo movement, are incurred. The chapter is presented under the following main sub-headings, namely:

- notification of arrival of cargo;
- clean Report of Findings;
- customs clearance procedures and issues;
- port charges;
- road transit procedures; and
- clearing and forwarding costs.

## NOTIFICATION OF ARRIVAL OF CARGO (IMPORTS)

The procedures for clearing and forwarding cargo at the two ports of Mombasa and Dar-es-Salaam are fairly similar although each port has its own details. In both cases however, import procedures are more intricate and complex than export procedures.

In practice once the cargo is loaded on board a ship in the country of origin, relevant documents are sent to the importer, or his appointed clearing and forwarding agent, or to his bank. These documents comprise the bill of lading, a commercial invoice and a packing list, (see Appendices III(a), (b) and (c))this latter only for Mombasa. It has been estimated that a typical vessel takes between 19 and 21 days to reach Mombasa or Dar-es-Salaam from many parts of the world, therefore in many situations these documents, forwarded by air, should reach the importer before the vessel in question arrives at either port. Ideally, all documents received by the importer should immediately be given to the importers appointed clearing and forwarding agent. At Mombasa, a number of CFAs, particularly the parastatals and multinationals levy a penalty to the importer, termed as late receipt of documents if the same is not lodged at least five days before the arrival of a particular vessel.

Each vessel arriving at the port of Mombasa or Dar-es-Salaam has a shipping agent, being the intermediary between the ship owners and the cargo owners. At the port of Mombasa for example,

shipping agents announce, at a meeting convened at 10 am on a daily basis, the expected arrival date of each ship and the goods destined to the port of Mombasa. The meeting is attended by representatives of the Kenya Ports Authority (KPA), Kenya Railways Corporation (KRC), road transport operators, customs officials and clearing and forwarding agents. The ship arrival dates are also often announced in the local press. At Dar-es-Salaam a similar briefing is provided by the *National Shipping Agencies Company* (NASACO) which is presently the sole shipping agent representing all shipping lines with shipping interests in Tanzania, and whose monopolistic role has been criticised as one of the weaknesses of the port of Dar-es-Salaam.

The appointed clearing and forwarding agent presents the documents received from the importer to the ship's agent so that the original bill of lading can be released, actioned through the signature of an approved person and a stamp, simply indicating that all sea freight and incidental charges have been paid. Most sea freight is pre-paid at the port of origin, however, there are always instances when additional charges are raised. The signature of the approved person is circulated to the KPA and Mombasa Port customs in the case of Mombasa, and to the THA and Dar-es-Salaam Port customs, in the case of Dar-es-Salaam. Original Bills of Lading not endorsed in this manner, or by non-approved signatories, can cause considerable delay in the clearance of cargo. Cargo received at the respective ports traditionally fall into three distinct categories:

1. general cargo which is described in harbor tons: a harbor ton is equivalent to one metric ton or one cubic meter whichever is the higher;

2. containers which are described in TEUs (twenty-feet equivalent units). Containers are either 20ft long or 40ft long. A 20ft container is equivalent to one TEUs while a 40ft container is equivalent to 2 TEUs; and

3. oil products, often designated POL, and which are measured in tons. In most situations, oil products do not actually pass the respective ports, as the offloading tankers utilize the available jetty facilities and in practice pump the products straight into the facilities provided by oil companies, often in the vicinity of the port.

## CLEAN REPORT OF FINDINGS

At both the ports of Mombasa and Dar-es-Salaam domestic imports are subject to Pre-shipment Inspection Report. At Mombasa, import cargo for Kenya with a value of US $500 or more is subject to this inspection, while at Dar-es-Salaam the minimum value is US $5000. Pre-shipment inspection is provided in most parts of the world by *Societe Generalle du Surveillance (SGS)* or *Cotechna*, multinational inspection companies who have also local offices. The inspection ensures that a correct value is endorsed for import duty assessment on arrival of cargo. At Dar-es-Salaam, for example, once an importer gets the documents discussed above, he submits them to SGS or Cotechna with the copy of the clean report of findings to be issued with a *Tax Assessment Notice (TAN)* which is lodged at the customs instead of Import Entry. While at Dar-es-Salaam, this procedure has been implemented for sometime, its recent introduction in Mombasa abruptly in May 1994 has been responsible for delays in the clearance of cargo and port congestion. This procedure seem to have caught many importers unawares as evidenced by increased volumes of cargo landing at Mombasa without a Clean Report of Findings, which then cannot be cleared. It is understood that the KPA has now instituted heavy penalties for goods arriving without CRF as a basis of reducing port congestion.

### *Port Congestion*

Kenya Ports Authority is addressing itself to the question of container congestion. In this regard, a rehabilitation plan has been formulated and equipment maintenance contracts have been awarded with the objective of enhancing productivity. A Container Freight Station has been established adjacent to the container terminal for stuffing and stripping containers. The entire surface areas of the container terminal will be resurfaced to ensure efficiency of equipment in the terminal. The container terminal has 11 rubber tyred gantries (RTGs) and two rail mounted gantries (RMGs) for the movement of containers in the yard. The request made by the landlocked countries for the allocation of exclusive areas for transit traffic at the container terminal was considered by KPA but found to be difficult to implement due to operational constraints.

## CUSTOMS PROCEDURES AT MOMBASA LONG ROOM

At Mombasa the appointed clearing and forwarding agent starts the clearance of import transit cargo by making an entry or a declaration of the import cargo[11]. To enter or declare goods means to make a statement in the form prescribed, C34[12] (see Appendix IIId) in the case of Mombasa, indicating the customs procedure to be applied to the goods. C34 is completed in 10 copies. The CFA also completes a Mombasa Port Release Order (MPRO) (see Appendix IIIe) in six copies. These two documents when completed give the details of the cargo which enables the customs officials at Mombasa port, and the Port Revenue Office to calculate their claims on the cargo. For example, the completion of C34 will include the landed value of the cargo (CIF) and an assessment of the excise duty and VAT payable. Similarly the CIF value, weight, volume, date of arrival etc on the MPRO enables the port revenue office to calculate certain of those charges related to port use.

While the excise duty and VAT assessed need not be paid for transit cargo, the combined value constitutes the Bond in Force (BIF) which the CFA is obliged to cover through a Security Bond before cargo is released by customs officials. The Security Bond is effected with Customs either in the form of cash or through an insurance or bank guarantee to cover the BIF. With very high import duty and VAT element in Kenya, coupled with the recent devaluation of the Kenya shilling, a CFA is obliged to have large amounts of money to effect the security bond, or pay large amounts in interest or premiums to banks and insurance companies which are then passed to importers. The Security Bond safeguards customs authorities against offloading or dumping transit cargo in the Kenyan market.

At the Mombasa long room CFAs bring all the documents (C34, MPRO, bill of lading, commercial invoice and packing list) which are received, perforated and stamped with the time, date, month and year when received by Kenya Customs. The Receiving Officer verifies the signature of the agent who completed entry and if it is licensed. Transit goods documents are forwarded to transit section. The C34 is checked whether the agent bond in force is sufficient to cover the particular assessed BIF for transit goods. Accepted documents are forwarded to the Manifest Section through a registered despatch. In the Manifest Section, the documents are received and recorded. The details on the C34 are checked against the manifest, Bill of Lading and ship arrival. The page number of the manifest is endorsed on the C34.

The Customs laws of Kenya require goods which are imported by sea for inward transit to another country to be shown separately on the cargo manifest of the importing vessel. If goods in transit are not so shown, the CFA is required to apply for amendment of the Manifest. The application is made on Form C10 in Kenya, and this amendment invariably costs up to two thousand Kenya shillings.

The procedure in the long room takes two days under normal conditions, if the documents are in order. Should customs officials require to verify a specific consignment, this is indicated by a STOP stamp on the customs copy of C34 before forwarding copies of the documents through a delivery book, twice a day, to Customs office at Kilindini Port.

## CUSTOMS AT KILINDINI PORT

The customs office at Kilindini receives the documents sent from the Long Room through a registered book. These include three copies of the Customs Entry C34, Commercial Invoice, three copies of MPRO and Bill of Lading. The Customs Documentation Officer (CDO) distributes documents to the various sheds and to Kenya Ports Authority. This office decides on the number of containers or packages to be verified. It has been indicated that 10 percent of transit goods must be verified and that for transit personal effects and domestic goods the verification is 100 percent. The Kilindini Customs CDO forwards sets of all relevant documents to customs offices in the sheds and KPA also forwards all the relevant documents to the sheds.

## CUSTOMS VERIFICATION

The agent contacts KPA to provide handling equipment to move the container to an area reserved for verification and the agent also informs all the parties involved in the verification of the consignment when it is ready. The verification is witnessed by the following services:

- Customs and Excise Department
- Kenya Port Authority
- Kenya Port Authority Security
- Kenya Port Audit Department
- Kenya Police
- Kenya Police CID
- Clearing and Forwarding Agents

When all the above parties are present, customs checks that the container/packages to be verified are sealed and intact. The seal of the package is broken and the container verified. If all is in order, customs and other parties present sign the documents MPRO and C34. The container or package is then left for the CFA to repack and seal. CFA then goes to the Customs and Excise Office to take the C34 to be endorsed and stamped by customs.

The issue of container verification has been debated with Kenyan authorities for a long time. A recent study by the TTCA shows that between July 1992 and April 1993, 3,595 containers out of a total of 6,103, 59 percent, were physically verified. Verification means that the original seals are broken, therefore, it does not only increase the port transit time, it has other consequences, namely:

- numerous other verifications follow automatically at the offices of entry of other transit countries, (with implications of increases in transit times and costs) and at the final destination;
- increases in cases of pilferage, which have an effect on the economies of landlocked countries; and
- for the importer, the advantage linked with containerisation of goods, particularly those designated house to house containers, is lost.

Recent statistics (1994) collect from the port of Mombasa indicate that an appreciable improvement has been achieved. Physical verification has reduced to 26 percent. This is still however higher than the maximum 10 percent which has been agreed with the countries of the region, but with efforts to reduce it to a minimum.

Copies of the documents and C34 are sent to the sheds under recorded memo at 10.00 once a day. The other three copies of MPRO are given to the CFA to lodge with KPA Revenue Office for payment of port charges.

It is clear that the various customs measures at the port of Mombasa remain numerous, despite the NCTA agreements to limit these to the bare minimum. Some of the control measures discussed above have been considered additional measures in accordance with NCTA agreement.

We understand that customs authorities in Kenya recently introduced the rapid release system which aims at rapidly releasing all the containers which are not suspected of fraud. According to this system, customs services base their verification on intelligence and risk analysis reports and in any case do not exceed 10 percent. This system attempts to isolate bad and habitual offenders from genuine forwarders and transporters in view of exempting the latter's containers from verification.

## KPA REVENUE OFFICE

The Revenue Central Documentation Office receives the following documents from CFAs:

- 6 copies of MPRO
- 1 copy of Customs Entry C34
- Bill of Lading; and
- Delivery Order from the shipping agent.

The documents are numbered and registered by the Acceptance Officer. They are taken to the Manifest Officer who compares the details on the MPRO against the Manifest and the released Bill of Lading. If the documents are accepted, the port charges are calculated. At Mombasa, the documents must be presented and accepted within 4 days of ship's arrival, otherwise a late documentation charge is applicable. Once the payment is made by CFA, the MPRO is stamped and signed. The procedure in the revenue office takes one day if the documents are in order and payment made.

After this the container or package is kept in the port pending transportation out of the port. It is at the time of delivery that the container or package is sealed by Customs and Excise Department. CFA contacts the railways or local transporters to bring in the track or wagon into the port to transport the goods. At this stage the goods are either taken to the warehouse in Mombasa or for direct transportation to the land-locked countries. There are local transport and warehouse charges which have to be met by the shipper.

## PROCEDURES AT THE PORT OF DAR-ES-SALAAM

At the port of Dar-es-Salaam, the procedures for clearance of domestic and transit cargo vary slightly, indicating the flexibility which the Government of Tanzania has shown for transit traffic, this latter which accounts for more than 50 percent of its throughput. Where cargo is domestic, relatively little effort is made to attract traffic or render quality service for the simple reason that the market is captive. However, THA has from time to time made several deliberate efforts to not only ensure smooth passage of transit

traffic, but also to attract more through the port. These include:

- provision of lower tariffs (than for domestic cargo), and longer grace storage periods;
- promoting the concept of direct delivery, as is the case with Malawi Cargo Center; and
- wherever possible, allocating storage facilities exclusively to transit traffic e.g the Kurasini Inland Container Depot which handles Zambian cargo, and the BP shed that is used for handling Ugandan coffee.

The procedures at the Port of Dar-es-Salaam are also accomplished somewhat in reverse to the procedures at Mombasa. Port operations in Dar-es-Salaam are considered efficient especially for full container loads. The main constraint with less than full container loads is that they have to be stripped at the container terminal at Ubungo. In addition, as a result of the current constraints on wagon availability and shortage of road transport, importers must first book wagons with TRC, or indicate a vehicle, before presenting documents to customs for processing.

An original bill of lading and a commercial invoice are required for all cargo. For transit cargo, the CFA gets the bill of lading released by NASACO. The CFA then completes the "Combined Customs Bill of Entry and Declaration and Disposal Order", a modified form of C35,(see Appendix IIIf) in six copies and lodges this at the Port Revenue Office. The combined document is a distinct advantage for Dar-es-Salaam over Mombasa. The port revenue office checks the details of the bill of lading against the ship's manifest and verifies that details in the bill of lading are correct. If the documents are in order, port charges are calculated. Transit cargo documents which have been processed at the port revenue office may at this stage be lodged with the customs transit office located within the port area. Customs will however not release the cargo unless there is evidence that a wagon is available, the number of which must be endorsed on the customs documents. In the event that a wagon is available, customs process the release of documents. Transit cargo without a wagon remains at the port and may not be taken to any bonded warehouse outside the port.

The major difference between the clearance of domestic and transit cargo at Dar-es-Salaam is that the import entry prepared in respect of domestic cargo is first lodged at the customs long room located outside the port where duty and sales tax is assessed and paid before the documents are released by NASACO. An importer of domestic cargo obtains a Tax Assessment Note from the Pre-shipment Inspection companies in Dar-es-Salaam by presentation of a Clean Report of Findings to enable duty and sales tax to be paid. After payment of duty and Sales Tax, the importer may now lodge the documents, including a Declaration and Disposal Order (see Appendix IIIh) to the port revenue office. Domestic cargo is also verified at Dar-es-Salaam after the port charges have been collected.

Thus customs transit procedures at Dar-es-Salaam are basically similar to those described for Mombasa. However, unlike Mombasa transit containers are not opened at Dar-es-Salaam unless the original seals have been broken or tampered with. Another notable difference between Dar-es-Salaam and Mombasa is the concessionaire status of some CFAs which waives the conventional customs requirements of transit security bond guarantee for transit goods. The system was initially extended to ZBR traffic but was thereafter extended to Uganda traffic. Traffic to Zambia and Kenya has to have a bond posted.

### *Port Charges*

The Kenya Ports Authority current tariff, giving rates and charges for services to cargo became effective from 1st January 1995, replacing the old tariff which had been in operation since 1st July 1989. The philosophy of the new tariff arises out of the need to reduce port charges to attract more business at

Mombasa, and has the following distinct features, namely that it

- consolidates and rationalises the port charges, eliminates sensitivity of port charges to cargo values [13] and is simpler to use;
- recognizes synergy, and eliminates the double charge for 40 ft container compared to 20 ft container. In the old tariff, the handling charges for 40 ft container were double that for 20 ft container. In the new tariff this does not apply except in cases where the double size means double space for example storage or double effort for example verification and stuffing;
- further represents reductions of up to 60 percent for most categories of services, except storage and other penalty charges; and
- represents an introduction of extra handling charges at ICDs which initially were fully subsidized.

The January 1995 tariff at Mombasa has, with effect from 1st December 1995, been further varied giving concessionary tariff rates for transit cargo as an effort to be more competitive and attract higher volumes of transit cargo through the port.

The current Tanzanian Harbor Authority tariff book of harbor dues and charges was effective 15th August 1992, although some 10 clauses have been revised effective 1st January 1994. It has been indicated that the increase in THA tariffs in 1992 was undertaken in response to poor productivity (and therefore based on inefficiency costs), against a need to generate sufficient surplus revenue to pay for its outstanding loans which have been secured for port modernization. Many port users at Dar-es-Salaam including the Tanzanian Shippers Council[14] (TSC) and the local shipping lines have criticised the THA for making un-coordinated decisions, particularly related to the tariff issue, without involving them, fearing that this would undermine trade and lead to reduced throughput at the port. A statement to this effect from the TSC is included as Appendix IV which is also urging for the review of the tariff. Specifically the 1992 tariff has been noted to have engendered a very devastating impact on transit traffic through Dar-es-Salaam port. The TSC statement included at Appendix IV indicates increases in excess of 200 percent for various tariff items.

In the following paragraphs we compare the port charges at Mombasa and Dar-es-Salaam, where charges for import cargo falls into three distinct categories, namely:

- stevedoring;
- wharfage/wayleave charges; and
- service charges.

*Stevedoring*

Stevedoring means the movement of cargo from the ships hold to the first resting point of the quay in the case of imports or from the hooking point on the quay to the allocated stow in the ships hold in the case of exports. This concept is applicable both to conventional and container stevedoring operations. Stevedoring charges are paid by the owners of the vessel or the ships agents and in the current tariff represents the elimination of what was previously termed Terminal Handling Charges which were payable by importers to ship owners or agents. The stevedoring rates at Mombasa per move for imports are as follows:

| *Containers* | *Convential Cargo* |
|---|---|
| US$100 per 20 ft container<br>US$120 per 40 ft container | US$8 per harbor ton (HT) or part thereof |

The above stevedoring rates apply only to house to house cargo. An additional charge of US$ 50 for a 20 ft container and US$ 100 for 40 ft container respe ctively is also charged if the cargo is not from house to house. The new charges are envisaged to allow KPA to maximize its revenue and also limit the flow of foreign exchange overseas following the abolition of the Terminal Handling Charges.

At the port of Dar-es-Salaam stevedoring charges for bulk general cargo is assessed at US $5 per harbor ton. Stevedoring charges for containers however depend on whether the container has landed at a conventional berth or at a container berth. At the conventional berths where no specialised gantry equipment is available, the charges are $100 for a 20ft container (TEU) and $150 for a 40ft container (2TEUs). However, at the container berth where there exist specialised sea to shore gantry cranes, the charges are less; $80 for a 20ft container and $120 for a 40ft container. At the port of Dar-es-Salaam, stevedoring charges are payable to NASACO.

*Wharfage Charges*

Wharfage charges are levied as a cost recovery effort by ports in respect of their investments in quays , wharves, jetties and buoys, however, the January 1995 tariff at Port of Mombasa has consolidated wharfage charges with handling charges, with the aggregate now termed shorehandling charges. At the Dar e s Salaam Port, wharfage charges are still raised on all cargo passing through its facilities. The port of Dar-es-Salaam has in the past attempted to disapply wharfage charges, which are typically ad valorem, an d instead replace them with standard charges for containers, but this met with big resistance from loca l clearing agents. The major issue is that CIF values of imports are easy to manipulate to the benefit o f clearing agents. It is understood that although transit clients liked the idea, the local people who wer e fronting for them put up a bigger case for its withdrawal. The current sc ale of charges are as given in Table 4.1.

***Table 4.1 Wharfage Charges in Dar es Salaam***

| | Domestic Cargo | Transit Cargo |
|---|---|---|
| Bulk Liquid Imports | 1.5 % of CIF value | - |
| Other Import | 1.5 % of CIF value | 1.25 % of CIF value |
| Exports | 1 % of FOB value | 1 % of FOB value |

## *Service Charges*

At both ports, Mombasa and Dar-es-Salaam, service charges levied on import cargo are fairly similar in description. These comprise:

- shore handling
- heavy lift charges

- removal charges
- customs warehousing handling; and
- customs verification.

In addition, at Mombasa a late document charge is raised, which has been disapplied in the case of Dar-es-Salaam effective 1st January 1994.

### *Shore Handling*

Shore handling charges are levied in respect of movement of cargo to the various sheds. Specifically, this entails the movement of cargo from the first temporary resting point at the quay through the stacking area to a permanent resting place and up to the importers lorry or wagon for transportation.

At Mombasa, shore-handling has been consolidated with wharfage charges and while charges were the same for both domestic and transit cargo up to 31st November 1995, the new concessionary rates for transit cargo represents 50 percent reduction for general cargo, 20 percent for 20ft container and 16.6 percent for containers over 20ft. Similar reductions for export transit cargo amount to 25 percent, 20 percent and 16.6 percent respectively. Transit cargo at Dar-es-Salaam also have concessionary rates. The current shore-handling rates for Imports and Exports at Mombasa and Dar-es-Salaam are as given in Table 4.2.

***Table 4.2 Shore Handling Charges***

| | Mombasa | | Dar-es-Salaam | |
|---|---|---|---|---|
| | Domestic | Transit | Domestic | Transit |
| Imports | | | | |
| General Cargo | US$ 12 per HT | US$ 8 per HT | $4 per HT | $3.5 per HT[15] |
| Loaded Containers | US$ 150/ 20ft<br>US$ 180/over 20ft | US$ 120/20ft<br>US$ 150/over 20ft | $90/TEU | $80/TEU |
| Exports | | | | |
| General Cargo | US$ 8 per HT | US$ 6 per HT | $3.5 per HT | $ 3.0 per HT |
| Loaded Containers | US$ 100/20 ft<br>US$ 120/over 20ft | US$ 80/20ft<br>US$ 100/over 20ft | $90/TEU | $80/TEU |

A quick assessment of the impact of the consolidation of wharfage and shorehandling charges at the port of Mombasa for example for a 40ft container with a CIF value of US $10,000 indicates a reduction of 32 percent for domestic traffic and 45 percent for transit traffic as illustrated below. In effect, the higher the CIF value, the higher is the impact of the consolidation, and vice versa.

| | Old Tariff US$ | New Tariff Domestic US$ | Transit US$ |
|---|---|---|---|
| Wharfage (1.45 percent) | 145 | n/a | n/a |
| THC | 100 | n/a | n/a |
| Shore handling | 20 | 180 | 150 |
| Totals: | 265 | 180 | 150 |

### *Heavy Lift*

Heavy lift charges arise out of special arrangements made to lift cargo using specialised cranes and gangs in the process of shore-handling. According to the new tariff at Mombasa heavy lift charges are raised in two categories unlike three categories as per the old tariff. At Dar-es-Salaam heavy lift charges is raised in four categories. The current rates for Mombasa and Dar-es-Salaam are as given in Table 4.3.

***Table 4.3 Heavy Lift Charges***

| Mombasa | Dar-es-Salaam |
|---|---|
| | 5 tons - less than 10 tons US $6 |
| Heavy lift I: 14 -40 tons US $ 20 per lift | 10 tons - less than 20 tons US $10 |
| | 20 tons - less than 40 tons US $18 |
| Heavy lift II: Over 40 tons US $ 30 per lift | 40 tons and over US $26 |

### *Ten Day Cargo Removal Charges*

At both ports, import cargo remaining in the port area and for which documents have not been presented and accepted within ten days of the date the vessel breaks bulk is subject to a removal charge. In practice, this removal charge is paid irrespective of whether the particular cargo has been actually removed. The argument is that such cargo should be removed to give room for newly arrived cargo. The current charges are as follows:

| | Mombasa | Dar-es-Salaam |
|---|---|---|
| General cargo | US$ 2 per HT | US$ 1 per HT |
| Containers | US$ 25 | US$ 10/TEU |

### *Customs Warehouse Handling*

Any imports remaining in the port area and for which no documents have been presented and accepted to customs within 21 days of the vessels arrival or from the arrival date of railtainer in case of ICD Nairobi, is subject to transfer by the KPA to customs warehouse after the anno uncement of customs warehouse date, and all charges payable in respect of such cargo are payable by the consignee. The charges for removal to customs warehouse, whether this is phy sically effected or not, are the same as ten day removal charges. There are no equivalent charges for Dar-es-Salaam.

### *Customs Verification Charges*

These charges relate to the stripping and re-stuffing of containers for customs verification. The Customs verification charges at Mombasa and Dar-es-Salaam ports are as follows:

Mombasa

- 20ft US $75
- Over 20ft US $150

However, for containers taken to customs warehouse, if they are stripped and re-stuffed, the charges are as follows:

- 20ft US $100
- Over 20ft US $200

Dar-es-Salaam

- Domestic US $90/TEU
- Transit US $80/TEU

### *Late Documentation Charges*

At Mombasa port, where import cargo documents have not been presented and accepted four days from the arrival date of the vessel or railtainer in case of the ICDs, a late documentation charge become s applicable until the time such documents have been presented and accepted. The grace period of 4 days has now been extended to 8 days for import transit cargo, and charges for general cargo and container s reduced. The late documentation charges at Mombasa are as follows:

| | **Domestic Cargo** | **Transit Cargo** |
|---|---|---|
| **Grace Period** | **4 days** | **8 days** |
| Imports: | | |
| Conventional Cargo | US$ 1/HT/day | US$ 0.50/HT/day |
| Containers | US$ 12.5/day | US$ 10.0/day |
| Exports: | | |
| Conventional | US$ 0.5/HT/day | US$ 0.50/HT/day |
| Containers | US$ 6.25/day | US$ 6.25/day |

Similar charges have been disapplied in the case of Dar-es-Salaam effective 1st January 1994.

### *Storage Charges*

Once documents for import cargo have been presented and accepted at Mombasa, there is no limit as on the period it takes to process the documents until the cargo becomes available for delivery, i.e. the port of Mombasa cushions the importer from any delays in the processing of import cargo documents. However, if imported goods (other than dangerous cargo[16]) have not been removed from the KPA's sheds or stacking grounds two days from the date goods become available for delivery, storage charges accrue. Previously storage charges accrued on the same basis for both domestic and transit cargo, however, effective 1st December 1995, import transit cargo now has concessionary rates, equivalent to a reduction of 50 percent as follows:

| Grace Period | Domestic Cargo<br>2 days | Transit Cargo<br>4 days |
|---|---|---|
| Conventional Cargo: | US $1/Ton/day | US$ 0.50/ton/day |
| Containerized Cargo: | | |
| 20ft | US $12.50/day | US$10.0/day |
| Over 20ft | US $25.0/day | US$20.0/day |

Storage Charges for transhipment cargo are deliberately lower than other cargo, a move introduced by KPA to diversify operations, generate more business for the port and attract transhipment cargo through the port. Transhipment cargo have an allowance of 35 calendar days free storage, after which the charges for storage are as follows:

- 20ft Container: US $3.75/day
- 40ft Container: US $7.50/day

At the port of Dar-es-Salaam the method of charging for storage is quite different. Unlike Mombasa, domestic cargo (general cargo and containers) is entitled to 7 days free storage from the date the ship completes discharge, or from the date the package is landed, whichever is the earliest. Similarly transit cargo (general and containers) is entitled to 15[17] days free storage from the date the ship completes discharge, or from the date the package is landed, whichever is the earlier. Thereafter storage charges are applied as follows:

| | Domestic Cargo | Transit Cargo |
|---|---|---|
| General Cargo | | |
| Free Storage: | 7 days | 15 days |
| the first 30 days after | | |
| period of free storage | $1/HT/day | $1/HT/day |
| thereafter | $1.5/HT/day | $1.5/HT/day |
| Containers: | | |
| the first 30 days after | | |
| period of free storage | $20/TEU/day | $20/TEU/day |
| thereafter | $27/TEU/day | $27/TEU/day |

The above rates clearly indicate that storage charges levied on cargo at the port of Dar-es-Salaam are generally higher than equivalent costs at Mombasa from the point of view of both the speed with which

documents must be processed (at Mombasa emphasis is placed on presentation and acceptance of documents rather than speed of processing) and actual level of storage penalties.

Empty containers arriving at the port of Mombasa have a grace period of 24 hours from arrival time at the port, thereafter a storage charge of US$ 6.25 and US$ 12.50 for 20 and 40 ft container respectively. The KPA has also introduced a punitive charge for containers without manifest delivered at the port. A 20ft container is subject to US$ 25 per day while a 40 ft container is subject to US$ 50 per day.

### *Railtainer Surcharges*

In addition to the above charges, importers who fail to lodge railtainer documents two days after the arrival of a vessel for ICD bound containers, are charged US $10 per day.

### *Road Transit Procedures*

In the port of Mombasa, transportation of general and dry cargo is by road and rail, while petroleum products pass through the Mombasa-Nairobi pipeline. Over 60 percent of the general and dry cargo is transported by road and there is considerable short haul operations between the port and the import/export warehouses located in the Shimanzi and Changamwe industrial areas.

The organization of cargo offtake from the port by road starts when the CFA receives the shipping documents. From the Bill of Lading it is possible to extract information which includes the type of cargo, weight and size of the cargo or container. On the basis of this information, the CFA agent can identify a suitable vehicle while the documents are being processed by the port and customs.

## COMPLETION OF RCTD

The Road Customs Transit Declaration (RCTD) (see Appendix III(i)) was introduced through the NCTA and became obligatory since January 1989 as the sole customs document required to cover movement of transit goods within the Northern Corridor thereby replacing national documents in transit used until then. The document is valid in all member states of the TTCA, and is working to the satisfaction of everyone. The problems of telecommunications and the lack of collaboration between various customs administrations in the region constitutes the major factor which hinders the efficient use of the RCTD system.

For road transportation, the CFA completes sets of RCTD (C35A), 6 for Kenya and 4 for each subsequent country, with details on the C34. These are lodged with Customs Long Room, RCTD Section. The details on RCTD are checked against the C34 which may contain more consignment than one lorry load. If the details are correct, the Kenya set is completed giving information on Customs office of departure, date and number of RCTD, Bond amount, and registered, bond number and is stamped and signed. The RCTD is then registered. The sets of the RCTD and a copy of C34 are taken to the sheds, or container yard where the goods/containers are loaded on the vehicle. The time taken by a truck in the loading area depends on equipment availability. If for instance there are any breakdowns with the gantry cranes[18], delays of 1-2 days can occur. Before departure, the CFA goes to the police with relevant copies of MPRO, C34, RCTD, completed Transit Goods Movement Check Form P27, photocopies of the importer's passport, Certificate of Incorporation and a copy of the Import Licence to enable him to get a Gate Pass. When all these documents are obtained, Customs seals the container, indicating the seal number on the RCTD. One Kenya copy of the RCTD is retained by Customs and all the sets

of the RCTD for other countries given to the CFA for onward transportation. The vehicle is then ready to depart from the port. The KPA gives a Gate Pass after receiving customs copy of the MPRO. The exit date is endorsed on it and the copy returned to the CDO for filing and storage.

Customs authorities (in Kenya) have complained that there have been fake RCTDs in circulation. For some of these documents, the customs offices noticed that the stamps and specimen signature affixed on the 3rd copy as well as certificates of origin were not authentic, which indicates that the numbering of the document is not yet under satisfactory control. The TTCA has proposed a number of urgent measures aimed at stopping these illegal practices which are yet to be agreed on by the member states.

## SECURITY FORMALITIES: P27 AND POLICE ESCORT

At the port exit gate, the police checks the documents including certificate of incorporation, photocopy of passport, import licence and endorses P27. They also check on the marks and numbers and description of goods, container numbers endorsed by police in the verification area to determine whether the truck is to go under escort. An exit pass is then given to the truck to leave the port. If the truck is to go under escort, a police unit is assigned to escort the truck to Mariakani, some 15 Kms away where the convoy is assembled. There are eight police officers assigned to escort the trucks from the port to Mariakani. The main disadvantage with escorted cargo is that the convoy departs from Mariakani only twice a week (Monday and Thursday at 5.00 am) and three times from Nairobi (Sunday, Wednesday and Friday) to the border at Malaba and Isebania. This means for example that if a truck misses the Monday convoy from Mariakani, it will wait there until Thursday for the next convoy, thereby losing 3 days. As a comparison, unescorted cargo takes an average of 4 days from Mombasa to Malaba or Isebania while escorted cargo can take up to 14 days to cover the same journey. Ordinarily, one would have expected there to be a special transport rate for escorted cargo however the quoted freight rates are the same because most of the transit goods require escort and often include a component to meet the costs of waiting in the convoys. During the escort to Malaba, Uganda border, the convoy must stop at eight police check points for the P27 to be endorsed as checked by rank, force no., date, time, signature and official stamp.

## CUSTOMS EXIT OFFICES AT MALABA AND ISEBANIA

At the borders of Malaba and Isebania, customs procedures are fairly the same. The driver of each vehicle plays a role, but most of the bigger CFAs are represented. For example, at Isebania there are 5 CFAs including Interfreight and Transami.

All the sets of the RCTD and C34 are presented to customs for endorsement. The customs also check the validity of the foreign vehicle permits, and collect a penalty if this is applicable. Customs offices at each border post operate a register on which the details of the vehicle and the cargo are recorded and a rotation[19] number given. The C34, RCTD and P27 are also checked by the Kenyan police authorities at the border ports and the P27 stamped. The vehicles are now ready to enter Uganda at Malaba or Tanzania at Sirari. At Busia, the customs procedures focus primarily on exports of petroleum products from Kenya. The volume of transit traffic through Busia is minimal, usually a few imported second hand vehicles destined for Kampala.

## ENTRY INTO TANZANIA AND UGANDA

Using the details on the C34, the CFA at Malaba or Isebania completes the Ugandan or Tanzanian set of the RCTD giving calculations of the CIF value of the consignment in local currency, and details of duty and other taxes applicable if the transit cargo is destined to Tanzania or Uganda, or what the importe r would have to pay if Rwandese or Burundi goods were to be dumped lo cally. The applicable duty becomes the value of the Bond in Force which must be covered through a transit bond. Although the transit pass is applicable to most cargo in transit in Tanzania, cargo traffic through Isebania must be bond posted.

At Malaba, an advanced copy of the Kenya Transit Entry - C34 - is forwarded by Kenyan custom s authorities to their Ugandan counterparts several times a day. Vehicles whose documents have bee n forwarded may now queue to enter Uganda. A vehicle receives a gate number and proceeds to the transit shed where seals are verified. Vehicles destined for Uganda go to a separate shed.

At this stage CFA can now prepare the Uganda Transit Go ods Entry (C38) which is submitted together with the RCTD. The third copy of the Kenyan set of RCTD is endorsed by Ugandan customs (giving a general verification account of what has been sighted), and returned to Kenyan customs at Malaba fo r onward return to the Customs Office at the port of Mombasa to facilitate cancellation of bonds.

### *Passage through Uganda*

As regards transit traffic, the Uganda Revenue Authority (URA) has tightened regulations on road transport for the flow of transit traffic in and out of Uganda. The new measures are meant to curb losses in revenue from irregular practices such as unloading or diversion of transit goods. Among the new requirements is the introduction of transit licences for lorries and trailers. All transit vehicles must be securely enclosed, be capable of being sealed and must be sealed before they can be accepted for carriage of transit good s through Uganda. In addition, the vehicle in transit will be required to display a transit license number plate.

According to the circular issued by the URA, the restrictions upon g ood secure vehicles will be reduced to a minimum so as to give greater freedom for the operators to move at their own pace on the condition that they move along the approved routes for transit traffic and stop at designated "reporting stations" to have the RCTD endorsed. The circular st ates that all the requirements are in harmony with the COMESA treaty. At present it is mainly Zairean traffic which transits through Uganda but it is expected that th e Uganda/Rwanda border will soon be reopened thereby allowing the passage of transit traffic to Rwanda and Burundi.

If a transit vehicle is secure i.e. it is locked and sealed such that cargo cannot be interfered with, and it has a valid temporary permit (for vehicles not registered in Uganda), and a valid Transit Goods Permit (which is only issued on application and only if the vehicle is secure - lockable and sealable) then it i s flagged off. All the customs documents are placed in a sealed envelope, with one copy on top of th e envelope. These documents are addressed to the Port of Exit.

The Uganda Transit Vehicle Log Sheet a similar document to the Kenyan P27 (see Appendix IIIj) is also completed and given to the vehicle driver. The Transit Vehicle Log Sheet indicates which reporting stations the driver is obliged to pass and is surrendered at the point of exit. Vehicles flagged off ar e recorded and at the end of each month the logsheets and the registers are sent to the Commissioner o f Customs and Excise in Kampala for reconciliation.

However, if a vehicle is judged as insecure it will not be licensed to carry transit goods. If it does, or if it is secure but has not yet received a Transit Goods License, then the vehicle must go under convoy escort. Ugandan destined goods must also go under escort, unless duty and sales tax has been collected at Malaba, but this rarely happens unless the goods are destined to the local area, Tororo and its immediate environs. The escort leaves Malaba everyday at 10 am except Sundays. A typical convoy is 55 - 60 vehicles, this representing only about 40 - 50 percent of the daily border crossings, at 100 - 150 vehicles.

All Ugandan imports and exports and all transit traffic passing through Uganda are cleared by customs department of the Uganda Revenue Authority (URA) at the Nakawa Inland Port. Vehicles arrive by escort from Malaba, and for transit traffic another convoy is operated between Nakawa and the point of exit. However for Uganda traffic which have payed customs taxes at Malaba, the next stop is Busitema where the transit logsheet is stamped. From there the vehicles stop at the URA office in Mukono (13 Kms before Kampala) where verification is done. Verification includes confirming the assessed value at Malaba, and sighting of the cargo. After this there is no need to proceed to Nakawa.

The principal role of the Nakawa customs Depot is that it serves as a parking yard for all customs/dutiable goods, and verification of Ugandan destined goods. Duty is also assessed and payable at Nakawa. A major constraint is that the facilities are inadequate for this function. TransOcean which manages the depot has no cargo handling facilities, and customs personnel few in number, and procedures cumbersome. Franking and stamping facilities are also limited. It is understood that the pathetic condition of the depot is the result of ownership wrangles between URA and TransOcean, which has hindered each to improve the facilities. These wrangles have now been resolved in favor of TransOcean which is understood to have borrowed funds for the rehabilitation of the depot. Phase I of the project, estimated to cost US $770,000 was to be completed within the first quarter of 1996.

Revenue collection, whose maximisation is the principal objective of URA in the close monitoring of transit traffic, has however improved from between US $500 - 1000 per day in 1992, to some US $5000 - 10,000 per day in 1995. Notwithstanding URA is still concerned with traffic diversion, not only in Uganda, but also in Kenya. URA estimates that 15 - 20 percent of the vehicles leaving Mombasa never reach Kampala. In terms of time, transit vehicles seldom take more than one day at Nakawa but Uganda destined vehicles may take several days. Importers are therefore frustrated as in many cases their cargo is subject to additional charges for vehicle retention from transporters. A suggestion has been put forward by Uganda importers that transporters should consider offering moratorium of up to 4 days before truck retention charges become due. It is indicated that even after proposed rehabilitation, Nakawa will not be able to handle existing and potential traffic.

### *Passage through Tanzania*

At Isebania/Sirari, C34, the RCTD, the Tanzanian Security Bond is required for all transit cargo entering Tanzania. For Tanzania destined goods, duty is collected before the vehicle can enter Tanzania. Any non-Tanzanian vehicle entering Tanzania must have a foreign commercial vehicle license for all vehicles with tare weight of over 7 tons. This latter fee depends on the type of vehicle, whether it is a truck pulling a trailer or a semi-trailer, as follows:

| | One year | 3 months |
|---|---|---|
| Truck | | |
| Over 15 tons | $1,390 | $465 |
| Semi Trailer/Trailer | | |
| Over 10 tons | $965 | $320 |

Similarly each vehicle in transit in Tanzania and which is carrying cargo which would be subject to excise duty in Tanzania is subject to a customs levy of US $200 for a semi-trailer, and US $400 for a truck pulling a trailer, irrespective of the value of the cargo.

Tanzanian authorities also collect transit charges, which are given in the form of coupons. For trucks pulling trailers this charge is US $42 to Rusumo on the Rwandan border and US $44 to Kabanga on the Burundi border and vice versa in each case. For a semi-trailer this charge is US $110 to Rusumo and US $117 to Kabanga. Finally there are road toll charges levied on vehicles based on tare weight as follows:

- Vehicles more than 10 tons but not more than 20 tons US $17
- Vehicles over 20 tons US $21

## CANCELLATION OF BONDS

Transit cargo must be exported from Kenya within a period of 3 months so that the bond in force is cancelled within that period. After this period is over, further extension of time is not possible either for the purpose of exporting transit goods, or cancellation of Bond Security. If this is not achieved, CFAs are obliged to pay penalties on bond, and also subsequently export the goods to their final destination, otherwise the goods are forfeited to customs. Customs bonds are cancelled after the third copy of the RCT D (endorsed by Uganda and/or Tanzania customs at Malaba or Isebania) is returned to Kenyan customs on the border posts and the same forwarded to the CFA in Mombasa, who applies for bond cancellation on customs C36, attached to the returned copy of the RCTD. The process of bond cancellation takes 2 to 3 weeks under normal conditions.

## ROAD TRANSIT PROCEDURES FROM DAR-ES-SALAAM

Unlike the Northern Corridor, the transit procedures for road traffic through the port of Dar-es-Salaam are relatively straight forward. In the first instance, a truck must be licensed to carry transit cargo. Once this condition is satisfied, all the customs documentation including the C35 and the **RCTD** (see Appendix IVk) are completed within the port. For large consignments a master RCTD is prepared for moving the cargo out of the port and thereafter supplementary RCTDs are prepared for each truck load using the same master number. There is no escort system in the Central Corridor but transit bonds are used for sensitive cargo. For certain approved forwarders, transit goods are carried under a transit pass which is cancelled when the goods leave Tanzania. It should be noted that the decision on whether or not to execute a bond is at the discretion of the Customs Officer.

In general, the transit times have greatly improved due to improved road conditions and simplification of transit procedures. It takes 5-6 days to move from Dar-es-Salaam to Kigali or Bujumbura and around 16 days for a round trip. There is, however, a problem of lack of communication facilities on the Central Corridor which makes it difficult for transporters and importers to monitor the movement of their goods.

## CLEARING AND FORWARDING COSTS

The foregoing discussions have exposed the varying roles of the clearing and forwarding agent in facilitating the clearance procedures for imports and exports through the two ports of Dar-es-Salaam and Mombasa. The role of the clearing and forwarding agent is not, however, limited to facilitation of the port, customs and security procedures. CFAs are the commercial representatives of importers and exporters at all border crossings, at the inland ports, and at all destinations. The prominent involvement of the CFAs have therefore costs which has to be met by importers and exporters of cargo.

In practice CFAs are obliged to meet the costs of clearance and forwarding of cargo and then bill the importer or exporter in due course. This implies that successful CFAs need to have large sums of money at their disposal. This is true for the larger CFAs, multinationals, parastatals, and even some of the local CFAs. In many cases, however, the policy is to require the importer or exporter to make a deposit payment to the CFA prior to clearance of goods, on credit to the account.

The charges levied by a CFA are many and varied. In practice, schedules published are only guidelines, and vary in magnitude of costs from one CFA to another. Most of CFA charges are quoted on the basis of the CIF value of the consignment, but some are levied on the basis of weight and/or volume. Typical CFA charges can be grouped into the following categories, namely:

- agency fees;
- customs bond in force (BIF) fee;
- documentation;
- handling;
- port and customs charges (e.g. wharfage, verification, shore-handling etc); and
- in cases where the CFA also operates as a transporter or when the importer or exporter require the CFA to arrange for transport, the relevant transportation charges.

### *Agency Fees*

This is the professional fees charged by the CFA. Rates quoted by CFAs range between 1 percent and 2 percent of CIF value at Mombasa. The smallest CFAs charges are on the 1 percent end, while the parastatals and multinationals are levying higher charges. some CFAs, for example AMI in Dar-es-Salaam, levy a standard charge per harbor ton for general cargo and for containers with variations for stripped containers. Rates per harbor ton ranged from US $17.40 for general containers, to US $21.20 per harbor ton for stripped containers. Other CFAs levy a flat charge of between US $100 - 300 for containers.

It has been noted at both the ports of Mombasa and Dar-es-Salaam, that the agency fees for domestic cargo are much lower than for transit traffic, which has been considered ironical because domestic traffic is, to some extent captive, and in many instances the effort to clear domestic cargo exceeds what is required for transit traffic. Domestic traffic is for example subject to SGS verification at each port. Suggestions have been made that agency fees for transit traffic should be lowered to comparable levels with those of domestic traffic. At Dar-es-Salaam efforts are being made by the Tanzania Association of Freight Forwarders (TAFFA) to review agency fees so as to put them in line with first domestic charges, and second, equivalent charges at Mombasa.

### *Customs Bond in Force Fee*

The Bond in Force fee is the compensation to the CFA for facilitating a security bond in transit, and as a recovery of the insurance premium or bank interests (for overdr aft facilitates) paid by CFA for the required guarantee. The limited use of transit bond within Tanzania acco rdingly puts the port of Dar-es-Salaam into a distinct advantage over Mombasa from where transit bonds must be effected for all cargo in transit in Kenya and Uganda. Many CFAs levy transit bond charges as a percentage of BIF (= the value of Excise duty and sales (VAT) taxes) - normally ranging between 1.25 percent and 3 percent. Some CFAs levy a standard charge of say Kshs5,000 (ca US $100) per consignment.

### *Documentation*

Documentation charges rel ate to the cost of preparation of documents for clearance of cargo, often levied on flat rates of between Kshs1,000 - 2,000 at the port of Mombasa. The levying of this charge is limited in Tanzania, except where documents have to be amended or altered to properly match the bill of lading to the manifest, or change of marks on the cargo. Th ese variations of amendment or alteration are charged for separately by most CFAs in Mombasa.

### *Commission on Disbursement*

This is compensation to the CFA for using his own funds to clear and forward a consignment.

### *Handling*

The charges for supervision of the movement of goods from the port to a warehouse, or to where th e loading is effected. Handling charges may include those related to temporary storage in a warehouse.

### *Transportation*

CFA may arrange transport thro ugh their own vehicles or on subcontract arrangements. For containerized cargo, CFAs may also arrange or provide a guarantee by way of deposit to shipping agents to secur e containers in transit to and from landlocked countries. Shipping agents give between 30 and 45 days for containers to be returned, although in practice containers are seldom returned for up to 75 days. Shipping agencies require deposits of between Kshs70,000 and 100,000 for a conta iner at Mombasa, while in Dar-es-Salaam the costs are between $150 and $200 per TEU. Accordingly CFAs would additionally charge a commission for this service, demurrage, which are levied as a percentage of the CIF value.

The role played by CFAs must also be l ooked at from the marketing perspective to promote the use of the port. Inorder to ma ke the port attractive to users, CFAs must be efficient, honest and fair. Efficiency is demonstrated by the speed at which doc uments are completed and lodged, financial obligations are met, and delivery and forwarding of cargo handled. Similarly, honesty is exemplified by the adequacy o f disclosure of information when dealing with customs authorities and the shippers. First complete an d accurate declaration of goods helps to minimise unnecessary trade restrictions from the transit government. It is widely acclaimed, for example, that the cumbersome customs and other transit procedures withi n Kenya and Tanzania have been introduced to combat what appeared to b e dishonesty on the part of clearing and forwarding agents, or shippers. Second, sharing of pertinent information (especially on port charges) with the shipper helps make the port and route competitive. If for example, the port has granted tarif f

concessions or waived storage charges on certain cargo, it is expected that clearing agents will share this information with their principals so as to make the overall costs of using the port to be competitive. If such information is withheld, the CFA may make short term gains, but in the long run, the port or route stand to lose. Regrettably, CFAs at both Mombasa and Dar-es-Salaam often "forget" to pass benefits of any tariff waivers to shippers.

Clearing and forwarding agents who are efficient, honest in their dealings and charge reasonable rates render themselves as assets to the port and the route. In reverse, agents who do not possess these qualities become a liability to the entire port community. In such cases, it becomes increasingly difficult for the port (and other players) to play an effective role in promoting the route. Rather than letting everyone suffer due to inefficiency and dishonesty of few clearing agents, the port and the rest of the players in the route should devise ways and means of isolating such firms. The recently introduced rapid release system at the port of Mombasa is a step in this direction while at Dar-es-Salaam, customs officials have been urged to apply strict controls on a more selective basis, taking stern measures against known culprits who try to abuse the system.

# Chapter 5. Freight Flows and Transportation Rates

## INTRODUCTION

In this chapter we discuss the freight flows at both the ports of Mombasa and Dar-es-Salaam and alon g each transit route identified in chapter two. We also present the direct freight costs [20] to/from each of the landlocked countries, focusing on all the existing routes to each country, and where there is a potentia l alternative route, we present what the costs would be for the potential route.

It is by this time clear that each origin - destination pair e.g. Kigali to Mombasa has not only man y route variations, but also modes or combination of modes, each of which impact on costs in a differen t manner. It should also be clear that different categories of cargo, i.e. general cargo, containers o r petroleum products have different cost structures for each mode and route.

For imports, the analysis undertaken in this chapter focuses on the costs to the consignee - i.e ho w much does it cost the importer in Uganda or Rwanda to transport the cargo landed in Mombasa or Dar-es-Salaam to Kampala or Kigali. Similarly, for exports, the analysis focuses on the costs to the shipper i n Kampala or Kigali.

## PORTS THROUGHPUT

The bulk of imports and exports passing through the ports of Mombasa and Dar-es-Salaam are domestic cargo from Kenya and Tanzania, respectively. Specifically, Kenyan cargo through Mombasa which has stagnated at some 5.7 million tons since 1991 has comprised som e 80 - 85 percent of all traffic through that port, with domestic imports accounting for 75 - 80 percent of the total domestic cargo. Thus transit traffic at Mombasa, almost exclusively destined to ZBRU countries, have accounted for only 15 - 20 percent of the total traffic. Available statistics indicate clearly that the overall port throughput is showing signs of a downward trend.

While Mombasa handles a small amount of Tanzania's domestic cargo, 17,769 tons in 1991 compared to 23,833 tons in 1993, Dar-es-Salaam does not handle any Kenyan cargo. However, Tanzania's domestic cargo handled through the port of Dar-es-Salaam have amounted to abou t 3.0 million tons annually, slightly less than 70 percent of the total port throughput over the last three years, but with imports representing a mere 20 percent. Thus transit traffic at the port of Dar-es-Salaam represents a significant portion of the throughput at Dar-es-Salaam, some 1.3 million tons in 1993 being transit traffic, about 1.85 million tons of which were Zambian and Malawian cargo, and some 450,000 being transit traffic to the ZBR U countries.

## *Table 5.1 Ports Transit Cargo Throughput (Tons) 1991*

| | | Mombasa | Mombasa | Mombasa | Dar-es-Salaam | Dar-es-Salaam | Dar-es-Salaam |
|---|---|---|---|---|---|---|---|
| Country | Year | Imports | Exports | Total | Imports | Exports | Total |
| Uganda | 1991 | 153,872 | 149,328 | 303,200 | 24,693 | 34,769 | 59,462 |
| | 1992 | 321,159 | 145,987 | 467,146 | 4,465 | 16,074 | 20,539 |
| | 1993 | 336,309 | 139,659 | 475,968 | 22,357 | 17,012 | 39,369 |
| | 1994 | 710,707 | 204,893 | 915,600 | 12,716 | 31,501 | 44,217 |
| Rwanda | 1991 | 53,899 | 47,762 | 101,661 | 58,459 | 405 | 58,864 |
| | 1992 | 76,866 | 36,592 | 113,458 | 72,559 | 194 | 72,753 |
| | 1993 | 56,455 | 67,952 | 124,407 | 182,339 | 611 | 182,950 |
| | 1994 | 169,373 | 8,593 | 177,966 | 98,563 | 1,232 | 99,795 |
| Burundi | 1991 | 11,411 | 1,654 | 13,065 | 165,466 | 40,133 | 205,599 |
| | 1991 | 33,104 | 8,565 | 36,669 | 99,546 | 29,681 | 129,227 |
| | 1993 | 18,365 | 3,409 | 21,774 | 229,632 | 29,562 | 259,378 |
| | 1994 | 35,231 | 1,065 | 36,296 | 212,326 | 36,956 | 249,282 |
| Zaire | 1991 | 14,175 | 56,095 | 70,270 | 87,044 | 92,654 | 179,698 |
| | 1992 | 80,158 | 31,460 | 111,618 | 69,746 | 59,494 | 129,240 |
| | 1993 | 44,142 | 33,790 | 77,932 | 59,248 | 41,746 | 100,533 |
| | 1994 | 226,236 | 34,096 | 260,322 | 45,583 | 22,846 | 66,429 |
| Sub-total ZBRU Cargo | 1991 | 233,357 | 254,839 | 488,196 | 335,662 | 167,961 | 503,623 |
| | 1992 | 511,287 | 222,604 | 733,891 | 246,316 | 105,443 | 351,759 |
| | 1993 | 455,271 | 244,810 | 700,081 | 493,576 | 88,654 | 582,230 |
| | 1994 | 1,141,547 | 248,647 | 1,390,194 | 369,188 | 92,535 | 461,723 |
| Malawi | 1991 | | | | 226,503 | 42,115 | 268,618 |
| | 1992 | | | | 244,745 | 11,443 | 276,813 |
| | 1993 | | | | 57,981 | 32,068 | 80,992 |
| | 1994 | | | | 20,056 | 23,011 | 31,493 |
| | | | | | | 11,443 | |
| Zambia | 1991 | | | | 346,766 | 354,868 | 701,634 |
| | 1992 | | | | 648,083 | 296,940 | 945,023 |
| | 1993 | | | | 439,976 | 321,011 | 760,987 |
| | 1994 | | | | 267,059 | 397,042 | 664,101 |
| Sub-total Malawi & Zambia Cargo | 1991 | | | | 573,269 | 396,983 | 970,252 |
| | 1992 | | | | 892,828 | 329,008 | 1,221,836 |
| | 1993 | | | | 497,957 | 344,022 | 841,979 |
| | 1994 | | | | 287,109 | 408,485 | 695,594 |

The port of Dar-es-Salaam has however made significant inroads in capturing a modest share of the transit traffic to Uganda, Rwanda, Burundi and Zaire. In 1982, Dar-es-Salaam handled only 25 percent, or 110,698 tons of this traffic, compared to 75 percent or 469,341 tons handled at Mombasa. In 1987, Mombasa handled 479,341 tons, hardly a significant tonnage over 1982, and representing 62 percent of the total throughput of the two ports, with Dar-es-Salaam handling 38 percent. In 1991, Mombasa and Dar-es-Salaam were handling almost equal amounts of transit cargo, 488,196 tons at Mombasa, compared to 503,623 tons at Dar-es-Salaam (see Table 5.1 opposite). However, over the last two years Mombasa has again taken the lead with over 700,000 tons in both 1992 and 1993, although Dar-es-Salaam recorded a significant tonnage, 582,230 tons in 1993 compared to 359,759 tons in 1992. The superior performance at Mombasa is attributed to Uganda import cargo which increased by 109 percent between 1991 and 1992, from 153,872 to 321,159 tons. Indeed Uganda's cargo handled at Mombasa at 467,146 tons and 475,968 tons in 1992 and 1993, respectively, have represented 88 percent and 92 percent respectively of total Uganda traffic handled at both Mombasa and Dar-es-Salaam. In 1994, the Ugandan traffic through the port of Mombasa increased to 915,600 tons representing 92 percent over 1993. This can be compared to some 45,000 tons of dry cargo (imports and exports) handled at Dar-es-Salaam in 1994.

It is noteworthy that while Mombasa handled 122,452 tons of Rwanda/Burundi traffic in 1987, the same increased a mere 23,729, or 19 percent to 146,181 tons in 1993. However in 1994, Rwanda/Burundi traffic through Mombasa increased a significant 47 percent to 214,262 tons in 1994. Notwithstanding, Dar-es-Salaam recorded an increase of 202 percent for the same traffic during the same period, from 146,116 in 1987 to 442,328 tons in 1993. The dry cargo for Rwanda and Burundi passing through the port of Dar-es-Salaam stood at 353,477 tons in 1994. There are two major issues responsible for this gain at Dar-es-Salaam; the closure of the Rwanda/Burundi border in 1990, and the opening of Isaka transit depot in 1993, which was responsible for a throughput of some 200,000 tons of Rwanda/Burundi import cargo in 1993 and 1994. Indeed Dar-es-Salaam handled 76 percent, 93 percent and 57 percent of imports to Rwanda, Burundi and Zaire in 1993 compared to 20 percent, 81 percent and 44 percent 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 tons a year) have traditionally been routed through Dar-es-Salaam, 90 percent in 1993, compared to 93 percent in 1987. Rwanda's exports, notably tea and coffee, have likewise been routed via Mombasa, 98 percent in 1987 and 99 percent in 1993, partly because of easier accessibility of the all road route in the Northern Corridor, and also because Mombasa has established marketing channels for these commodities. It has been said that establishing new marketing channels for such traffic at Dar-es-Salaam would be a major decision, but that it can be achieved if prompted by major changes in transport considerations. These marketing channels already exist at Dar-es-Salaam (at least for Burundi coffee) and could be developed further for Eastern Zaire, without much disruption of what already exists in Mombasa.

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 percent in 1987 and 94 percent in 1993) and exports (74 percent in 1987 and 89 percent in 1993). It is known however, that Uganda Government has the objective to create capacity to move up to 60 percent of its imports through other routes, not only to achieve lower costs, but for purposes of increased transit security. To achieve this objective, Uganda has already put two wagon ferries on the Port Bell/Mwanza route, bringing the movement capacity up to 450,000 tons a year in each direction. The effort has been to increase the volume of cargo moved through the port of Dar-es-Salaam from 500,000 tons in 1993 to 1 million tons in 1996. This has however not been achieved. Unfortunately for Uganda, the provision of additional wagon ferry capacity is only a necessary rather than a sufficient condition for route diversification and greater transit security. The capability to move rail wagons across Lake Victoria may not achieve these objectives if TRC

does not have the capacity to move the wagons between Mwanza and Dar-es-Salaam. Thus, the transit security objective of the Uganda Government may only be achieved if the wagon ferries deployed had the ability to transport both rail wagons, and road vehicles as well, so that the cargo is not dependent on TRC capacity, but on the availability of both rail and road transport between Mwanza and Dar-es-Salaam. Indeed, the TRC is likely to be further constrained in capacity if the Isaka system were to have any impact on cargo for Rwanda, Burundi and Zaire.

At least 70 percent of all the traffic handled at the two ports is transported to the interior of the transit countries and the LLCs by road whereas railways handle the remaining 30 percent. The major dominant routes by road are the Mombasa - Nairobi - Malaba - Kampala route and the Mombasa - Nairobi - Nakuru - Kisii - Isebania - Mwanza - Biharamulo route for the three LLCs. However, considering Dar-es-Salaam routes to ZBR, the rail/lake route through Kigoma and the Isaka rail/road system have captured nearly 80 percent of the transit traffic to these countries, see also section 5.67 and Table 5.11 in the later sections of this chapter.

## MODAL CHOICE

The means by which specific consignments are transported to its destination depends primarily on the type of cargo. Bulk homogenous cargo is normally transported by the railway system often by government directive. However, the origin/destination of cargo often dictates on the means of transportation. Much of the goods to/from Rwanda and Burundi will normally be consigned by road, notwithstanding that the rail system from Dar-es-Salaam to Kigoma is used: in 1993, some 30,000 tons of cargo from and to these countries were carried on TRC.

In the case of Rwanda and Uganda where there exist parastatal clearing and forwarding agents and transporters, the local Central Banks play a vital role in modal choice for incoming and outgoing cargo. For example, cargo under many Letters of Credit from Rwanda are endorsed for transportation by STIR, the Rwanda parastatal. Similar facilitates exist for Transocean and CMB in Uganda.

Clearing and forwarding agents also play a significant role in modal choice. They direct cargo for its convenience of delivery, which are influenced by the business aspects of their own operations e.g. the bulk discounts normally obtained for large and/or many consignments through a specific mode, which they invariably never pass on to the importers.

## IN-COUNTRY TRANSPORTATION TARIFFS

In country freight rates within the East African region are a function of many issues. In many instances, these issues relate to cost recovery for the rail operations, and profitability for most road operators. Specifically in the three countries of Kenya, Uganda and Tanzania which operate rail services, the parastatals KRC, URC and TRC are directed by the various Acts of Parliament establishing them to operate commercially.

## RAILWAY FREIGHT RATES

### *Kenya Railways Corporation*

KRC is mandated to earn sufficient revenue to cover its operating costs, earn a return on its assets, and provide funds for investment. KRC, as with URC and TRC use the *Lotus 1-2-3 based Operational Simplified Costing for African Railways (OSCAR)* which has some what become a standard costing package

in Sub-Saharan Africa. OSCAR defines costs and cost centers in four major categories: direct variable cost, variable operating cost, total long run variable cost, and total cost, (see Table 5.2).

***Table 5.2 Oscar Cost Centers and Definitions***

| Line Haul costs | Depreciation | Variable Capital Cost | Others |
|---|---|---|---|
| Loco Running<br>Fuel<br>Other<br>Traffic<br>Shunting<br>Yard<br>Fuel<br>Terminal & Station Maintenance<br>Track and Roadway<br>Signals<br>Locomotives<br>Coaches | - Track<br>- Locomotives<br>- Wagons or Coaches | - Locomotives<br>- Wagons<br>- Coaches | - Fixed Costs Allocated to Service<br>- Required Margin |
| Direct Variable Cost | Variable Operating Costs | Total Long Run Variable Costs | Total Cost |

The cost definitions are as follows:

- Direct variable cost is the out of pocket cost of providing service that varies with the traffic volume. This cost can also be seen as that of moving one additional wagonload of traffic.

- The variable operating cost is the direct operating cost plus the depreciation of assets utilised in providing transport. The principle utilised in calculating depreciation is the estimation of the "current cost of restoring the capital stock to the condition it was in prior to being utilised to move this traffic."

- Total long run variable cost is the sum of the variable operating cost plus the interest or rent on that portion of the rolling stock utilised in the provision of transport. This cost, also known as long run marginal cost is the cost of primary concern when setting tariffs. This is regarded as a minimum price and tariffs must never fall below this. In fact, to recover total cost, i.e., the sum of long run variable cost plus fixed costs plus the depreciation of other assets plus the depreciation of rolling stock not taken account of previously, tariffs must be set higher than the minimum defined by total long run variable cost.

In this way, KRC railway tariffs are applied flexibly and reflect both market conditions and the cost structure of the railways as defined above. Specifically, because OSCAR costing package is budget based, such that all costs for all commodities must equal budgeted costs for both local and transit traffic, tariffs based on OSCAR total costs would carry inefficiency costs which would outprice KRC in the market, particularly road transport, which is understood to be more or less market oriented in tariff setting.

Thus in many situations KRC does not recover costs beyond variable operating costs, i.e. variable direct costs plus depreciation. In practice KRC sets its rates equal to road transport rates where variable operating costs are lower than road rates, but sets it at variable operating cost if the road transport rates are lower than variable operating costs. This applies to both domestic and transit cargo.

In practice transit rates for general cargo and bulk oils are quoted US $ per boogie/km and KRC attempts to recover most costs and make a profit on UP (from Mombasa) traffic, and recover only direct costs on DOWN (to Mombasa) traffic. For example, the UP rate is US $2.26 per boogie wagon kilometer while the DOWN rate is US $1.80 per boogie wagon kilometer. Similar concessions are available for containers, but these are quoted per TEU depending on whether or not the single container is below or above 15 tons. Single containers weighing over 15 tons are charged approximately 14 - 15 percent above those weighing 15 tons or less for both up and down traffic. The quoted rates for both containers and general cargo assume that for all traffic destined to stations east of Jinja (inclusive), together those originating from west of Athi River (inclusive) are charged Malaba rates from Mombasa. Bulk oil rates are higher for traffic via Kisumu than via Eldoret by about 15 percent. Uganda export coffee rates from Kampala are however quoted on per ton basis to conform to competition practices. In situations where KRC need to fix rates between Mombasa and Kampala, this is discussed and agreed afore hand with URC, which claims 20 percent of the rate i.e. from Malaba to Kampala.

In the domestic scene, rates for loaded and empty containers are quoted for 20ft and 40ft containers, with rates for the latter reflecting some 15 - 20 percent discount. KRC tariff for containers is focused on the three inland container depots (ICDs) at Embakasi, Kisumu and Eldoret. Containers are carried as loaded on the forward journey. Similarly rates for container down traffic reflect 4 - 5 percent of the outward journey. KRC has also published rates for empty containers for both UP and DOWN traffic. Rates for domestic general cargo are however quoted for different commodities and reflect competition from the roads sector

In its pricing strategy, KRC has therefore recognized the need for increased use of separate contracts with individual customers to provide incentives for regular large consignments. Currently about 50 percent of all freight traffic moved by KRC is covered by contracts, which includes the contract of agreement between KRC and URC. KRC's largest business is obtained through the domestic market. Transit cargo does not receive any special categorisation, but obviously receives considerable attention due to its long haul nature. Thus, while maintaining published tariffs as a basis for negotiations, contract rates are flexible to match market conditions, and are intended to ensure that KRC wins and maintains traffic in priority sectors. The policy is to adjust tariffs frequently as market conditions dictate.

### *Uganda Railways Corporation*

Similarly URC is required to act on sound commercial principles, and that it shall not provide services at a loss except under special conditions. In practice URC sets its own tariffs and applications for tariff increases are reviewed by the parent Ministry of Works, Transport and Communications (MoWTC). Although the URC operates the OSCAR costing system, several commentators have raised the possibility of a reduced railway operation, with a re-configuration of the railway system to focus operations on the main import and export links to achieve idealized costs. This means that the land lines would be abandoned with the exception of Malaba which would be kept under minimum maintenance. Full marine operations would continue recognizing the relatively cost effective nature of the mode. Thus, an important aspect of URC operating cost structure is that only a portion of existing assets will be required to move traffic on offer, even at the low levels of availability and utilization which characterized the URC rolling stock previously. However, even under the idealized costs, URC fails to cover its costs on rail operations, but does so in marine operations. Thus, in practice the

Government of Uganda subsidises URC rail operations, achieved primarily through the exemption of URC equipment in general from import duties and associated taxes.

URC general cargo tariffs are more complicated that those of KRC with various commodities classified into classes A - D, with each class attracting different scales of charges depending on weight. Altogether there are 16 scales. The tariff provides for general cargo to be transported in complete wagons, but are chargeable per ton, payable in Uganda shillings.

The Domestic container tariff are, however, categorized light cargo, (upto 15 tons per TEU, or upto 30 tons for 2 TEUs or heavy cargo (between 15 - 18 tons per TEU, or between 30 - 36 tons for 2 TEUs). Charges are quoted in Uganda shillings per Kilometer moved, in steps of 20 Kms, with a minimum of 100 Kms.

URC transit rates are applicable principally for import and export traffic through Kisumu - Mwanza, and Malaba. General cargo rates for Kisumu and Mwanza are quoted in US $ per ton for these traffic, with rates fixed for destinations. However general cargo rates for traffic through Malaba are quoted per ton per kilometer, with bands of 20 Kms, and a minimum of 100 Kms. This method of charge is also applicable to bulk oil import rates via Mwanza and Malaba.

Rates for transit containers are applicable in the same manner as domestic containers but are quoted in US $ per TEU (light cargo or heavy cargo) depending on distance moved. Rates for 2 TEUS are for the most part double the rates for a TEU. Other provisions of the URC tariff are:

- Commercial Transaction Levy (CTL) is levied by the GoU at 15 percent of total charges.
- The chargeable weight for wagon loads is
  - minimum and maximum 15 tons per single unit;
  - minimum 36 and maximum 40 tons for boogie wagon; and
  - maximum wagon load permitted on Kasese line is 34 tons and on Northern Uganda extension is 36 tons.

In October 1995, URC announced a rebate of 20 percent for all dry cargo and 15 percent on fuel traffic. Individuals are also negotiating rebates. The rebates were necessitated by the increasing loss of cargo, particularly export coffee. It is also clear that the hidden rail costs which include demurrage, and local transport (most railway sidings are inoperational) provided a great impetus for the rebate.

### *Tanzania Railways Corporation*

In Tanzania the public service orientation of TRC operations is continuously changing with a new focus on cost recovery and profitability. Since the installation of OSCAR in 1990, tariffs have been revised regularly in some instances by as much by 100 percent, probably reflecting total cost recovery. The current tariff was issued with effect from 1st August 1995. The Tanzanian Shippers Council have made a public outcry and are fighting a very spirited battle against rail tariffs which is believed to comprise a significant amount of inefficiency costs plus a margin.

The distinct features of the current TRC tariff structure are:

- Domestic general cargo are different for various commodities, salt, cement, maize, bulk oils etc with the rates for cement being about 75 percent of the rates for salt, this latter reflecting the highest tariff. Domestic rates in Tanzania shillings are quoted on the basis of small or large wagon per kilometer.

- There are no domestic containers, which means that containerized cargo is charged on the basis of the commodity stuffed.

- Transit rates for general cargo are provided for small and large wagons per kilometer and are nominated in US Dollars.

- Transit rates for containers are applied for a single (20ft) or double (over 20ft) containers and are expressed in US$ per TEU. Rates are expressed in US $ per TEU and are the same for 2x20ft and 1x40ft containers. However charges for 1x20ft containers are higher reflecting the possibility of ferrying the single container on a large wagon by itself. For example on the rates for a 2x20ft and 1x40ft containers from Dar-es-Salaam to Mwanza is US$805 per TEU, compared to the rate for a single container, at US$980 per TEU.

- The tariff includes additional charges for transit traffic as follows:
  - transhipment charges for different types of cargo from rail to marine;
  - terminal charges at US$2.9 per wagon unit on both ends: (terminal charges for domestic traffic is consolidated with freight charges);
  - demurrage charges expressed per 4 and 8 wheeler wagons for the first 24 hours, doubling in the succeeding 24 hours;
  - warehousing and storage of goods; and
  - for wagons loaded on MV Umoja, the charges are per unit irrespective of tonnage. There is no charge for empty wagons.

The TRC tariff further provides for all transit containers carried by TRC as loaded on their forward journey to be carried free of charge on their return journey if empty, except that TRC reserves the right to load them with traffic at its disposal. By comparison, the local currency tariff which is applicable for domestic traffic appear to be more or less equivalent to the charges for transit traffic. For example, the tariff applied to the movement of any brand of white petrol in a large wagon from Dar-es-Salaam to Mwanza is Tshs.1,185,425, which is equivalent to US$1,957.70 if an exchange of Tsh.600/US$ is used. The same commodity as transit traffic would be charged US$56 per ton. This is equivalent to US$1,960 if a wagon load of white petrol is assumed to be 35 tons.

It is to be noted that TRC tariffs are only applicable within Tanzania, and are quoted for transit traffic to destinations such as Mwanza, Kigoma and Isaka. Transit traffic beyond Mwanza are subject to URC rates. TRC however maintains a tariff for traffic beyond Kigoma moved on its vessels. These charges in respect of general cargo and containers are the same for Mpulungu in Zaire and Bujumbura in Burundi, despite that the two destinations are 571 Kms and 185 Kms from Kigoma, respectively. However bulk oil rates reflect distances.

### *Comparative Railway Tariffs*

The various tariff policies above translate in to a relatively high tariff structure for URC compared to those for KRC and TRC: URC has a relatively short productive network to spread overhead costs. In addition URC tariff is more directed to its external trade, given the branch lines on which the tariff structure is based. Comparatively TRC has the lowest tariffs by unit costs for both domestic and transit cargo per ton/Kilometer[21]. URC has the highest tariffs per ton kilometer for both transit cargo and domestic cargo [22]. KRC tariffs are slightly higher than TRC but far lower than URC [23].

In Table 5.3 we provide comparative rail freight analysis for selected routes in the three rail networks.

The principal features of this comparison are as follows:

- KRC rates are generally characterised by higher tariffs for domestic containers than equivalent rates fo r domestic general cargo by as much as 100 percent, this reflects the captive nature of containerized carg o to Kenya Railways destined to specialised ICDs. The lower general cargo rates reflect the competition from road operators who dominate the local market. For transit cargo, the rates are nearly equivalent.

- URC domestic rates are comparatively higher for general cargo compared to containerized cargo. UR C tariffs therefore seem to recognize the advantages of containerisation especially handling compared t o general cargo. However both uptraffic imports and down traffic are subject to similar rates.

## ROAD FREIGHT RATES

In-country road freight rates, like the transit freight rates from Mombasa and Dar-es-Salaam, to the LLCs are not regulated by any authority although Clearing and Forwarding agents and truckers association s publish guiding rates (for transit traffic only) which are not mandatory but indicative. Therefore, rates are determined by market forces based on the availability of vehicles against available cargo. Customer seller negotiation is the order of business in this industry where large consignments requiring several journe y loads attract lower rates compared to single journey loads. It is observed that road freight rates may also fluctuate depending on the availability of return loads, the type and make of the vehicle on hire, th e anticipated degree of police harassment en-route, and the degree of competition for cargo by transporters and finally the road condition. As a result, road freight rates seldom relate to actual transport costs of the operator although each transporter need to realise a profit margin to remain in business.

The other factor which influence road freight rates is the increasing competition between road transport and other modes. The extension of the oil pipeline from Mombasa to Nairobi and recently from Nairobi to Eldoret and Kisumu has extensively reduced the oil transportation business of road truckers in Kenya. The construction of inland container depots at Embakasi, Kisumu and Eldoret in Kenya, and at Isaka in Tanzania resulting in the associated railtainer services has diverted significant proportions of cargo to the railways which has in turn depressed road freight rates. Transit road transport rates have as a result remained sTable over long periods with the result that inefficient road transport operators have been driven out of the market. Current available information in road transport costs in the region is not sufficient and the full understanding of the significance of the variables affecting road transport must be the subject of further investigations. On the other hand, urban transport rates in Nairobi, Kampala and Dar-es-Salaam are higher than for long haul domestic route segments. The reasons advanced for the higher transport rates in urban areas is that rates are based on time (half day, full day) rather than on distance.

### *Kenya*

In Kenya, road transport rates are for the most part dictated by competition, from other road operators, and from the KRC. Rates range between 8.1 cents per ton kilometer for the cheaper operators, between Mombasa and Kisumu, and 12.3 cents per ton kilometer for the more expensive operators. A large number of operators have however quoted an average of 9.3 cents per ton kilometer, which also equates to the rates for Mombasa/ Nairobi, and Nairobi/ Eldoret. These rates are fairly similar for general cargo and containers.

***Table 5.3 Rail Tariffs US Cents/Ton/Km***

| Routes Sampled | Distance (Km) | Domestic | | Transit | |
|---|---|---|---|---|---|
| | | Container 30 tons | General Cargo 30 tons | Container 30 tons | General Cargo 30 tons |
| Kenya | | | | | |
| Uptraffic | | | | | |
| Mombasa - Malaba | 1082 | - | - | 6.5 | 7.5 |
| Mombasa - Eldoret | 997 | 6.4 (7.9)[24] | | - | - |
| Mombasa - Kisumu | 929 | 7.0 (8.6) | 3.7[25] | 7.5 | 7.5 |
| Mombasa - Nairobi | 530 | 6.6 (8.3) | 4.2 | - | - |
| Nairobi - Eldoret | 467 | 5.8 (7.1) | | - | - |
| Downtraffic | | | | | |
| Malaba - Mombasa | 1082 | - | - | 5.5 | 6.0[26] |
| Eldoret - Mombasa | 997 | 6.1 | | - | - |
| Kisumu - Mombasa | 929 | 6.6 | 6.0 | 6.3 | 6.0 |
| Nairobi - Mombasa | 530 | 6.3 | 6.0 | - | - |
| Eldoret - Nairobi | 467 | 7.6 | | - | - |
| Uganda | | | | | |
| Kisumu - Kampala | 284 | - | - | 10.8 | 11.6 |
| Mwanza - Kampala | 440 | - | - | 9.22 | 8.6 |
| Malaba - Kampala | 251 | - | 12.6 | 11.0 | 13.1 |
| Kampala - Gulu | 608 | 8.2 | 10.6 | 9.0 | 11.0 |
| Kampala - Kasese | 333 | 6.7<br>7.5 | 11.7 | 10.0 | 12.3 |
| Tanzania | | | | | |
| Dar - Kigoma | 1252 | - | 4.4 | 4.4[27] | 3.0[28] |
| Dar - Isaka | 982 | - | 4.8 | 4.7 | 3.0 |
| Dar - Mwanza | 1229 | - | 4.4 | 4.4 | 3.7 |

## *Uganda*

In Uganda, distance is not necessarily the main factor influencing road fr eight charges. For instance it costs around $ 46.32 per ton for a 516 Km journey (US cents 9 per ton/Km) from Kampala to Arua, while the rates for a 320 Km route-journey between Kampala and Kasese cost around $ 53 ton, (or US cents 16.6 per ton/Km). The disparity arises due to the fact that the turn-around time is shorter for the Kampala-Aru a route, which is basically used for the export of goods to Southern Sudan and Eastern Zaire and whic h include cement, sugar, iron sheets, salt and soap and various relief food and materials.

Similarly, charges for the 440 Km route between Kampala and Kasese via Mbarara are similar to the 413 route between Kampala and Kabale — i.e $ 53, despite a 23 Km difference. This is attributed to the availability of return loads e.g cement, maize and finished product s from Kilembe Mines, transported along the Kampala-Kasese routes, unlike the Kabale route, which despite being shorter and tarmacked has n o backloads.

Equally significant is the disparity in road freight charges for the relatively shorter distances. For example, the 222 Km route between Malaba and Kampala cost $ 36 ton/Km, (16 cents per ton/Km) while the 304 Km route between Kampala and Gulu cost $ 41.31 ton/Km (11.8 cents per ton Km), which implies that unit rates are higher for shorter distances than for long haul domestic route segments. Availability of vehicles is a problem on this route, as it is the one used to transport cement to Kampala from Tororo, as well as importation of cargo containers and steel from Kenya. The domestic average rates is US 16 cents/ton/Km, while for other PTA states, the rates range between US 14.5 - 17 cents/ton/Km.

### *Tanzania*

The road freight tariff system in Tanzania is no much different to the Uganda case. There are striking similarities in the determination of tariff levels on certain routes. A number of factors cited in the paragraphs above, play a significant influence in determining road freight rates on various routes. One important finding is that in Tanzania, as is the case in Uganda, road freight charges are relatively lower for long haul domestic route segments, than short distances. In certain routes, distance per se does not seem to be the deciding factor, such that a combination of factors such as road conditions, size of consignments and availability of backload determine the freight rates levied.

Specific examples will illustrate this observation. For instance, the charges for the Dar-es-salaam - Arusha route (647 Km) despite being longer, are lower, $ 833.3/10 ton truck, (12.8 cents per ton Km) when compared to the 479 Km route between Dar-es-salaam and Dodoma which stands at $ 916.6/10 ton truck, (US cents 19.1 per ton Km). This is due to among other things, condition of the Dar-es-salaam - Arusha route which is tarmacked and in much better condition compared to the Dar-es-salaam - Dodoma route, availability of backloads and the turn-around time.

Similarly, freight rates for the Dar-es-salaam - Isaka route (900 Km) are similar to the Dar-es-salaam - Mwanza route (1178 Km), despite a 278 Km difference, due to road conditions, competition among transporters for cargo and availability of backloads. Like in Uganda, these road freight rates are market-driven, and negotiations between customers and sellers is the norm.

### *Comparative Road Tariffs*

The figures in Table 5.4 indicate that road freight rates are generally higher in Tanzania, than Uganda or Kenya, this latter having the lowest charges. This strengthens the fact that competition is the greatest determinant of road freight rates. Rates are lower in Kenya, where competition is more intense than Tanzania and Uganda.

## COMPARISON BETWEEN RAIL AND ROAD RATES

An analysis of the road and rail tariff charges in all the three countries under review clearly shows that road tariffs rates are generally higher than rail rates. For example for a 30 ton general cargo consignment in Kenya would cost US cents 9.3/ton/Km on road, between Mombasa and Kisumu, while on rail , the freight charges are US cents 3.7/ton/Km for the same journey. Similarly, it would cost US cents 9.5 per ton Km on road between Nairobi and Mombasa while the rail freight charges for the same journey would be US cents 4.2, which is 126 percent more while using roads. In Uganda, it would cost US cents 8.2/ton/Km on rail between Kampala and Gulu, while on the road, the freight rates would be US cents 13.6/ton/Km, 65.9 percent higher on the road. On the Kampala - Kasese journey route, it would cost US cents 16.6/ton/Km on the road, compared to rail charges of US cents

6.7/ton/Km, or 147 percent more on roads. In Tanzania, statistic shows that road transport charges are extremely high compared to rail. For example, it costs US cents 14.1/ton/Km on road between Dar-es-Salaam and Mwanza, while the same journey on rail costs only US cents 4.4 which implies 220 percent more on road users.

***Table 5.4 In-country Road Freight Rates***

| Route Sampled | Distance (Km) | Rates (US$/Ton) | US $ ton/Km |
|---|---|---|---|
| Kenya: | | | |
| Mombasa - Kisumu | 834 | 78(78[29]) | 0.093 |
| Mombasa - Nairobi | 484 | 46(51) | 0.095 |
| Nairobi - Eldoret | 312 | 29(42) | 0.093 |
| Uganda: | | | |
| Malaba - Kampala | 222 | 36 | 0.162 |
| Kampala - Gulu | 304 | 41.3 | 0.136 |
| Kampala - Kasese via Mbarara | 440 | 53 | 0.120 |
| Kampala - Kasese via Mubende | 320 | 53 | 0.166 |
| Kampala - Arua | 516 | 46.32 | 0.089 |
| Kampala - Kabale | 413 | 53 | 0.128 |
| Tanzania: | | | |
| Dar-es-Salaam - Dodoma | 479 | 91.66 | 0.191 |
| Dar-es-Salaam - Arusha | 647 | 83.33 | 0.128 |
| Dar-es-Salaam - Isaka | 900 | 166.66 | 0.185 |
| Dar-es-Salaam - Mwanza | 1178 | 166.66 | 0.141 |

## CHOICE OF TRANSIT ROAD ROUTES

Because road freight rates are determined for the most part, by the market conditions rather than on a cost plus basis, transporters primary profit objectives can only be realised through a strategy of cost reductions. And because the freight rates to several destinations will be uniform from a specific port, irrespective of route followed, transporters achieve the cost reduction strategy through route choice. Transporters may chose longer routes in terms of kilometers, if the transit procedures are not costly and support their cost reduction strategies. Road routes can also be preferred if transit procedures do not provide penalties for overloading which is seen as a compensation for depressed tariffs.

Factors such as road condition, security in transit, and overall transit time are also considered in route choice. For cargo delivered from Mombasa or Nairobi to the landlocked countries the route chosen must be decided before departure to facilitate the forwarding of transit documents to the relevant border post(s).

## UGANDA ROUTES

As we have discussed in previous sections, there are five routes from Mombasa and Dar-es-Salaam t o Uganda these are:

- all rail route from Mombasa to Kampala via Malaba, a distance of 1335 Kms;
- all road route from Mombasa to Kampala via Malaba, 1170 Kms;
- all road route from Mombasa to Kampala via Busia, 1138 Kms;the rail/ferry connection fro m Mombasa via Kisumu, a distance of 1221 Kms; and
- the rail/ferry connection from Dar-es-Salaam via Mwanza, 1680 Kms.

### *All Rail Route via Malaba*

This is the main route to Uganda, and both Kenya Railways Corporation (KRC) and Uganda Railway s Corporation (URC) operate trains on it. In practice, KRC operates block trains from Mombasa to Malaba on demand, with the onward journey from Malaba to Kampala being operated by URC. The Nakuru - Kisumu route is faster than the Nakuru - Malaba route. However, capacity on the Nakuru - Kisumu route is a bottleneck. Transit time between Mombasa and Kampala has also been reduced to three to four days and these and other operating factors like line blockage would appear to be the major reason for th e reduction of traffic through hitherto the principal route to Uganda via Kisumu. Under an agreemen t between the two corporations, rail wagons transit into each others territories, but while URC locomotives have crossed and operated in Kenya, KRC locomotives do not cross into Uganda. URC locomotive s crossing into Kenya are deemed to be on hire, but are deemed lost if not returned within six months.

During the 1991 - 1995 period, transit traffic recorded at the Malaba border point comprised of almost equal volumes for both up (imports) and down (exports) traffic, being 53.64 percent and 46.36 percen t respectively of the total traffic recorded at 448,125 tons. Import traffic totalled 240,396 tons, while export traffic stood at 207,729 tons, for the period under review, as indicated in Table 5.5. According to the Table 5.5, up traffic (imports) declined between 1991/92 and 1993/94 from 47,874 tons to 22,468 tons, by 5 3 percent which may be attributed to among other factors, stiff competition from other modes e.g roa d transport, and re-routing of Uganda's import traffic, through the port of Dar-es-salaam. However, during 1994/95, up-traffic recorded significant increase, from 22,468 tons to 126,556 tons, representing a n increment of 463 percent. In the same period, down-traffic steadily increased from 14,711 tons in 1991/92 to 40,359 tons in 1992/93 and peaked at 87,164 tons in 1993/94. However, during 1994/95, there was a decline to 65,495 tons (representing a decline of 24.6 percent).

Uganda's principal export commodity via rail route through Malaba is coffee, which at 77,922 tons in 1994/95 represented 99.5 percent of all exports via this route. However, the 1994/95 volume represented a decline from 102,634 tons and 106,629 tons exported via the same route during 1991/92 and 1992/9 3 respectively. This is attributed to the liberalization of the coffee transport which was hitherto exclusively transported by Uganda Railways on the GoU directive. In general, Uganda's exports through Malaba by railway for three main commodities of coffee, cotton, an d maize have been declining between 1991/92 and 1994/95. In the 1994/95 period, these commodities amounted to only 78,284 tons compared to the pea k tonnage of 122,779 tones in 1992/93, representing a decline of 36.2 percent.

***Table 5.5 Uganda Transit Traffic through Malaba (tons) 1991/2 - 1994/5***

| Year | Up | (%) of Total | Down | (%) of Total | Total |
|---|---|---|---|---|---|
| 1994/95 | 126,556 | 65.9 | 65,495 | 34.1 | 192,051 |
| 1993/94 | 22,468 | 20.49 | 87,164 | 79.51 | 109,632 |
| 1992/93 | 43,498 | 51.87 | 40,359 | 48.13 | 83,857 |
| 1991/92 | 47,874 | 76.49 | 14,711 | 23.51 | 62,585 |
| Total | 240,396 | | 207,729 | | 448,125 |

The freight rates applicable via the Malaba rail route to Kampala reflect the duality of the operations between KRC and URC. KRC rates are applicable within the Kenyan territory and URC rates applicable within the Ugandan territory. Revenues accrue to KRC on the Kenyan side of the network for Malaba (for traffic up to Jinja) and to URC on the Ugandan side irrespective of wagons used. At Table 5.6 we present a summary of the rates for traffic along this route.

***Table 5.6 Rail Freight Rates Mombasa - Malaba - Kampala (and return)***

| | IMPORTS | | EXPORTS | |
|---|---|---|---|---|
| Cargo Category | MSA - MLB (1082 Kms) | MLB - KLA (215 Kms) | KLA - MLB | MLB - MSA |
| 1. General Cargo | US $2.26/boogie Km<br>CTL 15%<br>(US $2,812.10) | US $26.4/ton<br>(CTL 15%)<br>(US $910.80) | Ugshs.21,475[30]<br>(US $21.475/ton)<br>(US $644.25) | US $1.80/boggie Kilometer<br>US $1947.60 |
| 2. Coffee | - | - | US $16/ton | US $37/ton/Km |
| 3. Fuel Oil Products | US $2.56[31]/boogie Km<br>CTL 15%<br>US $3,185.4 | US $28/ton<br>CTL 15%<br>(US $966) | n/a | n/a |
| 4. Containers | US $1,840 (2,116)[32] for containers up to 30 tons (light)<br>US $2,106(2,421.9[33] for containers above 30 tons (heavy) | US $666.4 (766.36)[34]/TEU for light (up to 30 tons)<br>US $782.4(899.60)[35] (more then 30 tons) | UgShs.495,472 (c.a US $495.5 if less than 30 tons)<br>UgShs.581,766 (c.a US $581.76 above 30 tons | US $1,550 - up to 30 tons<br>US $1,770 - more than 30 tons |

On the basis of the above rates the actual freight costs for a 30 ton boogie general cargo, or 30 to n container in US $are as follows:

| | Containers | | General Cargo | | Bulk Oils | Coffee |
|---|---|---|---|---|---|---|
| | Imports | Exports | Imports | Exports | Imports | Exports |
| Mombasa - Malaba | 2,116.0 | 1,550.0 | 2,812.10 | 1,947.60 | 3,185.4 | 1,110.0 |
| Malaba - Kampala | 766.4 | 495.5 | 910.80 | 644.25 | 966.0 | 480.0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total | 2,882.4 | 2,045.5 | 3,722.90 | 2,591.85 | 4.151 | 1,590.0 |

On the basis of the above import bulk oils (white oils) would be the most costly to transport on this route to Kampala, followed by import general cargo. Import containerized traffic would cost some 17 percent below general cargo traffic. In all cases export traffic costs are less, 23 percent for containers, 25 percent for general cargo and substantially less for coffee exports. These figures indicate that there is a saving of some US $500 between Mombasa and Kampala for containerized traffic, compared to general cargo and some US $800 for equivalent weight of fuel oils.

### *Rail/Lake Route Mombasa - Kisumu - Kampala*

In the past, the rail ferry connection between Mombasa - Kisumu and Kampala was extensively used by both KRC and URC, mainly because of limited availability of rail locomotive power for both corporations. Indeed, before the current agreement, it was not possible for the two corporations to jointly utilise the available motive power, as both rolling stock and locomotives could not cross into each others territory. Since the agreement, rail wagons are used jointly depending on demand but are charged for, while locomotives have to be individually hired. In case of locomotives it is KRC which occasionally hires some from URC as the need arises. Block trains are operated on the Malaba all rail route. This has made the all rail Malaba route more convenient as transhipment is avoided, implying a possible concentration of cargo through Malaba.

During the 1991 - 95 period, transit up traffic volumes through Kisumu consistently exceeded down traffic with the former peaking in 1994/95 to 95.2 percent of the total traffic. During the four-year period down-traffic through Kisumu experienced a significant decline in volume from 109,692 tons to a mere 17,782 tons, representing a decline of 83.8 percent. However, up-traffic volumes increased significantly from 132,843 tons in 1991/92 to 348,888 tons in 1994/95, representing an increase of 162.63 percent.

***Table 5.7 Transit Traffic through Kisumu (tons) (1991/92 - 1994/95)***

| Year | Up | (%) of Total | Down | (%) of Total | Total |
|---|---|---|---|---|---|
| 1994/95 | 348,888 | 95.2% | 17,782 | 4.8% | 366,670 |
| 1993/94 | 103,518 | 83.9 | 19,886 | 16.1 | 123,404 |
| 1992/93 | 105,403 | 53.7 | 90,701 | 46.3 | 196,104 |
| 1991/92 | 132,843 | 54.8 | 109,692 | 45.2 | 242,535 |
| Totals | 690,652 | | 238,061 | | 928,713 |

The freight rates charged for imports to and exports from Uganda via Kisumu are fairly similar to those applicable to the all rail route via Malaba except for differences in distances on the Kenyan side, and wharfage charges on cargo transhipped via Kisumu. Table 5.8 gives tariff structure for this route. Oil products passing through Kisumu from Mombasa/Nairobi are charged at a higher rate per boogie wagon Km, US $2.56, compared to Malaba exit where the charge is US $2.23/boogie Km. The higher (than Malaba) oil transportation rates via Kisumu is intended to balance over the shorter distance advantage Kisumu has over Malaba and to discourage transportation of oil products through the rail/ferry route, mainly as a basis of reducing congestion at Kisumu port. Accordingly the volume of oil products passing through Kisumu to Kampala has been extremely small over the past year or so. URC charges across Lake Victoria are exactly the same for the Malaba traffic.

***Table 5.8 Rail/Lake Ferry Freight Rates (Mombasa - Kisumu - Kampala) (Imports and Exports)***

| | IMPORTS | | EXPORTS | |
|---|---|---|---|---|
| Cargo category | MSA - KIS (929 Kms) | KIS - KLA (282 Kms) | KLA - KIS | KIS - MSA (929 Kms) |
| 1. General cargo | US $2.26/boogie Km (CTL 15 percent) (US $2,414.47) | US $264/ton CTL 15 percent (US $910.80) | Ugshs.23,941[36]/ton- (US $23.94) (US $718.25) | US $1.80 per boogie/Km (US $1672.20) |
| 2. Coffee | n/a | n/a | US $16/ton | US $37/ton |
| 3. Fuel Oil products | US $2.95[37]/boogie Km CTL 15 percent (US $3,151.60) | US $28/ton CTL 15 percent (US $966) | n/a | n/a |
| 4. Containers | US $1,840(2116)[38]/ TEU up to 30 tons US $2,106(2,421.9)[39]/ TEU over 30 tons | US $66.4(766.36)[40] up to 30 tons US $ 782.4(899.6)[41] over 30 tons | Ugshs.550,096 (US $550 up to 30 tons) Ugshs.647,315 (US $647 more than 30 tons) | US $1550/ TEU up to 30 tons US $1770/ TEU over 30 tons |

In summary, the applicable freight rates for a 30 ton consignment from Mombasa via Kisumu t o Kampala on the rail/ferry route in US $ are as follows:

| | General Cargo | | Containers | | Bulk Oils | Coffee |
|---|---|---|---|---|---|---|
| | Imports | Exports | Imports | Exports | Imports | Exports |
| Mombasa - Kisumu | 2,414.47 | 1,672.20 | 2,116.0 | 1,550.0 | 3,151.60 | 1,110.0 |
| Kisumu - Kampala | 910.80 | 718.25 | 766.30 | 550.0 | 966.0 | 480.0 |
| Total | 3,325.30 | 2,390.45 | 2,882.3 | 2,100.0 | 4.117.60 | 1,590.0 |

### *Rail/Lake Route via Mwanza - Kampala*

Available statistics indicate that the level of traffic on this route between Mwanza and Kampala in 1993, was 126,000 tons and that this has been fairly stagnant since 1989 when 129,000 tons was moved. Cargo moved on this route is almost exclusively Ugandan cargo. Table 5.9 summarizes the Mwanza/Port Bell traffic since 1987.

***Table 5.9 Transit Traffic via Mwanza to Kampala (000' Tons)***

| | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|---|---|---|
| Imports | 35.9 | 56.2 | 58.4 | 74.9 | 75.0 | 98.3 | 94.0 |
| Exports | 48.1 | 50.0 | 70.5 | 42.4 | 47.2 | 13.9 | 31.9 |
| TOTAL | 84.0 | 106.2 | 128.9 | 117.3 | 122.2 | 112.3 | 125.9 |

The principal commodity to Uganda from Mwanza has been cement, with general goods sourced i n Tanzania being the next most import commodity. Likewise the principal export commodity has been coffee.

TRC charges on the Dar-es-Salaam - Mwanza route are quoted in Tanzanian shillings for domesti c traffic and US $ for transit traffic. TRC does not quote any rates for the Mwanza - Kampala - Port Bell route: an agreement between URC and TRC indicates that URC determines the rate between these three stations. The current TRC rate for transit general cargo between Dar-es-Salaam and Mwanza is US $43 per ton (35 US cents per ton Km). This can be compared to US $30. 4 per ton (previously US $38) between Mwanza and Kampala (US cents 69 per ton Km). Thus the URC rate is double the TRC rate on this route. In addition, URC has never published the rate between Kampala and Port Bell, but this is rumoured to be US $20/ton which for the 9 Km stretch, represents US $2.22 per ton kilometer, which is excessive by any standards. TRC indicates that these high rates, which are summarised at Table 5.10 have served to divert Uganda traffic from Dar-es-Salaam to Mombasa.

In summary, the freight rates in US $between Dar-es-Salaam and Port Bell via Mwanza are as follows:

| | Containers | | General Cargo | | Bulk Oils | Coffee |
|---|---|---|---|---|---|---|
| | Imports | Exports | Imports | Exports | Imports | Exports |
| DAR - MWZ | 1,966.50 | Not published | 1,587.0 | 1,140.0 | 1,759.5 | - |
| MWZ - Kampala | 1,152.80 | 835.4 | 1,048.80 | 957.0 | 1,120.6 | - |
| Total | 3,119.30 | n/a | 2,635.80 | 2,097.0 | 2,880.1 | - |

### *All Road Malaba Route to Kampala*

The Malaba road route to Kampala is part of the traditional northern corrid or route, and, remains the busiest road transit route within the region, handling some 100 - 150 transit goods vehicles on a daily basis. The larg e number of vehicles plying the route have implications for quoted freight rates, which are therefore considered depressed. Indeed the rates are not stabilised and depend on amongst others, the volume of cargo on offer, the client, and the CFA involved. Rates quoted for general cargo h ave ranged between US $115/ton to US $135/ton for general cargo, with *Interfreight Panalpina*, multinational CFA and transporter, quoting US $110 per ton from Nairobi to Kampala, and US $125 per ton from Mombasa to Kampala. Another CFA/transporter, *Transami*, has quoted KShs.6,000 per ton between Nairobi and Kampala, inclusive of all clearing forwarding charges.

***Table 5.10 Rail Freight Rates Dar-es-Salaam - Mwanza - Kampala (and return) (30 ton Cargo)***

| | Imports | | Exports | |
|---|---|---|---|---|
| Cargo category | DAR - MWZ | MWZ - KLA[42] (215 Kms) | KLA - MWZ | MWZ - DAR |
| 1. General Cargo | •US $46[43]/ton for wagon CTL 15%<br>(25-30 tons, US $1,587)<br>•(US $42/ton for wagons up to 40 tons, CTL 15%) | US $30.4/ton (CTL 15%)<br>(US $1,048.80) | Ugshs.31,897.6[44]/ton (US $31.9/ton)<br>(US $957) | •US $38/ton (light cargo)<br>•US $36/ton (heavy cargo)<br>US $1,140[45] |
| 2. Coffee | n/a | n/a | n/a | n/a |
| 3. Fuel Oil Products | US $51/ton[46], CTL 15%<br>(US $1,759.50) | US $40.8 CTL 15%<br>(US $1,407.60) | n/a | n/a |
| 4. Containers | US $1,710 CTL 15%<br>(US $1,966.50) | •US $974.40 for light cargo<br>•US $1,152.8 for heavy cargo<br>CTL 15% (US $1,120.56[47]) | •Ugshs.726,376 US $726.4 for light cargo<br>•Ugshs.858,851.2 for heavy cargo | Not published |

The rate variations are also applicable to containers. Flat rates of US $2,250/TEU (up to a maximum gross weight of 18 tons) have been quoted by one CFA between Mombasa and Kampala, with eac h additional ton being charged at US $125. Increasingly however, we understand that rates for freigh t prepaid by suppliers abroad are being negotiated for up to US $2,500/TEU inclusive of CFA charges.

### *Mombasa - Busia - Kampala*

While the main Malaba road route is used primarily for the movement of dry cargo, petroleum tanker s generally collect fuel from Nairobi, leave th e Malaba route after Nakuru and detour via Kisumu and Busia rejoining the main transit route after Tororo. Busia has therefore been preferred as the main petroleu m products (POL) border crossing point. As already indicated in earlier sections of this report, petroleu m products destined to Uganda from Kenya are designated "exports" from Kenya, rather than transit traffic through Kenya. Accordingly customs procedures reflect export (rather than transit) orientation, and are therefore simpler than for transit traffic. This facilitates quick clearance. Moreover, the specialised use

of Busia as a POL border crossing point reduces any risk that might result in petrol tankers and dry cargo being handled together.

### *Rwanda/Burundi Routes*

*Rail/Lake Route Dar-es-Salaam - Kigoma - Bujumbura*

TRC operates block trains between Dar-es-Salaam and Kigoma. As there is no linkspan at either Kigoma or Bujumbura, TRC is unable to operate cargo traffic on a wagon ferry ex-Kigoma. Notwithstanding, TRC operates one ship-tanker (*M.V. Sangara*) and one barge for connections to Bujumbura and Mpulungu in Zaire. In practice however, most of the ZBR traffic is transhipped on barges owned by Burundi based Belgian companies, *Arnolac*, and *Batralac*. There are two port locations at Kigoma, one operated by TRC and one by AMI under the Belbase Agreement.

TRC also operates two passenger ships, *MV Liema* (capacity 600 passengers) and *MV Mwongoni* (capacity 800 passengers) which have limited cargo capacities of 200 tons and 100 tons respectively, but these sail only once a week.

Available TRC statistics indicate that, in 1993 TRC's throughput via Kigoma amounted to some 31,873 tons which included oil products, most of which was destined to Burundi. Of this amount 15,765 tons (50 percent) was export traffic, 14,559 from Burundi and 1,206 tons from Zaire. The balance of 16,108 (50 percent) were imports to Burundi and Zaire. Rwanda ceased to use this route during the 1970's when it concentrated its traffic on the Northern Corridor. A high proportion of the traffic from Burundi is accounted for by coffee exports. Our calculations, based on a 30 ton wagon/boogie, suggest that TRC makes two trips a month on this route, one up and one down, an average of 15 days transit time compared to 4 days on a block train. TRC reports indicate that cargo availability on this route is restricted.

The TRC tariff for cargo traffic on the Kigoma route is nominated for both domestic and transit traffic. Domestic tariffs are quoted in Tanzanian shillings while transit tariff is quoted in US $. These are reproduced at Table 5.11.

***Table 5.11 TRC Charges Dar-es-Salaam - Kigoma***

| | Domestic | Transit |
|---|---|---|
| 1. General cargo<br>(30 ton double wagon unit) | TShs 999,545 | US $36/ton for 30 tons |
| 2. Loaded containers<br>(40ft) | n/a | US $980/TEU (single)<br>US $820/TEU (double) |
| 3. Petroleum products (per 30 ton boogie)<br>(a) LPG<br>(b) Petrol<br>(c) Diesel | <br>Tshs 1,693,480<br>TShs 1,185,425<br>Tshs 728,860 | <br>$71/ton<br>$57/ton<br>$52/ton |

If domestic charges are translated to equivalent US $ at the exchange rate of (US $ = TShs 600), the domestic charges are above transit rates for general cargo by 54 percent. Similarly domestic petroleum charges for LPG are above transit charges by 32.5 percent and 15.5 percent above for petrol. However, the domestic rates for diesel are below the transit charges by 22 percent.

From Kigoma transit traffic is transhipped to barges on Lake Tanganyika for onward journey to Burundi and Zaire. As indicated elsewhere the rates quoted for Mpulungu in Zaire (571 Kms) and Bujumbura in Burundi (185 Kms) are the same in respect of both general cargo and containers. Table 5.12 gives the TRC charges on Lake Tanganyika.

***Table 5.12 Transit Traffic Rates on Lake Tanganyika (US$/TON)***

| | Kigoma/Mpulungu | Kigoma/Bujumbura |
|---|---|---|
| General Goods | 20.0 | Same |
| Cement | 16.50 | Same |
| Containers | | |
| Loaded | 370/TEU | Same |
| Empty | 185/TEU | Same |
| Petrol | 37.20 | 11.50 |
| Diesel | 34.80 | 10.80 |

### *Rail/Road Route via Isaka to Kigali and Bujumbura*

During 1993, the Isaka transhipment depot was responsible for some 200,000 tons of import cargo to Rwanda and Burundi, and this volume was estimated to expand with official opening of the depot in early 1994. Isaka does not as yet, handle any export cargo from these countries. Burundi export traffic, mostly coffee have been traditionally routed via the Kigoma route, while Rwanda's exports have been routed via Mombasa. During the civil war in Rwanda from mid 1994 and 1995, Isaka was responsible for a significant proportion of relief supplies (mainly foodstuffs) destined to refugee camps at Ngara in Northern Tanzania.

Available records at Isaka indicate that the bulk oil depot's off take to Rwanda and Burundi amounts to about 1,000 tons of diesel, and 800 tons each of white oils and fuel oil (total 1,600 tons) every month. It is estimated that the Isaka terminal was responsible for nearly 100,000 tons each year of POL traffic transhipped to Rwanda, Burundi and Zaire in 1993, and 1994 out of a total of about 130,000 tons per year.

The TRC rates to Isaka (982 Kms) are indicated below. Rates for domestic cargo are quoted in Tshs per boogie while rates for transit traffic quoted in US $ per ton.

| | Domestic Cargo | Transit Cargo |
|---|---|---|
| (a) General cargo | | |
| Large wagon (30 tons) | Tshs 849,295/boogie | $39/ton |
| (b) (i) Loaded containers 40ft | n/a | $1,390 |
| (ii) Loaded containers 20ft | n/a | $820 |
| (c) Petroleum products | | |
| LPG | - | $58/ton |
| Petrol | - | $47/ton |
| Diesel | - | $43/ton |

The domestic tariffs at the exchange rate of I US$ = Tshs.600 for general cargo (large wagon 30 tons) is higher than equivalent transit rate by 21 percent.

Thus the costs of transporting 30 ton cargo to Isaka on TRC would be as follows:

- Containers US$ 1,170
- General Cargo US$ 1,415
- White Oils US$ 1,410

From Isaka to each of the landlocked countries (Rwanda and Burundi) transhipment is accomplished on road transport for which quoted rates were US $70 - 75 per ton. On this basis the total direct costs of transport for a 30 ton consignment on this route to Rwanda and Burundi would be as follows:

- Containers : US $3,270
- General Cargo : US $3,515
- White Oils : US $3,510

### *The All Road Route Dar-es-Salaam - Kigali/Bujumbura*

This road route from Dar-es-Salaam to Kigali and Bujumbura has the advantage that it eliminates one transit country compared to the three other road routes from Mombasa, via Malaba crossing into Uganda and, vi a Isebania and Namanga into Tanzania. Over the past few years this road route was responsible for the movement of an average of 80 percent of the general cargo imports to the ZBRU countries through Dar-es-Salaam, see Table 5.13 . However, whereas the volume moved by roa d increased by 38 percent between 1992 and 1993, the amount moved by rail increased a tremendous 380 percent, or ten times as much, resulting in a doubling of the general cargo imports to ZBRU countries via the port of Dar-es- Salaam. Thus, this road only carried 61 percent of the cargo imports in 1993. The improved rail off take is the result of both the improved capacity as a result of acquisition of locomotives from Germany in 1992, and the opening of Isaka container terminal which has attracted a significant proportion of the imports to Rwanda and Burundi. Of the 420,500 tons transit traffic from Rwanda, Burundi and Zaire passing through the port of Dar-es-Salaam during 1994, TRC could have carried only some 230 - 250,000 tons leaving some 170 - 190,000 (45 percent) tons to be moved on this road route.

***Table 5.13 General Cargo Imports to ZBRU Countries***
***Deliveries by Road (Tons) from the Port of Dar-es-Salaam***

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| Zaire | 28071 | 42627 | 31303 | 25409 |
| Burundi | 45546 | 57678 | 39649 | 50169 |
| Rwanda | 29525 | 33222 | 49812 | 90061 |
| Uganda | 8458 | 594 | 644 | 1346 |
| All road | 111600 (88 %) | 134121 (82 %) | 121408 (82 %) | 166985 (61 %) |
| Rail | 15703 (12 %) | 30514 (18 %) | 27018 (18%) | 108599 (39 %) |
| Total | 127303 | 164635 | 148426 | 275584 |

*Source: THA*

The freight rates quoted on this road by different transporters and C FAs were fairly uniform for general cargo and containers as follows:

| | General Cargo | Containers (includes demurrage) |
|---|---|---|
| Dar-es-Salaam - Kigali | US $135/ton<br>Minimum 15tons<br>each additional ton<br>@ US $130 | US $145/ton<br>Minimum 15tons/TEU<br>each additional ton<br>@ US $140 |
| Dar-es-Salaam - Bujumbura | US $145/ton<br>Minimum 15 tons<br>additional tons @<br>US $140 | US $150/ton<br>Minimum 15tons/TEU<br>additional tons @<br>US $145 |

### *All Road Routes*

*Mombasa - Isebania - Mwanza - Bujumbura/Kigali*

Customs statistics indicate that some 13,000 heavy goods transit vehicles crossed the Kenya/Tanzani a border at Isebania during 1993, 6206 leaving Kenya, and 6763 entering Kenya, a large proportion of the traffic both ways originating from or destined to Rwanda and Burundi, see Table 5.14.

***Table 5.14 Traffic Throughput at Isebania (Vehicles)***

| | From Kenya | To Kenya | Total |
|---|---|---|---|
| 1993 | 6,206 | 6,763 | 12,969 |
| Jan 1994 | 648 | 645 | 1,293 |
| Feb 1994 | 620 | 594 | 1,214 |
| March 1994 | 667 | 604 | 1,271 |
| April 1994 | 391 | 530 | 921 |

Table 5.14 also indicates a uniform pattern of transit vehicles, month after month. The down surge in April 1994 is the result of the reduced traffic to Rwanda following the onset of civil war in that country on April 18 1994.

As discussed in Chapter 2 of this report, the roads on this route are in a fairly poor condition , particularly within Tanzania. However, there are ongoing efforts to improve them, particularly between Sirari and Mwanza (304 Kms). The poor condition of the Mwanza - Geita - Biharamulo portion of th e road, coupled with the constraints imposed on traffic at both the Mwanza - Karumo ferry, and Kigongo - Busisi ferry (limited capacity, frequent breakdowns) has influenced many road users to the landlocke d countries to travel southwards from Mwanza to Isaka, where a new container terminal has been recently commissioned, and from which location the road is paved and in good condition up to Biharamulo.

Prior to 1994, it has been reported that because of the poor condition of the roads in Northern Tanzania, the average transit time from Mombasa, for a sample of Rwandese cargo, was 29 days, and this has been estimated to be the same for Burundi. However 1995 estimates for the two destinations indicates an improvement to 17 days. Of these, road transport time is estimated at 12 - 14 days, but can vary greatly depending on whether the truck is required to move in convoy through Kenya, or whether the truck takes an advantage of the paved Isaka to Biharamulo road. It has been further estimated that the total transit time from the time a truck arrives at the Port of Mombasa for loading until the cargo is offloaded in Kigali or Bujumbura is about 4 weeks.

The freight rates on this route, at the time of this study were varying greatly because of the civil strifes in Rwanda and Burundi. What was clear however, was that the freight rates on this route were the same whether a truck was originating from Mombasa or Nairobi. The quoted rates varied from US $180 -190 per ton for Rwanda and US $200 - 210 for Burundi. These charges were fairly similar for both general cargo and containers this latter inclusive of demurrage.

### *Summary of Direct Freight Costs*

Table 5.15 thus gives a summary of the quoted or calculated direct freight costs for the different routes discussed above. The Table indicates that the direct freight costs to Uganda for a 30 ton cargo (container or general cargo) range between US $2636 for general cargo via Mwanza to US $3750 for containers via the road route through Malaba. Similarly the freight costs to Rwanda and Burundi range from US $1680 for general cargo (for Burundi) via the Kigoma route to US $6000 on the road routes via Isebania and Malaba. The potential cost of the proposed alternative route via Kisumu and Kemondo Bay to Rwanda and Burundi are undoubtedly lower and more cost effective than the road routes.

## ROAD TRANSIT CHARGES

The use of all the road routes from Mombasa and Dar-es-Salaam to the land locked countries are characterised by various cost elements as transit charges. These costs form part of the direct transportation costs to the importer, but are usually payable by the transporter on transit. It is considered that even partial elimination of these costs would have an impact on direct costs of transport as discussed in the previous paragraphs. At Table 5.16 , we provide a schedule of the existing charges by type of transit charge, and the amount levied in each country. As is clear, the various charges have different periods of validity; there are those applicable per trip, such as US $152 border charges into Rwanda and Burundi, or the US$100 transit goods licence in Uganda which is valid for 12 months. In addition, some of the transit charges in Table 5.16 are often applied discriminately on vehicles, depending on whether the vehicle is registered in the country of the transit charge, or is foreign registered. For example, a Kenyan registered vehicle would not pay a Kenyan temporary road licence in Kenya, but would do so in Uganda.

Therefore in order to determine the level of these costs, we have assumed two combinations of transit charges. For each landlocked country, we have assumed that the vehicle is either locally registered, or foreign registered either in Kenya or Tanzania, depending on the port from which the particular transit route originates. For example vehicles travelling to Burundi from Mombasa are categorized as locally registered (Burundi) or foreign registered (Kenyan).

***Table 5.15 Freight Transportation Costs (US$/30 ton cargo)***

| | IMPORTS | | | EXPORTS | |
|---|---|---|---|---|---|
| | General Cargo | Containers | POL | General Cargo | Containers |
| Uganda | | | | | |
| All Rail Route - Malaba | 3,722 | 2,882 | 4,151 | 2,592 | 2,045 |
| Rail/Lake via Kisumu | 3,325 | 2,882 | 4,117 | 2,390 | 2,100 |
| Rail/Lake via Mwanza | 2,636 | 3,119 | 2,880 | 2,097 | n/a |
| Road Route via Malaba/Busia | 3,300 | 3,750 | 2,800 | 1,590 | 1,590 |
| Burundi | | | | | |
| Rail/Lake via Kigoma | 1,680 | 2,380 | 2055 | n/a | n/a |
| Rail/Road via Isaka | 3,515 | 3,270 | 3510 | n/a | n/a |
| Road Route from Dar-es- | 3,975 | 4,275 | - | n/a | - |
| Salaam | 6,000 | 6,000 | 6000 | n/a | - |
| Road Route via Isebania | 6,000 | 6,000 | 6000 | - | - |
| Road Route via Malaba | | | | | |
| Alternative Routes | | | | | |
| Rail/Lake/Road via KBY | 4086 | 3871 | - | - | - |
| Rwanda | | | | | |
| Rail/Lake via Kigoma | 3280 | 5690 | 2860 | n/a | n/a |
| Rail/road via Isaka | 3515 | 3270 | 3510 | n/a | n/a |
| Road from Dar-es-Salaam | 3975 | 4275 | n/a | 3400 | n/a |
| Road via Isebania | 5400 | 5400 | 5400 | 5818 | n/a |
| Road via Malaba | 5400 | 5400 | 5400 | - | - |
| Alternative Routes | | | - | - | - |
| Rail/Lake/Road via KBY | 4,086 | 3,871 | - | - | - |

Note: Export coffee rate Kampala - Mombasa - US $1590

***Table 5.16 Charges Levied on Transit Vehicles***

| | Transit Goods Licence | Transit Charges | Transit Bond | Border Fees | Temporary Road Licence | Foreign Vehicle Permit (3 Months) | Toll Charges |
|---|---|---|---|---|---|---|---|
| Kenya | US$18 (12 Months) | US$8/100km | US$500 | - | US$445 (12 Months) | | - |
| Uganda | US$100 (12 Months) | US$27/100km | US$400 | | US$100 (Per Trip) | | US$0.34/ Station |
| Tanzania | | US$16/100km | Customs Levy US$200 (Semi Trailer) US$400 (Truck & Trailer) | - | - | US$60 (3 Months) | - |
| Rwanda | US$2 Transit Entry | US$8/100km | - | US$152 | - | - | - |
| Burundi | - | US$8/100km | - | US$152 | - | - | - |

Notes:

i) Temporary Road Licence in Kenya is valid for one year, at US $445.
ii) Transit Goods Licence is valid for one year in both Kenya and Uganda at US $18 and US $100 respectively.
iii) Foreign Vehicle Permit are valid for 3 months in Tanzania at US $60.
iv) Transit Charges are US $8/100 Kms in Kenya; US $27/100 Kms in Uganda and US $16/100 Kms in Tanzania.
v) Tanzania Customs Levy (for ferrying dutiable goods through Tanzania)
   For Semi-Trailer US$200
   For Truck and Trailer US$400

***Table 5.17 Transit charges (US $)***

| | Local Registered Truck | Foreign Registered Truck |
|---|---|---|
| Uganda | | |
| Malaba Road | US $285 | US $248 |
| Rwanda | | |
| Malaba Road | US $437 | US $400 |
| Isaka | US $572 | US $552 |
| Rail/Road | US $707 | US $670 |
| Isebania Road | US $572 | US $552 |
| Dar oad | | |
| Burundi | | |
| Malaba Road | US $589 | US $552 |
| Isaka rail/Road | US $724 | US $704 |
| Isebania Road | US $859 | US $802 |
| Dar Road | US $724 | US $704 |

The resulting transit charges structure for general cargo traffic is presented at Table 5.17. The Table indicates for example that transit charge in respect of a Burundi registered vehicle making a journey t o Isaka and returning to Burundi would incur transit charges equivalent to US$724.

A Tanzanian registered truck jour neying from Isaka to Burundi and returning to Isaka would however incur transit charges of US $704. This would be equivalent to about 20 percent of the US $3515 freight charges between Dar-es-Salaam, Isaka and Kigali/Bujumbura.

According to these figures (Table 5.18 ), transit charges are propo rtionately less for a foreign registered vehicle than a locally registered vehicle on the same journey. The Table also indicates that the road route from Mombasa via Isebania attracts the highest transit charges for Burundi traffic mainly arising from the need to cross two borders, and the length of the route.

## UNOFFICIAL COSTS OF VEHICLE OPERATIONS

Vehicle operations within the region, particularly along the northern corridor are also subject to polic e checks at make-shift road blocks operated by various police departments. Many laws in Kenya, fo r example, relating to vehicle operations delegate fairly wide powers of interpretation to police officers in the determination as to whether a vehicle or its operations comply wit h the laws of the country. In practice, these powers are improperly applied and their enforcement gives rise to corrupt practices in the transport industry, which reflect on the overall costs of vehicle operations. On the one hand vehicle operators do not often comply with the laws of the countries of o peration, choosing to "buy their way", as it were, while on the other hand, law enforcement officials themselves condone these corrupt practices by solicitin g "something small" from vehicle operators, even in the circumstances where vehicles comply with the law. It is understood that substantial sums of money are paid corruptly to officers enforcing road traffi c regulations. Interviews with drivers in Ke nya indicated that they spend the equivalent of US $18 to transit between Malaba and Momba sa. On average they spend at least US $2 per police road block. In Uganda, the police checks are fewer and they spend at least US $6 on police checks between the Kenya - Uganda border and Kampala paying at the rate of US $2 per police check. Similar bribes are solicited by police in Tanzania although the practice is not as widespread as in Kenya and Uganda.

***Table 5.18 Transit Charges Comparison by Truck Registration (General Cargo) (US $)***

| | Direct Freight Cost (30 ton cargo) | Transit Charges[48] | |
|---|---|---|---|
| | | Local Registered Truck | Foreign Registered Truck |
| Uganda<br>Road Route Malaba | 3,300 | 285(8.6) | 340(10) |
| Burundi<br>Malaba Road<br>Rail/Road Isaka<br>Road from DAR<br>Road via Isebania | <br>6,00<br>3,515<br>3,975<br>6,000 | <br>589(9.8)<br>724(20.5)<br>724(18)<br>859(14) | <br>552(9.2)<br>704(20)<br>704(18)<br>802(13.4) |
| Rwanda<br>Malaba Road<br>Rail/Road Isaka<br>Road from DAR<br>Road via Isebania | <br>5,400<br>3,515<br>4,275<br>5,400 | <br>437(8.1)<br>572(16.3)<br>572(13.4)<br>707(13.1) | <br>400(7.4)<br>552(15.7)<br>552(12.9)<br>670(12.4) |

Similarly, the operations of weighbridges within the region pose major threat to the overal l transportation margins in the movement of cargo. The enforcing of axle load limits implies less tonnage for most vehicles operated for transit cargo, and augurs unfavorably for many transporters, as income is dependent on tonnage. In practice, however, in the face of depressed market conditions, rate cutting i s rampant, and this has implied that the majority of transporters load above the axle load limits in order to maximise income per trip. Accordingly, the trans porters have either been prosecuted and fined large sums of money, or they have corruptly paid their way as discussed in the paragraph above. In all these cases the overall margins to the transporters are reduced.

# Chapter 6. Comparative Transportation Cost Analysis

## INTRODUCTION

In this chapter we provide an analysis of the costs of transportation of various types of cargo to various destinations using different modes. The comparative analysis assumes the transportation of imports, and enables the comparison of the cost effectiveness of each route and mode.

In the previous two chapters (4 and 5), we have identified four distinct cost categories related to transportation within the East African region. These are:

- port charges discussed together with port transit times;
- clearing and forwarding charges; and
- freight charges which include transit charges payable by transport operators officially and unofficially on transit.

We also present in this chapter a valuation of the transit time taken between the ships arrival at the port, and the time cargo is received at its destination in the landlocked countries in order to establish the cost of the capital funds locked up in transit. Even though nobody pays such charges when funds are not borrowed, they nevertheless constitute a cost to the shipper. The valued cost is aggregated with the three principal cost items above as a basis for establishing the total costs to the shipper.

## PORT CHARGES

It is widely reported in the literature that prior to 1992, port charges at Mombasa, at least as a result of the revision in 1989, made it the most expensive port in Eastern Africa, particularly compared to Dar-es-Salaam. However the revisions of the port tariffs at Dar-es-Salaam in 1992 reversed this situation, making Dar-es-Salaam port tariffs substantially higher than the equivalent rates at Mombasa. An amendment to the Dar-es-Salaam port tariff, effective January 1st 1994 would appear to be a response to an outcry against the relatively high tariffs. The January 1994 tariff disapplied amongst others the late documentation charges which were hitherto a major aspect of port charges at Dar-es-Salaam. Port charges at Mombasa were also amended, effective 1st January 1995, with the new tariff being more simplified, consolidating some major items of costs and eliminating the sensitivity of port charges to cargo values. As indicated in chapter IV, wharfage and shorehandling expenses were consolidated in this latter tariff, the result being a more competitive charge for port handling than previously. The January 1995 tariff at Mombasa has also been recently varied with effect from 1st December 1995 giving 20 percent concessionary rates for transit cargo through the port. However assuming a 40ft container carrying 30 tons of transit cargo valued at US $10,000, the shorehandling expenses at Mombasa would be US $150 compared to US $285 at Dar-es-Salaam. Similarly shorehandling for a similar cargo for export would be US $100 at Mombasa compared to US $205 at Dar-es-Salaam.

***Table 6.1 Comparative Port Charges (30 Ton Consignment as General Cargo and in 40ft Container) (Value = $US $10,000)***

| | Mombasa | | | | Dar-es-Salaam | | | |
|---|---|---|---|---|---|---|---|---|
| | General Cargo | | Container | | General Cargo | | Container | |
| | Domestic | Transit | Domestic | Transit | Domestic | Transit | Domestic | Transit |
| Wharfage | - | - | - | - | 150 | 125 | 150 | 125 |
| Shore-handling | 360 | 240 | 180 | 150 | 160 | 140 | 180 | 160 |
| Customs Verification | - | - | 150 | - | - | NIL | - | - |
| Late Documentation | 60 | - | 25 | - | - | - | - | - |
| Storage | 240 | 90 | 200 | 120 | 90 | - | 120 | - |
| Total | 660 | 330 | 555 | 420 | 400 | 265 | 450 | 285 |
| Per Ton | 22 | 11 | 18.5 | 14.0 | 13.3 | 8.83 | 15 | 9.5 |

At the port of Dar-es-Salaam, domestic general cargo import attract wharfage charges at 1.5 percent of CIF value, which is higher than the rate for transit cargo at 1.25 percent. Bulk liquid imports attrac t wharfage at 1.5 percent of CIF value. The wharfage rate for exports at Dar-es-Salaam is however equal for both domestic and transit cargo, at 1 percent of CIF value.

For shorehandling services, a direct comparison between Mombasa and Dar-es-Salaam is not possible because the charges at Mombasa consolidate wharfage, which is charged separately at Dar-es-Salaam . Similarly, port storage charges at Dar-es-Salaam and Mombasa cannot be directly compared because of the difference in the methods of charging for storage. For conventional cargo, Mombasa charges US $ 1/HT/day for domestic cargo (with two days grace period while for transit cargo, the charges are US $0.5 (with a grace period of 4 days). However, at Dar-e s-Salaam, there are grace periods of 7 and 15[49] days for domestic and transit cargo, respectively, and the charges for the firs t 30 days are US $1 per ton day for both domestic and transit general cargo, and US $20 per TEU for both domestic and transit cargo.

In order to illustrate the relative port charges at Mombasa and Dar-es-Salaam, comparison is made of a hypothetical scenario in which a 30 ton import general cargo and a 40ft container arrive at each port on the 1st of the month and ready for delivery on the 15th of the month, with documents presented on the 6th of the month, and cargo actually collected on the 25th of the month, (see Table 6.1). The Table indicates that:

- While the consolidated shorehandling charges at Mombasa are less than the equivalent charges at Dar-es-Salaam, the additional costs in respect of verification of containers, late documentation charges and storage charges combine to make charges at Mombasa more expensive than equivalent charges at Dar-es-Salaam.

- Specifically, when compared with Dar-es-Salaam, the charges for domestic cargo at Mombasa would be higher by 65 percent and 23 percent of equivalent charges for general cargo and containers, respectively, at Dar-es-Salaam with the charges being US $13.3 per ton for general cargo and US $15.0 per ton for container cargo at Dar-es-Salaam compared to US $22 per ton for general cargo and US $18.5 per ton for container cargo in Mombasa. Similarly, charges for transit cargo at Mombasa are more expensive than the equivalent charges at Dar-es-Salaam with the charges in Mombasa being US $11 per ton for general cargo and US $14 per container compared to US $8.83 per ton for general cargo and US $9.5 for containers in Dar-es-Salaam.

- At Mombasa, however, overall domestic charges for both general cargo and containers are higher than equivalent transit rates: the estimated Mombasa domestic port charges for conventional cargo at US $22 per ton are 19 percent higher than the port charges for containerised cargo at US $18.5, per ton: similarly charges for domestic general cargo would be double the equivalent transit charges, and domestic containerised cargo would however be 32 percent higher than equivalent transit charges.

- Similarly, at Dar-es-Salaam, the domestic cargo port charges are about 51 percent and 58 percent above equivalent transit cargo port charges, for general cargo and containers, respectively.

## PORT TRANSIT TIMES

At both ports, Mombasa and Dar-es-Salaam, there are bottlenecks with presentation, acceptance andprocessing of documents which have been indicated to be associated with:

- inefficiency of the customs offices to whom documents are submitted before they are presented and accepted, and the cumbersomeness of their procedures;
- the unavailability of sufficient pertinent information about the cargo; and
- the inability of CFA's to deal timely and cost effectively with all the players in the chain.

But perhaps the most important factor affecting port dwell time is the availability of transport once the cargo has been processed and cleared for delivery. At both ports, the availability of wagons is a major issue; at Mombasa KRC has been consistently unable to move traffic on offer, while at Dar-es-Salaam TRC had, at December, 1995, some 200,000 tons of cargo, both domestic and transit, waiting for wagons to be available. The issue of wagon availability has been discussed at length in Chapter 2.

There are also many other factors external to the port which are responsible for the long dwell times at the port, particularly for Dar-es-Salaam. Poor communication network between Tanzania and neighbouring countries is a major problem and drawback to the use of the port of Dar-es-Salaam. Lack of direct phone/fax communication between the countries has made it difficult for Bills of Lading to be issued directly in Kampala, Bujumbura or Kigali. Thus importers do not benefit from the 15 day free storage period for transit cargo. Similarly combination of cash flow problems among parastatal importers, cumbersome procedures, and a less than fully motivated customs services have been cited for the long dwell times at the port for domestic cargo. It is also believed that it is for these reasons that the hitherto applicable late documentation charges has been disapplied, probably because a high proportion of imports were subjected to it.

Available information suggest that the average dwell time for the port of Mombasa is in the order of 13 days, with a high proportion of cargo being cleared within 6 days. It is indicated that most importers have not taken advantage of customs regulations which provide for pertinent documents to be submitted

before ships arrival - this is also true for Dar-es-Salaam. Similarly, available statistics for the port of Dar-es-Salaam indicate that overall, the average dwell time at the container terminal during September 1995 was 28.6 days, up from 12.6 days as at September 1992. Specifically the average dwell time, in days, for cargo destined to the various LLCs during September 1992 and 1995 were as follows:

| | September 1992 | September 1995 |
|---|---|---|
| Local | 23.3 | 48.7 |
| Uganda | 64.4 | 36.7 |
| Burundi | 20.8 | 34.2 |
| Rwanda | 11.5 | 24.9 |
| Zaire | 20.5 | 52.1 |

It is clear therefore that the average dwell time at the port of Dar-es-Salaam has been increasing particularly for local traffic. The lower dwell times for transit traffic might reflect the flexibility that the THA has shown for transit traffic, making deliberate efforts not only to ensure smooth passage but also to attract more through the port. The shorter transit times for transit cargo at Dar-es-Salaam could also be related to better availability of transport (than for domestic cargo) to the LLCs. It is to be remembered that Burundi has provided a significant amount of road transport capacity for their own cargo, and where they rely on the TRC, block trains are operated which is not the same for domestic cargo. For the purposes of this study we estimate that the average dwell time at the port of Dar-es-Salaam for LLC traffic is 22 days.

## CLEARING AND FORWARDING CHARGES

Clearing and forwarding agents have a role to ensure speedy and safe delivery of goods, in the process providing close control by recording and monitoring of cargo movement from point of despatch to point of destination, and eventual delivery to the consignee. While this statement may be seen as an oversimplification of the concept of clearing and forwarding, it nevertheless sheds light that in as much as market conditions prevail, the clearing and forwarding business charges are dependent not only on the number of transactions a CFA undertakes on behalf of the consignee, but also on the level of effort or detail required for each transaction.

At Mombasa there are over 400 registered clearing and forwarding agents, compared to 600 at Dar-es-Salaam. At both ports CFAs range from individual briefcase agents to large parastatals and multinationals. It is understood that there are many inexperienced CFAs without the necessary training and adopting a trial and error approach in the clearance of cargo, who are also dishonest in the execution of duties. It is also believed that the cumbersome customs and other procedures have been introduced to combat what appeared to be dishonesty on the part of CFAs or receivers of goods. Accordingly it has been suggested that the procedures for issue of licences for CFAs should be made more stringent in the future, particularly for those CFAs who would want to handle transit traffic.

While an atmosphere exists for fair competition, this is rarely achieved: parastatals and multinationals command a high proportion of the cargo at the two ports through prior agreements and arrangements. In this way, their charges reflect more prior negotiations than what the market would bear over a period of time. In the case of Dar-es-Salaam, for example, AMI has controlled as much as 50 percent of the cargo to and from ZBR countries, (although this dropped to about 20 percent in 1995). The CFAs charges for this cargo has been quite different from the charges for the rest of the cargo at Dar-es-Salaam. Likewise *STIR* and *Transocean* have previously controlled large proportions of cargo for Rwanda and Uganda, respectively.

On the other hand, there are the small and medium sized agents who face stiff competition amongst themselves first because of their relative large numbers, and because of the reduced cargo volumes. Against this background, quoted rates for different services vary greatly. But perhaps the most significant issue is the number of transactions and the details of involvement which clearly put Mombasa at a great disadvantage compared to Dar-es-Salaam. Most transit cargo from Mombasa inevitably crosses more than one border, as compared to transit traffic from Dar-es-Salaam where there is only one crossing. The crossing of two borders entails increased transactions at both Mombasa and the respective border posts. Similarly, the detailed customs and security procedures at Mombasa, including verification of containers, posting of security bonds, involvement with the police and escort convoys, cancellation of bonds, etc., generate costs that are over and above equivalent costs at Dar-es-Salaam.

On the basis of these issues, clearing and forwarding charges at Mombasa remain disaggregated with varying rates for different services. At Dar-es-Salaam, however, they are more aggregated, and quotations are more or less based on consignments. For example, *AMI*, which manages part of the port of Dar-es-Salaam, quotes a flat rate per harbour ton for ZBR cargo. Other agents quote rates based on CIF for general cargo and aggregated agency fees which is inclusive of subsidiary charges incidental to the consignment. For purposes of comparison, we assume the following charges.

***Table 6.2 Freight Rates per Ton (US $)***

| | Imports | | | Exports | |
|---|---|---|---|---|---|
| | General Cargo | Containers | POL | General Cargo | Containers |
| Uganda | | | | | |
| All Rail Route | 124 | 96 | 138 | 86 | 68 |
| Rail/Lake via Kisumu | 111 | 96 | 137 | 80 | 70 |
| Rail/Lake via Mwanza | 88 | 104 | 96 | 70 | n/a |
| Rail Route via Malaba/Busia | 110 | 125 | 93 | 53 | 53 |
| Burundi | | | | | |
| Rail/Lake via Kigoma | 56 | 79 | 69 | n/a | n/a |
| Rail/Road via Isaka | 117 | 113 | 117 | - | - |
| Road/Route from Dar | 133 | 143 | | - | - |
| Road Route via Isebana | 200 | 200 | 200 | - | - |
| Road Route via Malaba[14] | 200 | 200 | 200 | - | - |
| Alternative Routes | | | | | |
| Rail/Lake Road via KBY | 136 | 129 | - | - | - |
| Rwanda | | | | | |
| Rail/Lake via Kigoma | 109 | 133 | 95 | n/a | n/a |
| Rail/Road via Isaka | 117 | 113 | 117 | - | - |
| Raod from Dar-es-Salaam | 113 | 143 | n/a | - | - |
| Raod via Isebania | 180 | 180 | 180 | - | - |
| Raod via Malaba | 180 | 180 | 180 | - | - |
| Alternative Routes | | | | | |
| Rail/Lake/Raod via KBY | 136 | 129 | - | - | - |

Agency fees:

| | Mombasa | Dar-es-Salaam |
|---|---|---|
| General Cargo | 0.85% - 1.25% CIF | 1% CIF[50] 17.20/HT[51] |
| Containers | as above | US$200 -350/TEU |
| Bond fees | 1.25% BIF[52] (or 0.8% CIF) | 1% of BIF (BIF=150% of custom duty) |
| Local delivery | US$80/TEU | US$350/TEU (AMI) |

On the basis of the above Table, C&F charges at Mombasa would approximate 6.5 percent of CIF compared to 3.5 percent of CIF at Dar-es-Salaam. Appendix V shows typical schedules of charges for two Mombasa based CFAs, and one based in Kampala, and typical invoices from STIR in Mombasa for cargo and a motor vehicle cleared for Rwanda. CFA charges in respect of these consignments were 7.3 percent CIF per TEU, with cargo valued at Kshs.760,702 (US $11,000) and 18 percent for clearing a car valued at Kshs.62,623 (US $900).

## DIRECT FREIGHT COSTS AND TRANSIT TIMES

The direct freight costs are the actual charges quoted by the transport firms for moving the cargo from Mombasa and Dar-es-Salaam to various destinations. As we have indicated, direct freight costs in respect of road transport include official and unofficial charges payable by the transporter in transit. At Table 6.2, we provide the comparative costs per ton, assuming a 30 ton general cargo, container, and petroleum products, based on the direct transportation freight costs discussed in chapter V and presented in Table 5.14. For ease of interpretation, the country analyses are provided below.

### *Uganda*

The cheapest routes to Uganda, in terms of direct costs of transportation are the all rail route via Malaba for containers, and the rail/ferry route via Mwanza for general cargo. The all rail route has the advantage of much shorter transit times achieved through block trains operating between Mombasa and Kampala, averaging 3 - 4 days. Conversely the most expensive routes to Uganda are the road route via Malaba for containers, and the all rail route for general cargo. Therefore as containerisation of cargo become dominant, KRC and URC are the most convenient operators for Uganda transit cargo.

The rail/ferry alternative from Dar-es-Salaam via Mwanza to Kampala has had major capacity limitations, and reports available indicate that for a long time the turnaround time for wagons on this route was something in the order of 6 months[53]. This was expected to drop to around 2 months once the new URC rolling stock were delivered, and the Emergency Rehabilitation Program for TRC was completed. URC received some wagons from Zimbabwe and Spain in 1992, and thus the capacity on the route has been improved. A study completed in 1992 indicates that the 1991 average transit time for wagons on this route was 28 days, but was further targeted to 25 days in 1992. In 1995, it was indicated that wagon turnaround between Dar-es-Salaam and Mwanza was 13 days, making the outward journey about 6 days. It is also indicated that the transit time between Mwanza and Kampala is only 2 days, but that because of transhipment this may be as much as 5 days. This thus makes the average transit time only 11 days against the projected 22 days in 1992. Therefore, in our analysis of transit time, we have recognized that the port transit time at Dar-es-Salaam averages 22 days which together with the 11 days transit time makes a total of 33 days on this route.

It is envisaged that the transit time of the road/rail component of this route will be greatly improved with reduced reliance on TRC, when the road route from Dar-es-Salaam - Mwanza will be fully paved. As already indicated, most sections of the unpaved road between Dodoma and Mwanza are earmarked for upgrading under the ongoing IRP I, and under the IRP II which started in 1995. The improved road will facilitate greater use of road transport between Dar-es-Salaam and Mwanza. However, the lack of linkspans at both Mwanza and Port Bell will restrict movement of cargo to rail wagons only, rather than on the road vehicles, on the wagon ferries.

The rail/lake route from Mombasa via Kisumu to Kampala is probably the second most favorable Uganda route for general cargo in terms of direct freight rates. Similarly despite the higher cost, the all road route via Malaba has the advantage of transit times in the order of 7 - 10 days, including the waiting time at Nakawa, the customs port outside Kampala. If the transit time at the port of Mombasa, estimated at 13 days, is included then this route would have an overall transit time of 23 days.

### *Burundi*

A fairly similar picture (as that of Uganda) emerges for direct transportation costs to Burundi. The rail/lake route via Kigoma with calculated direct costs US$56/ton for general cargo US $ 79/ton for containers is the most cost effective route to Burundi via Dar-es-Salaam. The Kigoma route is, however, characterised with low volume of cargo such that trains are only operated on demand and although it takes only 48 hours journey time, the transit time to Kigoma is about 15 days. The transit time between Dar-es-Salam and Bujumbura has however been estimated at 6 weeks with about 2 - 3 months between the time the cargo arrives at the port of Dar-es-Salaam until it is delivered to the consignee in Bujumbura. In our analysis, we have estimated that it would take an average of 18 days to Bujumbura on this route, and 22 days to Kigali in both cases excluding the port transit times at Dar-es-Salaam.

It would appear that the rail/road route via Isaka is the greatest advantage of the Central Corridor. In terms of direct costs, this route averages $117/ton for general cargo and US $113 for container imports, for both Rwanda and Burundi (see Table 6.2). In the short time that it has been operational, between 1992 and 1995, import traffic to Rwanda and Burundi via Dar-es-Salaam increased from 172,105 tons to 411,977 tons, equivalent to 139 percent, thus making this route responsible for some 200,000 tons of import traffic to these countries in both 1993 and 1994. Despite the higher direct cost structure, the transit time on this route is about 10 days from Dar-es-Salaam to Burundi and Rwanda. This route has the greatest potential for ZBR cargo.

The road route between Dar-es-Salaam and Burundi and Rwanda has lower direct costs for both container and general cargo import traffic, compared to the Mombasa - Isebania - Mwanza Burundi/Rwanda road route, and the Mombasa - Malaba - Kampala road route to Burundi. The former road is also shorter, 1821 Kms, compared to 2156 Km and 2042 Km for the latter two, respectively. It is also estimated that the transit time on the Mombasa - Isebania route would be about 30 days against Dar-es-Salaam - Isaka, estimated to be a total of 29 days, and Mombasa - Malaba which would be some 24 days.

### *Rwanda*

At the time of this study, there was no operational route to Rwanda because of the civil war which cut off links with Kigali. The nearest destination to Kigali during this period of unrest was Ngara in Northern Tanzania, where there was a refugee camp. The nature of relief aid operations to Ngara required quick transport, as food supplies were in large volumes and the need to transport it in good time. AMI alone in Dar-es-Salaam had some 25,000 tons of food aid to be delivered in June 1994.

The direct costs to Rwanda should be little different from those from Burundi, except for the rail/lake route via Kigoma. The transit times to Rwanda are also not significantly different on most routes except for the two above: the transit time to Rwanda via the Northern Corridor route is about three to four days shorter than that for Burundi, while on the Kigoma route, the transit time to Rwanda is again three to four days higher than for Burundi.

## THE ALTERNATIVE ROUTES

In the previous chapters two alternative routes have been identified for Rwanda and Burundi. The road/lake/road route from Mombasa via Kisumu and Kemondo Bay in Northern Tanzania perhaps offers the not-too long distant option. This alternative route require some investment for its potential to be realised, and may have commercial limitations which would need to be addressed.

Notwithstanding the above, the route via Kemondo Bay would offer Rwanda and Burundi the cheapest alternative route in the Northern Corridor in terms of direct costs of transportation, and an average of US $136 per ton for general cargo and US $129 per ton for 30 ton cargo (Table 6.2). This can be compared to US $117 and US $113 respectively on the rail/road Isaka system. In both cases it has been assumed that road transport costs from Kemondo Bay to Kigali and Bujumbura would be the same at US $30 per ton, inclusive of transhipment charges.

## VALUATION OF COSTS OF TRANSIT TIMES

Transit time refers to the time between ships arrival and receipt of cargo by the importer (in case of imports) and vice versa in the case of exports. A detailed analysis of the transit times through the ports of Mombasa and Dar-es-Salaam has been presented in the preceding sections. The concern with transit time arises from overall costs financing imports and the long lead times that is common in securing imports licences in the landlocked countries. There is often the need to rush the movement of import cargo in order to provide continuity of operations in those sectors which require imported inputs. The estimated comparative transit times for each route to the landlocked countries are presented at Table 6.3.

***Table 6.3 Transit Times by Route (days)***

| | Port Transit[54] | Journey Time | Trans-Shipment/Off Loading | Total |
|---|---|---|---|---|
| Uganda | | | | |
| Malaba - Rail | 13 | 4 | 5 | 22 |
| Kisumu - Rail/Lake | 13 | 13[55] | 5 | 31 |
| Mwanza - Rail/Lake | 22 | 6 | 7 | 35 |
| Malaba - Road | 13 | 4 | 6[56] | 23 |
| Burundi/Rwanda | | | | |
| Kigoma - Rail/Lake | 22 | 4 | 14(18)[58] | 40(44) |
| Isaka - Rail/Road | 22 | 8[57] | 2 | 32 |
| Dar - Road | 22 | 5 | 2 | 29 |
| Isebania - Road | 13 | 15 | 2 | 30 |
| Malaba - Road | 13 | 10 | 2 | 26(25) |
| Alternative Routes | | | | |
| Kemondo Bay - Rail/Lake/Road | 13 | 13 | 5(7)[59] | 31(33)[60] |

If it is assumed that the normal budgeted transit time for an importer is 12 days for Uganda traffic and 15 days for Rwanda/Burundi traffic, then the figures at Table 6.3 indicate that there is no route within the region by

which this can be achieved. Specifically the estimated transit time for all routes to Rwanda/Burundi are in excess of 15 days, with the lowest 25 days being the all road Northern Corridor route and the highest 44 days to Rwanda via Kigoma. In this situation, the transit times for all the routes in the region result in excess funding costs (assumed overdraft required for imports and/or erosion of the value of local currency in times of inflation) such that the importer ends up paying more local currency funds than contracted with banks at the time of negotiating overdraft (in local currency but tied to foreign currency rates). We assume an annual 20 percent interest rate for overdraft and an annual 20 percent inflation on the average for all the three countries, a total of 40 percent. The additional costs to the importer, borne out of longer than budgeted transit time, would be given as:

$$(TT - BT) \times \frac{40\%}{365} \times (CIF + \text{Inland Freight} + CFA\ Charges + Port\ Charges)$$

Where TT is total transit time (days)
BT is budgeted transit time (days)
CIF is taken at US$10,000

***Table 6.4 Valuation of Transit Time (General Cargo)***

| Routes | TT - BT (days) | CIF Value US$ | CFA Charges US$ | Port Charges US$ | Inland Transport US$ | Total Borrowing US$ | Additional Cost (general cargo) US$ |
|---|---|---|---|---|---|---|---|
| Uganda | | | | | | | |
| Malaba-Rail | 10 | 10,000 | 650 | 330 | 3,722 | 14,702 | 161 |
| Kisumu-Rail/Lake | 19 | 10,000 | 650 | 330 | 3,325 | 14,305 | 289 |
| Mwanza-Rail/Lake | 23 | 10,000 | 350 | 265 | 2,636 | 13,251 | 334 |
| Malaba-Road | 11 | 10,000 | 650 | 330 | 3,300 | 14,280 | 172 |
| Rwanda | | | | | | | |
| Kigoma-Rail/Lake | 29 | 10,000 | 350 | 265 | 3,280 | 13,895 | 441 |
| Isaka-Rail/Road | 17 | 10,000 | 350 | 265 | 3,515 | 14,130 | 263 |
| Dar-Road | 14 | 10,000 | 350 | 265 | 3,975 | 14,590 | 224 |
| Isebana-Road | 15 | 10,000 | 650 | 330 | 5,400 | 16,380 | 269 |
| Malaba-Road | 10 | 10,000 | 650 | 330 | 5,400 | 16,380 | 179 |
| Burundi | | | | | | 12,295 | |
| Kigoma-Rail/Lake | 25 | 10,000 | 350 | 265 | 1,680 | 14,130 | 337 |
| Isaka-Rail/Road | 17 | 10,000 | 350 | 265 | 3,515 | 14,590 | 263 |
| Dar-Raod | 14 | 10,000 | 350 | 265 | 3,975 | 16,980 | 224 |
| Isebania-Road | 15 | 10,000 | 650 | 330 | 6,000 | 16,980 | 279 |
| Malaba-Road | 11 | 10,000 | 650 | 330 | 6,000 | | 205 |
| Alternative Routes | | | | | | | |
| Kemondo Bay-Rail/Lake/Road | 16 | 10,000 | 650 | 330 | 4,086 | 15,066 | 264 |

***Table 6.5 Valuation of Transit Time (Containers) (US $)***

| Routes | TT - BT (days) | CIF Value US$ | CFA Charges US$ | Port Charges US$ | Inland Transport US$ | Total Borrowing US$ | Additional Cost (general cargo) US$ |
|---|---|---|---|---|---|---|---|
| Uganda | | | | | | | |
| Malaba-Rail | 10 | 10,000 | 650 | 420 | 2,882 | 13,952 | 153 |
| Kisumu-Rail/Lake | 19 | 10,000 | 650 | 420 | 2,882 | 13,952 | 290 |
| Mwanza-Rail/Lake | 23 | 10,000 | 350 | 450 | 3,119 | 13,919 | 351 |
| Malaba-Road | 11 | 10,000 | 650 | 420 | 3,750 | 14,820 | 177 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Rwanda | | | | | | | |
| Kigoma-Rail/Lake | 29 | 10,000 | 350 | 450 | 3,980 | 14,780 | 470 |
| Isaka-Rail/Road | 17 | 10,000 | 350 | 450 | 3,270 | 14,070 | 262 |
| Dar-Road | 14 | 10,000 | 350 | 450 | 4,275 | 15,075 | 231 |
| Isebana-Road | 15 | 10,000 | 650 | 420 | 5,400 | 16,470 | 271 |
| Malaba-Road | 10 | 10,000 | 650 | 420 | 5,400 | 16,470 | 180 |
| Burundi | | | | | | | |
| Kigoma-Rail/Lake | 25 | 10,000 | 350 | 450 | 2,380 | 13,180 | 361 |
| Isaka-Rail/Road | 17 | 10,000 | 350 | 450 | 3,270 | 14,070 | 262 |
| Dar-Raod | 14 | 10,000 | 350 | 450 | 4,275 | 15,075 | 231 |
| Isebania-Road | 15 | 10,000 | 650 | 420 | 6,000 | 17,070 | 281 |
| Malaba-Road | 11 | 10,000 | 650 | 420 | 6,000 | 17,070 | 206 |
| Alternative Routes | | | | | | | |
| Kemondo Bay-Rail/Lake/Road | 16 | 10,000 | 650 | 330 | 3,871 | 14,941 | 262 |

Based on the above, the additional costs applicable for general cargo traffic are as given in Table 6.4. The Table shows the additional transit time costs as higher for the Mwanza rail/lake route (for Uganda), and the Kigoma rail/lake route (for both Rwanda and Burundi). Similarly the Malaba rail route has the lowest additional transit time costs for Uganda, while the Malaba road would have the lowest transit time cost to both Rwanda and Burundi. The additional costs applicable to container traffic are as in Table 6.5. The Table indicates a similar cost pattern for routes with respect to general cargo traffic as describe d above.

## COMPARATIVE COSTS OF TRANSPORTATION

The total costs of transporting a 30 ton consignment, (general cargo and containers) each with a CIF value of US$10,000 on port landing using various routes are as given in Table 6.6 . The figures given in thi s Table are the sum of port charges (Table 6.1), clearing and forwarding charges, estimated at 6.5 percent of CIF for Mombasa and 3.5 percent of CIF at Dar-es-Salaam. It also includes the costs of inlan d transportation via different modes and routes as contained in Tables 5.13 and 6.2. Finally it comprises the cost related to transit times in excess of the expected normal transit time as given in Tables 6.4 and 6.5. Table 6.6 also gives an indication of the related unit costs.

***Table 6.6 Summation of Transportation Costs (US $)***

| | General Cargo | | Containers | |
|---|---|---|---|---|
| | 30 Tons | Unit Cost / US $ | 30 Tons | Unit Cost / US $ |
| Uganda | | | | |
| Malaba - Rail | 4,863 | 162 | 4,105 | 137 |
| Kisumu - Rail/Lake | 4,603 | 153 | 4,242 | 141 |
| Mwanza - Rail/Lake | 3,585 | 120 | 4,270 | 142 |
| Malaba - Road | 4,452 | 148 | 4,997 | 167 |
| Rwanda | | | | |
| Kigoma - Rail/Lake | 4,336 | 145 | 5,250 | 175 |
| Isaka - Rail/Road | 4,393 | 146 | 4,332 | 144 |
| Dar - Road | 4,814 | 160 | 5,306 | 177 |
| Isebania - Road | 6,649 | 222 | 6,741 | 225 |
| Malaba - Road | 6,559 | 219 | 6,650 | 222 |

| | | | | |
|---|---|---|---|---|
| Burundi | | | | |
| Kigoma - Rail/Lake | 2,632 | 88 | 3,541 | 118 |
| Isaka - Rail/Road | 4,393 | 146 | 4,332 | 144 |
| Dar - Road | 4,814 | 161 | 5,306 | 177 |
| Isebania - Road | 7,259 | 242 | 7,351 | 245 |
| Malaba - Road | 7185 | 240 | 7,276 | 243 |
| Alternative Routes | | | | |
| Kemondo Bay -Rail/Lake/Road | 5,330 | 178 | 5,203 | 173 |

These figures indicate a fairly uniform cost pattern for all the four routes to Uganda, except for the Malaba route which appears to be about 20 percent more costly than the other three which have no clear cost advantage against each other. However, the cost patterns for the routes to Rwanda and Burundi depict a wide range with the road routes from Kenya being the most costly. The Isaka rail/road system is perhaps the most cost effective route to Rwanda, and Burundi for all categories of cargo. However, the rail/lake Kigoma connection is also preferable for Burundi traffic. Thus, the cost patterns of the routes to Rwanda and Burundi favor the routes from Dar-es-Salaam on the TRC which may reflect the shorter distances between Dar-es-Salaam and Rwanda/Burundi than from Mombasa. The Isaka rail/road system has the greatest potential for ZBR cargo.

Table 6.6 also shows that containerised traffic have little advantage over general cargo traffic, except for Uganda for which containerised traffic exhibit a clear advantage on the all rail route from Mombasa, and for the Kisumu rail/ferry connection. For Rwanda and Burundi, containerised cargo is clearly more costly to move. For road routes both containers and general cargo exhibit similar cost patterns. It is also clear that the costs of transportation related to the road mode are generally higher than the equivalent rail or rail/ferry combinations. Notwithstanding however, road transport will continue to play a significant role in the movement of transit cargo, mainly because of its flexibility and its already established capacity particularly for Rwanda and Burundi. It is also clear that routes will be favored more for their transit convenience rather than cost structure. The rail routes from both Mombasa and Dar-es-Salaam are much dependent on KRC and TRC capacities, respectively, both of which have limitations. Thus when fully rehabilitated, the road route from Dar-es-Salaam to Rwanda and Burundi will probably carry significant amounts of transit traffic, particularly for urgent cargo. The Dar-es-Salaam - Mwanza road will probably serve the same purpose. Similarly, the road route along the Northern Corridor to Rwanda and Burundi offers the greatest competition to the Isaka rail/road system. Although without a comparative cost advantage, it is an established route system, paved most of the way, and in the short run competes very favorably with any other road route to these countries, particularly in terms of convenience to the transport operator. Finally, if the Kisumu - Kemondo Bay route were to be developed, its attractiveness for Rwanda and Burundi traffic will depend on the extent to which the road mode can be utilized, rather than rail wagons.

## COST PROPORTIONS

The results presented in Table 6.6 indicates that the landlocked countries are currently paying between 40 - 50 percent (for Ugandan cargo) and 45 - 75 percent (for Rwanda and Burundi cargo) of CIF values of import cargo as total transport costs from the time the cargo is landed at the ports to the time it is received in the respective countries, depending on mode or route used[61]. Direct freight costs are the major cost items: for general cargo traffic direct freight costs account for between 64 percent and 88 percent for all routes, see Table 6.7.

## SENSITIVITY ANALYSIS ON PORT TRANSIT TIMES

In this sensitivity analysis the estimated port transit times of 13 days for Mombasa, and 22 days for transit traffic at Dar-es-Salaam are doubled to 26 and 44 days respectively. The effect of increased port transit time is to increase the additional costs calculated and presented in Tables 6.4 and 6.5.

The results of the sensitivity analysis indicate that the validated transit cost as defined (ships arrival to receipt of cargo in the landlocked country), increases by between 50 percent and 100 percent for the two rail/lake routes (Kisumu 68 percent, Mwanza 96 percent, Kigoma/Rwanda 76 percent, Kigoma/Bujumbura 87 percent) and by over 100 percent for all road routes in the region, except the Isebania route from Mombasa which increases by only 86 percent.

However, of more significance is the increase in total costs of transportation, which according to the analysis increases by about 1.4 percent for Mombasa based routes, and 2.4 percent for Dar-es-Salaam based routes. In terms of value, the doubling of port transit times increases the overall costs through Mombasa by between US $200 - 300, while for Dar-es-Salaam routes, the increase is some US $250 - 350.

***Table 6.7 Cost Proportions ( percent)***

| Routes | CFA Charges | Port Charges | Inland Transport | Additional Cost (transit time) |
|---|---|---|---|---|
| Uganda | | | | |
| Malaba - Rail | 13 | 7 | 77 | 3 |
| Kisumu - Rail/Lake | 14 | 7 | 72 | 7 |
| Mwanza - Rail/Lake | 10 | 7 | 74 | 9 |
| Malaba - Road | 15 | 7 | 74 | 4 |
| Rwanda | | | | |
| Kigoma - Rail/Lake | 8 | 6 | 76 | 10 |
| Isaka - Rail/Lake | 8 | 6 | 80 | 6 |
| Dar - Road | 7 | 6 | 83 | 4 |
| Isebania - Road | 10 | 5 | 81 | 4 |
| Malaba - Road | 10 | 5 | 82 | 3 |
| Burundi | | | | |
| Kigoma - Rail/Lake | 13 | 10 | 64 | 13 |
| Isaka - Rail/Lake | 8 | 6 | 80 | 6 |
| Dar - Road | 7 | 6 | 83 | 4 |
| Isebania - Road | 9 | 5 | 88 | 3 |
| Malaba - Road | 9 | 5 | 84 | 2 |
| Alternative Routes | | | | |
| Kemondo Bay - Rail/Lake/Road | 12 | 6 | 77 | 5 |

# Chapter 7. Conclusions, Recommendations and Route Options

## INTRODUCTION

The major objective and scope of this study can be broadly summarized as providing recommendations on how landlocked countries may minimize costs of transporting goods from the two East African ports of Mombasa and Dar-es-Salaam. In this chapter we summarize the major findings and conclusions of the study including the existing constraints and weaknesses, on the basis of which recommendations to minimize the costs of transportation within the region are advanced. The recommendations feature both the development of new cost-effective routes, and how the existing routes might be made more competitive and cost-effective either through interventions on current policies, or through additional investments.

## SUMMARY OF FINDINGS AND CONCLUSIONS

The findings of this study can be categorised under the following headings, namely:

- major regional routes
- potential new routes
- freight flows
- major cost components
- overall costs of transportation
- constraints and weaknesses

Similarly the rest of the chapter is structured into:

- Recommendations
- Route Options

## MAJOR REGIONAL ROUTES

There are eight transit rail/lake/road routes which are operational in the region. Among the routes, five originate from Mombasa while three originate from Dar-es-Salaam. There is only one all railway route from Mombasa via Malaba to Kampala and Kasese. The commonly used road routes from Mombasa are three:

- Mombasa - Nairobi - Malaba - Kampala: this route which is the traditional Northern Corridor route to Rwanda and Burundi is currently inoperational beyond Uganda;
- Mombasa - Nairobi - Nakuru - Kisii - Isebania - Mwanza - Biharamulo (through both Kenya and Tanzania); and
- Mombasa - Nairobi - Nakuru - Kisumu - Busia - Kampala.

All other routes combine the usage of rail/lake/road infrastructures. These include:

- Mombasa - Nairobi - Kisumu - Port Bell - Kampala (rail/lake)
- Dar-es-Salaam - Isaka - Biharamulo - Kigali - Bujumbura (rail/road)
- Dar-es-Salaam - Kigoma - Bujumbura - Kigali (rail/lake/road)
- Dar-es-Salaam - Tabora - Mwanza - Port Bell - Kampala (rail/lake)

### *Potential New Routes*

This study considered three alternative road routes via Taveta from Mombasa, via Biharamulo to Kampala from Dar-es-Salaam and via Namanga from Dar-es-Salaam to Kampala. Two alternative rail/lake routes, Tanga - Musoma - Port Bell, and Mombasa/Kisumu/Kemondo Bay to Rwanda and Burundi were also considered. Finally the rail/road route from Mombasa via Kampala and Kasese to Rwanda and Burundi was also considered.

Of the six potential alternative routes, only the Mombasa - Kisumu - Kemondo Bay route was selected for cost analysis, while the other five were considered to have no potential economic advantages in terms of costs required and benefits envisaged at least in the short term.

For example while studies have shown that the establishment of transit facilities at Kasese would greatly benefit North Eastern Zaire, if the Zairean traffic is high enough to justify an ICD at Kasese, the lack of a good road connection between Kasese and Kagitumba in Rwanda would increase the cost of the required investment to rehabilitate and eventually overhaul the railway network between Kampala and Kasese. This investment is, however, considered unjustifiable in the light of low traffic demands from Rwanda and Burundi, coupled with the abandonment of copper works at Kilembe. This alternative route would not in any case be superior to the Kampala - Masaka - Kagitumba road access to Rwanda which potentially requires investment funds to a much lesser extent.

It is considered that the potential alternative route via Kisumu and Kemondo Bay has the greatest potential for ZBR cargo in the short/medium term. While it has most infrastructure in place, its viability depends on the speed at which the road connection between Kemondo Bay and Biharamulo (160 Km) 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. A further study has been undertaken on this project within the framework of the Integrated Road Project (IRP), and includes the improvement of the entire 270 Km Lushaunga - Biharamulo - Bukoba - Mtukula road. The expanded project has now become one of the priority projects to be adopted by the KBO. It is understood that the KBO Secretariat intends to organize a round table conference to mobilize resources required for the realization of their action program.

It is to be considered that the major beneficiaries of the proposed route via Kemondo Bay will be Rwanda, Burundi, and to a lesser extent, Eastern Zaire. Both Rwanda and Burundi have relied on road transport for a large proportion of their imports and exports, mainly being the result of the established road transport capacity in these countries. It would therefore appear that on the basis of this established road transport capacity, Kemondo Bay connection will be attractive only to the extent that trucks are used on ferry wagons rather than rail wagons. This means that Rwanda and Burundi goods would be loaded on trucks at Mombasa, transhipped on to ferry wagons at Kisumu, and offloaded at Kemondo-Bay for the onward journey to Biharamulo. In any case if rail transport is to be used from Mombasa, then there is the need to upgrade the Nakuru - Kisumu branch line to provide more capacity, the cost of which together with

the cost of rehabilitation of the Kemondo-Bay/Biharamulo road, may make the proposed project unattractive. The alternative of expanding the railway network to Rwanda and Burundi may be a longer term solution.

## FREIGHT FLOWS

Mombasa port is the largest port in the East African region with a theoretical capacity to handle some 22 million tons of cargo annually, compared to 7 million tons at Dar-es-Salaam. In practice however, Mombasa port has handled only some eight million tons between 1992 and 1994, compared to 4.6, 4.4 and 4.0 million tons handled at Dar-es-Salaam during 1992, 1993, and 1994. While Mombasa handled some 700,000 tons of cargo to ZBRU countries in both 1992 and 1993, Dar-es-Salaam handled only 281,000 tons and 475,000 tons during that period. In 1994, Mombasa handled over 1.39 million tons of ZBRU cargo compared to some 460,000 tons handled at Dar-es-Salaam. 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.

It is noteworthy that while Mombasa handled 122,452 tons of Rwanda/Burundi traffic in 1987, the same increased a mere 23,729, or 19 percent to 146,181 tons in 1993. However Dar-es-Salaam recorded an increase of 202 percent for the same traffic during the same period, from 146,116 to 442,328 tons, mainly as a result of the closure of the Rwanda/Burundi border in 1990, and the opening of Isaka transit depot in 1993, this latter which was responsible for a throughput of some 200,000 tons of Rwanda/Burundi import cargo in 1993. Indeed Dar-es-Salaam handled 76 percent, 93 percent and 57 percent of imports to Rwanda, Burundi and Zaire in 1993 compared to 20 percent, 81 percent and 44 percent 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 tons a year) have traditionally been routed through Dar-es-Salaam, 90 percent in 1993, compared to 93 percent in 1987. Rwanda's exports, notably tea and coffee, have likewise been routed via Mombasa, 98 percent in 1987 and 99 percent 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.

The position of Mombasa as a transit port therefore appears to be getting stronger in the movement of transit traffic to ZBRU countries. Uganda which has consistently used it for most of its imports (80 percent in 1987, 94 percent in 1993, and 98 percent in 1994) and exports (74 percent in 1987, 89 percent in 1993 and 87 percent in 1994) remains the leading transit country. It is known however that the Uganda Government has the objective to create capacity to move upto 60 percent of its imports through other routes, not only to achieve lower costs, but for purposes of increased transit security. However, this effort has been frustrated by the transport logistics in the Central Corridor.

## MAJOR COST COMPONENTS

Four major cost components have been identified as part of the overall costs of transportation from the ports of Mombasa and Dar-es-Salaam to the landlocked countries. These are port charges, clearing and forwarding charges, freight costs, and costs due to inefficiency and delays in transit.

*Port Charges*

Although a direct comparison of the port charges at Mombasa and Dar-es-Salaam is not possible, because of the different methods of charging, an analysis of hypothetical similar scenarios indicate that:

- While the consolidated shorehandling charges at Mombasa are less than the equivalent charges at Dar-es-Salaam, the additional costs in respect of verification of containers, late documentation charges, and storage charges combine to make charges at Mombasa more expensive than the equivalent charges at Dar-es-Salaam.
- Specifically, charges for domestic cargo at Dar-es-Salaam would represent only 60 percent and 51 percent of the equivalent charges at Mombasa, for general cargo and container imports respectively.
- Similarly, charges for transit cargo at Mombasa are more expensive than the equivalent charges at Dar-es-Salaam; charges at Dar-es-Salaam are only about 80 percent and 68 percent of the equivalent costs at Mombasa, for general cargo and containers respectively. The higher charges for containers at Mombasa reflect inter alia, costs relating to verification of containers which is a major issue of contention at the port.

*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 and numerous customs requirements 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 percent of CIF at Mombasa compared to 3.5 percent of CIF at Dar-es-Salaam, which has relatively simpler procedures, which are cumbersome.

*Freight Costs*

- By Route: The rail/lake connections between Dar-es-Salaam and Mwanza to Kampala, and between Dar-es-Salaam and Kigoma to Bujumbura have the lowest freight rates for traffic to Uganda and Burundi respectively. The rail connection between Mombasa and Kampala is however the most cost effective route for containers to Uganda. Similarly, the Isaka rail/road system offers the greatest potential of Rwanda and Burundi cargo. The traditional Northern Corridor road route, although previously recognized 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. This 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. Transit charges include transit goods licences, 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 percent of the direct freight costs, or upto 13 percent of the total costs of transport in some situations. It is argued that even a partial elimination of these costs would result in lower freight costs.

Roads in good condition, such as the Malaba route to Uganda, Rwanda and Burundi, are associated with costs tending towards the equivalent rail or rail/ferry costs. Thus, the traditional northern corridor route via Malaba to Rwanda and Burundi provides stiff competition to the current road routes via Isebania from Mombasa, and the road from Dar-es-Salaam. In the longer run both these latter routes will be paved.

- 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, the necessary handling equipment were installed at both the ports of Dar-es-Salaam, and Mombasa to facilitate the speedy handling of movement of container traffic. However, these equipment and facilities have been outstripped by the increasing containerized traffic. Moveover, at Mombasa, containers are sometimes stripped. At Dar-es-Salaam the stacking areas are several kilometers 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. Indeed there are instances in this study in which it has been found that the overall cost of transportation of containerized traffic is higher than the equivalent costs of general cargo movement.

*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 percent and inflation at 20 percent. These additional costs have been estimated to be between US $161 and US $334 for a 30 ton general cargo consignment (CIF value $10,000) for all four Uganda routes, and between US $205 and US $441 for all the routes to Rwanda and Burundi. These ranges are fairly similar for containerized traffic to the three countries.

## OVERALL COSTS OF TRANSPORTATION

The analysis provided in this study indicates that there is a fairly uniform cost pattern for all the four routes to Uganda, for the Malaba road route which is about 20 percent more expensive for containers and the Malaba rail and rail/lake route via Kisumu being more expensive for general cargo. 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 favor the Tanzania routes, with the traditional Northern Corridor road route to Rwanda and Burundi having no cost advantage but remaining a convenient road route because of its established infrastructure.

## CONSTRAINTS AND WEAKNESSES

A major conclusion of this study is that the pattern of regional traffic flows and costs discussed in the preceding sections are reflective of the LLCs objectives of searching for low cost transit routes and diversified security. Traffic is routed to maximise these objectives particularly where the importer or exporter makes the independent decision. In many situations however, modal and route choices are made by other players in the chain other than the importer/exporter, which include CFAs and Central Banks of the individual countries. Thus the low cost and transit security objectives of the importer/exporter are often overridden by the objectives of the CFAs whose considerations may not always correspond with that of the shipper. Similarly the parastatal importer may place emphasis upon direct transport costs which can be easily accounted to auditors, with little regard to transit security while the aid donor may be more concerned with reliability.

Against this background the re-arrangement of traffic is a dynamic exercise which is continuously responding to the changes in the cost and other advantages in the various port/route combinations, mainly arising from on-going efforts to remove both physical and non-physical constraints along the routes. It is to be noted that the achievement of the objectives of LLCs with regard to transit transport does not only depend on the development of new low cost routes, but on the extent to which existing infrastructure and facilities can be improved to make specific routes more competitive.

Many constraints have been identified to which already a number of donors have responded over the past several years. The EEC, UNDP, ODA and the World Bank, amongst others have either directly supported projects to remove the constraints, or have supported the TTCA, thereby contributing to these project initiatives. However, as part of the longer term plan to minimise the overall costs of transportation to the LLC's we identify some of the physical and non-physical barriers which still hinder the efficient, cost-effective traffic flow within the region.

### *Ports*

The ports of Mombasa and Dar-es-Salaam have similar operational problems. These include run down condition of equipment, lack of preventive maintenance programs 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 a lack of unified information system where pertinent vessel and/or cargo information could be shared, and low level of cooperation among players involved in the execution of ports procedures.

A study completed on behalf of the PTA in 1994 indicates that at Mombasa, the port facilities are in poor condition, and without a substantial investment in equipment and the introduction of additional professional management, which will ensure a proper maintenance program. Mombasa is therefore unlikely to be able to handle any more traffic. A downward trend in both the number of vessels calling and in the tonnage handled is increasingly being observed. Other problems include:

- lack of special facilities for transit cargo in Mombasa which hamper quick transit cargo off-take especially when there is a back-log for the domestic market,
- inadequate operating capacity of the KRC and long delays which have led to excessive demurrage charges on containers; and
- security arrangements: one of the contributing factors to delays and frustrations for transport operations is the security procedures which accompany goods in transit. The goods are always in bond and the

additional physical police escorts, while unnecessary, are certainly expensive in terms of money and time.

Similarly, at the port of Dar-es-Salaam persistent equipment breakdowns, causing delays and together with the poor offtake of cargo because of restricted availability of TRC wagons and road vehicles, is a major concern to shippers. The study referred to in paragraph 7.19 above adds that perhaps the major issue at the port of Dar-es-Salaam appears to be the little drive or wish to find new business. These problems are exacerbated by:

- 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; and

- the availability of only one ship's agent (NASACO), the National Shipping Agencies Company Limited. This parastatal organization has the monopoly of the ships agency business. It is evident that a great deal of the work for which they are paid by the shipping lines is done by the shipping lines own representatives. This situation will not improve until shipping lines can appoint whom they wish as agents and there is some competition for the business.

### *Clearing and Forwarding Procedures*

In order to make the ports more attractive to users, the major players in the transportation chain, customs, CFAs, transporters etc., need to co-operate and to share available information. The role of CFAs is particularly crucial to the success of the port: they need to be efficient, honest and fair. CFAs who do not possess these qualities are a liability to the ports. Specifically although it is the port authority's image that is eroded when a CFA defaults, currently KPA and THA do not take an active role in their licensing and regulation of their activities. Similarly, dishonest CFAs are known to be responsible for most of the restrictive customs regulations and procedures, which are operational at both Mombasa and Dar-es-Salaam to combat fraud.

### *Customs Services*

The choice of routes is influenced by the existing transit documentation and procedures which to a significant extent are still cumbersome and thus lead to high transit costs. In the road sector, the RCTD has been introduced and recommendations have been made to improve it. There are still issues of control and consistency in the use of the document which need to be addressed to minimise fraud. There are also problems of additional document requirements in the clearance of cargo particularly through Kenya as well as a stringent customs and police verification systems, a restrictive bond system and some other problems relating to customs operations, including border processing. With respect to rail traffic, recommendations have been made to introduce single consignment notes.

Problems related to the organization of customs services of the member states are numerous at the borders. Border posts with high traffic such as Busia, Malaba, Isebania, Rusumo and Isaka etc., have problems of organization. It is claimed that these offices do not have appropriate infrastructure to serve the increasing volumes of traffic and that 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 translates into prolonged waiting times at the border posts. There

are no adequate parking areas and trucks park at both sides of the road or infront of the offices whil e 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 c ountry with all the monetary and time costs involved. These factors result in traffic jams at the border posts and ultimately to increase of costs an d transit times.

### *Railway Systems*

The railway systems in all the three local railway corporations exhibit some common problems. In KRC , problems include low availability of motive power and wagons, (mainly arising from old age of equipment, lack of adequate maintenance and problems of spare parts supplies) although it is understood that the recent hiring of 10 locomotives from South Africa has improved availability of locomotives for the Mombasa - Nairobi - Malaba operations. The lower capacity of the Nakuru - Kisumu line is also a problem culminating in poo r wagon availability. In practice trains from Mombasa to Kisumu are often broken into two at Nakuru to reduce wagon load on this stretch. KRC operations are also affected by the lack of coordination between itself an d other players in the transportation chain, including KPA and customs, which lead to delays in cargo movement. As a result of these weaknesses KRC has often been criticised for contributing to congestion at the port o f Mombasa.

While URC is believed to have an adequate number of locomotives and wagons, the major problems experienced relates to maintenance of these facilities as it does not have adequately equipped workshops. However, plans are underway to commercialise the workshops, with a private sector investor taking over the locomotive repair and maintenance function in conjunction with the centralisation of this activity on a regional basis. Although recent investments have included those in ferry vessels, locomotives, rolling stock and other equipment, the railway track is old and in general its condition is poor, which is a major cause of frequent derailments. There is particularly the need to rehabilitate the Malaba - Jinja - Kampala line, and the Kampala - Kasese line.

The other major problems for URC is the lack of a consistent marketing activity in the face of stif f competition from the road sector. This has been exacerbated by the recent liberalization of coffe e transportation which was hitherto directed to URC by Government policy, and which was a major source of a significant volume of rail freight.

In TRC, the major problems in the recent past have bee n related to poor condition of infrastructure and low availability of locomotives and rolling stock. The restricted availability of wagons is a majo r bottleneck to TRC operations which has been responsible for l arge volume of cargo held at the port of Dar-es-Salaam. TRC received some locomotives from Germany in 1992, this together with on going Railway Restructuring Program is aimed at improving this situation. But there is need to rebuild some 2 0 locomotives of Canadian make to improve the situation. Also being implemented is the EEC finance d block train project which further aims at facilitating c argo flows in the corridor. It is understood, however, that attempts to improve wagon availability is still hampered by lack o f adequate return cargo from Kigoma and Mwanza to Dar-es-Salaam, making the turnaround very slow.

### *Marine Services*

Lake services continue to play an increasingly important role in the movement of transit cargo - with Lake Victoria serving both the Central and Northern Corrido rs. In addition, Lake Tanganyika serves the Central Corridor. The problem is that there have not been coordinated lake services in the sub-region. Services

are not scheduled and ferries sail on demand. Wagon ferries can sail empty if there is demand to move cargo from the next terminal of sail. The 2 to 1 sailing arrangements (2 Uganda ferries sailing for every 1 Kenya ferry sailing) between Kenya and Uganda is still in place, but in reality sailing is determined by the amount of cargo available at any moment and the availability of the ferries. The Tanzania ferry continues to be used to transport Uganda cargo on ad hoc basis.

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 in marine operations. The World Bank has assisted URC to acquire fire fighting equipment, while preliminary work on the improvement of communications on the lake is also being addressed. Similarly, the Nairobi - Kisumu section of the Kenya pipeline has no jetty at the terminus and this is hindering the use of oil barges in Lake Victoria.

Finally there have been cases of accidents arising from improper handling of ferries, particularly by unqualified personnel. It is understood that the lake services are run without internationally accepted standards necessary to ensure safety of life, navigation and prevention of pollution. Furthermore the region lacks up-to-date and enforceable legislation to govern safe maritime activity on the navigable waterways, particularly Lake Victoria. Vessels continue to trade on the Lake without rules or regulations, life saving equipment, navigational aids, ill-trained manpower and no pollution controls. 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 coordinated development programs on inland waterway transport has never become functional.

### *Road Transport*

The major problem facing road transport in the region is the condition of infrastructure, particularly along those routes through Tanzania to the landlocked countries, for example the pathetic condition of the Isebania - Mwanza - Biharamulo road, the Bukoba - Biharamulo, Singida - Nzega, etc. In Kenya, the poor state of the Mombasa - Nairobi road is of major concern. There has however been a marked improvement in the state of roads as a result of efforts being made by all the member countries to provide a good standard of road infrastructure. In the traditional northern corridor, for example, the road system has been greatly improved with donor assistance particularly the EEC, providing funds for the rehabilitation of the major segments of the main route. In Tanzania the infrastructure problem is being addressed through the IRP I and II which will see most of the country's road network rehabilitated by the year 2000.

With the heavy investment made in rehabilitating roads, the major emphasis must now be directed to adequate road maintenance, and prevention of overloading. It is under stood that there are on-going projects in all the countries in the region supported by donors to enhance the capacity to maintain roads. There are, however, still problems of overloaded vehicles which threaten the benefits of road rehabilitation. The main problem of axle load control is the lack of harmonised legislation and enforcement equipment in the region, however, every country is understood to be concerned.

The result of the roads in poor condition has been the relatively high cost structure for road transport operations. This has been exacerbated by the high cost of new vehicles mainly arising from customs duty and other taxes which has impacted negatively on fleet replacement. Operationally, spare parts, tyres ,

insurance fuel and road use continue to be taxed heavily, and road freight vehicles subjected to a barrage of non-physical barriers which lead to poor vehicle utilization, all leading to high operating costs. Unfortunately, the corresponding tariffs remain depressed mainly as a result of competition occasioned by the road transport capacity which exists in the region. One of the greatest disadvantages of depressed tariff structure is that it encourages overloading to maximise revenue per load which further contributes to faster road surface deterioration.

In Kenya road transporters also suffer from deliberate government policies which favor competing modes such as railways, pipeline and ICDs, thus making road transport operations difficult.

Finally, road transport operations suffer from management related issues: it is understood that the industry has grown indiscriminately in terms of vehicle numbers, but not in technical standards. Many of the current managers in the industry do not have adequate knowledge of the road transport businesses they are running. Operators lack management skills including proper book keeping, operational planning, marketing and costing which would facilitate better management and cost effectiveness in business.

### *Coordination of ZBRU Traffic*

The key provision of the Northern Corridor Transit Agreement (NCTA) was the establishment of the Transit Transport Coordination Authority (TTCA), which is charged with the responsibility for the achievement of the aims of the NCTA, particularly matters related to transit transport policy and operational coordination of transit traffic. At the time of contracting the NCTA, in 1985, the Northern Corridor handled some 349,292 tons of ZBRU cargo or 62 percent of the total 562,386 handled between the two ports. The activities of the TTCA were therefore related to the expansion of this proportion, although clear plans for the Northern Corridor have not been fully implemented or achieved. As of 1993, the Central Corridor (or boldly Tanzania) handled 57 percent of ZBRU cargo, with 43 percent, mostly Ugandan cargo, being handled through Kenya. Specifically, of the 1993 Mombasa transit throughput of 700,081 tons, only the Uganda component, 475,960 tons, 68 percent, and to a much lesser extent, Zairean traffic, 77,982 tons, 11 percent, were transported via the Northern Corridor. This left 146,139 tons or 21 percent, being Rwanda and Burundi traffic passing through Tanzania, joining routes which were hitherto acknowledged as the Central Corridor. Therefore 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. For this reason, Tanzania has been invited to participate in TTCA's activities as an observer.

## RECOMMENDATIONS

The constraints and weaknesses discussed above are by no means exhaustive to the problem of high costs of transport in the East African Region. Indeed many of them, including proposed solutions and recommendations are discussed extensively in the literature. The dilemma has always been the difference in the objectives of the LLCs and the transit countries: while the LLCs would want to minimize their transit costs, and maintain route diversification, the transit countries want to maximize their net earnings and/or minimise their infrastructure costs. Against this background, it is clear that the process of achieving the objectives of both the transit and landlocked countries should be integrated and coordinated at a much higher level of commitment than has been in the past. Very often the transit countries have been uncooperative, while the LLCs have been negligent, making the objectives even more difficult to reconcile.

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. It can be recalled that although the upgrading of the Nakuru - Kisumu rail branch line has been recommended over the past several years to provide additional transit capacity, with initial funds provided by the World Bank for the start of works in 1992, no effort in implementation has been made to date. It is also clear that although increased movement capacity on TRC are key to meeting the objectives of the LLCs (both low cost routes and security diversification), the Government of Tanzania appears to have been unwilling to address this issue emphatically because of lack of traffic justification.

Similarly, the LLCs also lack the initiative which would re-assure the transit countries of their commitment to routing decisions. Although Rwanda has been allocated a plot by the Kenya Government to build its own cargo center at Mombasa, construction has been delayed by the need to examine more closely the financial feasibility of the proposal, which is dependent on traffic levels.

Thus many investment proposals are viewed as risky on individual country basis, and their implementation may not be achieved unless they are viewed as regional projects, and coordinated at that level, through donor support. The EEC and UNCTAD have developed this approach when addressing problems of the Northern Corridor.

Notwithstanding the investment needs, many commentators have indicated that additional investments in infrastructure in the region will not necessarily provide more capacity, provide a basis for lower costs or make major improvements to the transit system and that maintenance and preservation of the existing network must become the main priority. The World Bank, indicated in their 1990 study that reduced transport costs and increased transit efficiency will be achieved only by concentrating government effort and donor assistance on improving the way in which the infrastructure, the transport industries, and the transit system are operated. The provision of technical and managerial assistance is critical to the objectives of the transit and landlocked countries in the region.

In the following paragraphs we enumerate some key issues which need to be addressed as a basis for making the movement of transit traffic cost-effective, and the routes and modes more competitive.

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

Against a background of frequent breakdown of equipment at both the port of Mombasa and Dar-es-Salaam, the first important step in achieving efficiency will be to initiate a preventive maintenance program, which will have the objective of keeping port equipment in running order, rather than responding to breakdowns when they occur. It is also considered that there is a case to be made for placing the preventive maintenance program at both ports under separate private management, on a contractual basis. It is believed that substantial savings may be expected both in the cost of replacement of equipment, and in unnecessary port delays.

In as much as improved efficiency of the ports requires re-orientation of maintenance management, general management at both ports require a more commercial orientation, with managers appointed on the basis of their professional backgrounds and experiences, rather than on political considerations, which limit

their regional outlook. They should adopt strategies which focus on their role as trade stimulation and facilitation centers, rather than pursuing the traditional role of ports which was confined to loading and discharging of goods to/from vessels.

For the port of Mombasa, the World Bank has funded a major consultancy project to halt the decline in operations and revamp the port in the key areas of maintenance and availability of equipment. The US $1 million project seeks on the one hand to redefine the relationship between the GoK and the KPA, and on the other to define the role of the KPA vis-a-vis that of the private sector in the movement of cargo through the port. Specifically, the move would confine the KPA's role to regulatory issues and to the role of landlord, in effect removing KPA from operational activities and functions which will now be privatized. In this regard, the main target is to get out of cargo handling services including the management of ICDs which would be then contracted out to private companies. In the short term however, a rehabilitation plan has been formulated and equipment maintenance contracts have been awarded with the objective of enhancing productivity. A Container Freight Station has also been established adjacent to the container terminal for stuffing and stripping of containers. In the area of general management, the project envisages to restructure the corporate governance level with major concern being the definition of the composition of the Board with emphasis on the competence of those appointed.

In terms of improving the working interface between KPA and other players, the project seeks to encourage a working relationship with KRC especially in improving the transportation of containers into the hinterland ICDs. This should involve encouraging private transporters to operate transport trains on the KRC network or allow private companies to rehabilitate or acquire their own wagons which they can have exclusive use of.

Along similar lines, a port development study has been undertaken for the port of Dar-es-Salaam with the major conclusion being that the port authority needs to transform itself to a coordinator of efforts aimed at rendering quality services inorder to offer a package that will attract cargo through the port. THA has also undertaken a feasibility study for the commercialisation of THA's activities with the objective to improve the efficiency of port operations and enhance the quality of services offered to customers. A related objective is to enhance the port competitiveness over other regional ports and to ensure profitability of port operations. The study envisages the segmentation of port operations into business units, General Cargo, Containers, Marine etc for easier management and accountability. Overall the THA needs to interact more closely, and to play a leading role with the different major players in the transportation chain including the shipping agent, clearing and forwarding agent, 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. This new orientation, coupled with improved operating procedures, training and improved renumeration of labor, improvement in information flow and safety procedures, will go along way in enhancing the overall performance of the port even at the current levels of investment in infrastructure. This coordination role will also facilitate consultation with key players in the port, so that important decisions such as tariff issues are not arrived at arbitrarily. In the areas of equipment availability which has been low, THA has allowed private operators to use their own equipment, and is hiring equipment from places like the Malawi Cargo Center. These activities are to be implemented by new equipment which has been ordered, thanks to EIB and IDA funds, and which are expected to arrive in 1996 and 1997. These equipment include ship to shore gantry cranes, rubber tyred gantry cranes and forklifts of various capacities.

As a basis for strengthening the role of the KPA/THA as coordinators 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 othe r necessary documents in this manner.

## *Clearing and Forwarding Procedures*

The role of CFAs is crucial to the success of the port, and yet to date the procedures for licensing thes e personnel do not take into account the vetting of the basic requirements of their trade. As a result a large number of CFAs at both ports are inefficient, dishonest and opportunist. The licensing of these personnel is currently the responsibility of the customs authorities, both in Mombasa and Dar-es-Salaam, and ye t when they default, it is the ports which are affected. It is recommended t hat 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" b ut 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 certificated 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 an d penalties as a basis for improved ports operations. The mandate to involve Clearing and Forwardin g Associations, TAFFA in Tanzania, KFWA in Kenya, and UCIFA in Uganda to provide recommendations to Customs Authorities for the issue and renewal of Customs Agents Licence must therefore be seen as a step in the right direction.

Although the withdrawal of AMI's role as Port Manager of Beth No.1 at the port of Dar-es-Salaam has been received well among the CFAs, there is need to further liberalize the shipping agency business , particularly where NASACO is involved, as a basis for fostering competition and improved quality o f services. The monopoly that AMI previously enjoyed over other CFAs at Dar-es-Salaam and Kigom a caused concern and even threatened the flow of cargo through the port of Dar-es-Salaam. Similarly the monopoly which NASACO currently enjoys has not contributed to efficient operations of the shippin g lines, which is reflected in higher than necessary freight rates. Opening up the private sector fo r competition will eventually be of benefit to all concerned.

## *Customs Procedures*

### *Customs Verification*

Customs procedures at both the ports of Mombasa and Dar-es-Salaam are widely reported to remai n cumbersome despite efforts by the TTCA and other institutions to harmonize them. Other key players in the ports, including CFAs, have been blamed for dishonesty which has contributed to more stric t surveillance by customs authorities. At Mombasa, the verification of containers is a major issue of delay and cost, however, the customs in Mombasa have recently introduced a rapid release system which aims at rapidly releasing all containers which are not suspected of fraud. According to this system, custom s services base their verification on intelligence and risk analysis reports and in any case do not exceed the recommended 10 percent. Recent statistics however show that container verification still stands at 2 6 percent. The current World Bank project at Mombasa will also cover the issues of procedures at the port and should provide means of easing the rigidity and complications in the procedures.

However, in addition to the above, the TTCA has proposed recommendations concerning measures of supervision that the countries in the region should adopt. For goods which are not subjected to physical verification, estimated at 90 percent, it has been recommended that each country should issue stric t guidelines to their customs administrations to avoid touching/breaking the original seals of the containers but instead add their national seals or identifications marks. Concerning those containers suspected o f fraud, or those whose documents contain errors, physical verification of goods covered by RCTD should be authorised only by the highest official of the customs office responsible for such controls.

In Uganda, although the Nakawa Depot is being rehabilitated, it will never provide adequately fo r existing and potential traffic in the future. Uganda therefore intends to develop a fully fledged dry por t handling imports and exports by road and rail. The dry port will be built on a reasonably large area with well constructed warehouses verification areas and parking bays. It is expected that the port will hel p improve revenue collection which is URAs long term objective. A feasibility study financed by KFW is underway as a follow-up to the pre-feasibility study undertaken by UNCTAD.

A study on Customs Fraud and Traffic Diversion on the Northern Corridor has been proposed by the TTCA since 1991, but has not yet been undertaken. The study has been considered important in th e negotiations for the withdrawal of the non-physical obstacles which still handicap the transit transpor t system on the Northern Corridor. It is understood that funds for the study have now been secured from EEC, balance of the Lome III, and that the study will commence in January 1996. It is recommended that the study should widen its scope and include Tanzania, which is not a member state of the NCTA.

*Bond in Transit*

The deposit of a custom bond with customs authorities at the office of departure along the Norther n Corridor has been criticised. Successive seminars organized by stakeholders have recommended th e adoption of either the transit pass, or the PTA regional bond guarantee, or the partial implementation of the international guarantee. It was noted that the transit pass system, as used in Tanzania, is easier, and should be tried in the Northern Corridor. However it was also agreed that only a study on the variou s guarantee systems would allow the member states of the NCTA to choose the most suitable system.

*Establishment of Customs Offices at Border Posts*

The TTCA workplan contains the setting up of adjacent national cu stoms control offices, a proposal mainly concerned with the establishment of an appropriate administrative structure at the border posts whic h currently have a significant flow of road traffic. Formalities and procedures at such border posts are a major handicap even after the implementation of the RCTD, such that the benefits of this document have not been fully realized. An additional factor is the lack of infras tructural facilities to cater for the high flow of traffic evidenced by the high traffic congestion at Busia, Malaba and Isebania.

The provision of adequate customs offices at border posts has however been noted to represent a relatively high financial commitment, such that a phase by phase implementation is advisable to achieve the expected results. The first phase would involve making necessary modifications to existing facilities at the common borders. However, offices have been built at both Malaba and Isebania, although there is need to provide more parking spaces and other conveniences for transit traffic personnel. For the second phase ,it has been suggested that the member states of the NCTA should designate areas of joint customs control, together with offices for personnel involved in such joint work. Finance would then be sough t from both the member states and donors. Such joint offi ces would initially be established at Malaba which

has a heavy flow of traffic, complementing what is already provided.

*Telecommunications Network*

The TTCA have also noted that it is important to have an adequate telecommunications network whic h would allow all the customs officers to communicate among themselves, as well as with centra l administration. Importers and Exporters w ould like to see that such means of communications are availed to allow them to monitor the movement of goods. The implementation of such a projet requires a study and financial support. UNCTAD is already financing the introduction of Advanced Cargo Informatio n System (ACIS) for the rail sector along the Northern Corridor, it is a qu estion of seeing whether this system could be extended to include road tracker for road transport operations in both corridors.

## *The Railway Systems*

The fundamental issue in the movement of transit traffic is the provision of adequate infrastructure, facilities and transport capacities. Continued rehabilitation of the railway network and rolling stock are therefore a priority. In the East African region, the donor community has been very responsive to improvement o f infrastructure and facilities, however, total funding is always lacking. It is estimated that KRC alone requires some US $90 million (for projects upto the year 2000) inorder to enhance its capacity to move more traffic . Specifically KRC requires nearly US $10 million for on-going projects and another US $20 million for overhaul and re-engining of locomotives which will be undertaken together with other projects under the 3rd Railway Project. KRC has proposed to raise a commercial loan of some US $55 million in 1996/97 at an interest rate of 10 percent payable over 12 years. A second loan of US $35 million will be negotiated and the draw down will start in 1998/99. 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 - Kasese branch line. In TRC some of the problems are being tackled through the on-going World Bank financed Railway Restructuring Program (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 improv e capacity; there is a strong case for better management practices which should be advocated by governments, donors and employees of the organizations concerned. This should involve the restructuring of the railwa y managements, gearing railways to commercial operations, regular reviews of operational performanc e parameters, organizational structures, investments and the management of finances.

KRC appears to be ready to set the pace for privatisation of certain of its current key activities. It is understood that KRC will shortly commercialise the maintenance of locomotives following a consultancy study carried out by Transurb Consultants that identified areas which could be contracted out in a bid to look for a lasting solution to a persistent shortage of locomotives. KRC will thus contract out locomotive maintenance at Makadara, Nakuru and Changamwe workshops. Accordingly, only the central workshops in Nairobi will remain under KRC for overhauls and heavy repairs and assembly. Other areas stil l earmarked for studies include marine services and management information systems.

In order to improve interface with KPA, the KRC is said to be positive in allowing private companies to get their own trains to run on its system. KRC is also said to be positive in allowing the use of private

wagons exclusively by private companies who can acquire them.

Increased cooperation and coordination between KRC and URC, and between TRC and URC to raise capacity and quality of rail services is another priority area. The main strategy for the three railway organizations is to reduce transit times in order to attract more of the long distance freight currently being moved by road. Such cooperation 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 coordination 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 be initiated.

### *Marine Services*

The proposal to establish autonomous marine sections within URC, KRC and TRC has been on record since the early 1980's, unfortunately no effort in this direction has been made. However, in the context that the proposed Kisumu - Kemondo Bay will provide a cost-effective alternative route for the LLC, as well as enhance transit security, a more serious thought should be accorded to the proposal. It is considered that in the first instance, a study on the modalities for the establishment of a regional organization to operate ferry services on Lake Victoria should be undertaken. The study should include traffic levels, the structure and scope of the regional organization, funding levels, source of funds, manpower requirements etc.

Experiments in the utilization of ferries in Lake Victoria to carry trucks and trailers loaded with transit traffic destined for Rwanda and Burundi between Kisumu and Kemondo Bay have proved possible. This therefore is a major area of potential for increasing ferry utilization and needs to be explored and actively marketed. This calls for the improvement of the hinterland roads, particularly the 270 Km road from Lushaunga to Mutukula through Biharamulo, Bukoba and Kemondo Bay.

The TTCA has taken a leading role in the initiative to develop the Kemondo-bay route, and has taken on itself to organize a meeting of the respective maritime authorities from Kenya, Tanzania and Uganda in order to come up with appropriate modalities for the development of the route, and to sensitise Tanzania on the necessity to support the proposal. The Lushaunga - Biharamulo - Bukoba - Mutukula road is now one of the priority projects of the KBO. The KBO Secretariat intends to organize a donor's round table meeting to mobilise resources required for the mobilisation of this action program.

### *Road Transport*

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 forming a similar group. The work program 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 program to the proposed working group has been suggested, with UNCTAD and

UNDP being requested to coordinate 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 program to which the EEC has already agreed in principle.

### *Road Conditions*

Road conditions have generally improved on the Northern Corridor following the completion of various road rehabilitation projects funded by the European Union, the World Bank, ADB and bilateral donors. Notwithstanding, there are still a number of priority projects which have been proposed. These are:

- Bitumenization of the road from Ntungamo to Kagitumba (Uganda/Rwanda border): The feasibility study and detailed engineering design under ADB financing was completed in January 1995 by Roughton International Consultants. The process of selection of a contractor was scheduled to start before the end of 1995.

- Feasibility study for constructing a road link between Uganda and Ishasha (Uganda/Zaire border): A study involving the feasibility and detailed engineering design for upgrading the Ntungamo-Rukungiri-Ishasha road to bitumen standard commenced in June, 1995 under ADB financing.

- Rehabilitation of the road from Kemondo Bay to Biharamulo (Tanzania): A study has been undertaken on this project within the framework of the Integrated Roads Project (IRP). The improvement and modernisation of the entire 270 Km Lusahunga - Biharamulo - Bukoba - Mutukula road is one of the priority projects adopted by KBO. The KBO Secretariat intends to organize a donor's round table conference to mobilise resources required for the realization of their action program.

- Reconstruction of the Gatuna bridge: Uganda has received funds from the European Union for the repair of infrastructure along the Uganda - Rwanda - Zaire borders under a special program for countries neighbouring Rwanda. Part of the funds will be used for the reconstruction of the Gatuna bridge which lies on the Rwanda/Uganda border. Due to the nature of the program, it was agreed between the European Union and the Government of Uganda to implement it as an emergency project with restricted tenders. Only three firms were invited to submit tenders based on their ability to mobilise quickly and locally. These firms are SOGEA, STRABAG and STIRLING. The consultants for the study and construction supervision are CARL BRO. Construction work was expected to start in July 1995.

- Rehabilitation of the Mombasa - Nairobi road: Although the World Bank and the European Union had confirmed a plan to co-finance some US $50 million for the reconstruction work, whose total costs are estimated at US $120 million, it is understood that the World Bank has postponed its commitment pending some policy issues. In the meantime, the Government of Kenya has invited contractors to seek pre-qualification to carry out emergency work on the 135 Km Sultan Hamud - Mtito Andei section of the Mombasa - Nairobi road. The emergency works is to be financed by the European Union.

- Malaba - Jinja road: The Malaba - Jinja road is showing signs of deterioration due to increased traffic. The section has been maintained and rehabilitated under KFW funding since 1984. Approximately, DM 60 million will be required to rehabilitate the road of which DM 18 million has already been earmarked by KFW. This leaves a funding gap of DM 42 million.

- Kampala - Kibuye - Busega road: Forty-eight Km of this road were rehabilitated in 1992 with funding from the European Union. The remaining section requires US $400,000 for rehabilitation works. Funds are yet to be identified.

- Bitumenization of the Beni-Kasindi road and of Rutshuru - Ishasha road both in Zaire is also contemplated.

### *Axle Load Control*

Overloading is a major factor of road transport in the region. This is causing premature deterioration of the road network. The governments therefore are 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 organization 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.

An Automatic Data Collection System (ADCS) will soon be commissioned at four different sites along the Kenyan section of the Northern Corridor. The Mariakani and Gilgil sites in particular are nearing completion. It was expected that the system was be operational before the end of 1995. In addition, the old weighbridges are being modernized. The ADCS combined with the modernized weighbridges will provide the necessary data for analytical work as well as for enforcement of axle load and other related regulations.

Similar measures are being instituted in Uganda following the installation of two weighbridges at Nakibizi on the Kampala - Jinja road and at Namutere on the Jinja - Tororo road. In future Uganda intends to purchase three more weighbridges for installation at Malaba, Katuna and Oraba entry points. The weighbridge at Namutere will be transferred to Busia after the three new weighbridges have been procured.

### *Road User Charges*

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.

A study has been undertaken to review road transit charges in the COMESA and SADC region. The overall objective of the review was to recommend common COMESA/SADC measures intended to facilitate the smooth movement of intra-regional transport with regard to the charging of transit vehicles, and giving due consideration to the need to maintain road transit infrastructure facilities in good condition.

The joint study recommended the implementation of the following harmonized road user charges for the different categories of heavy goods vehicles (HGVs):

| Vehicle Category | Road User Charge (US $/100Km) |
|---|---|
| Buses | 5 |
| 3 axle HGVs | 6 |
| >3 axle HGVs | 10 |

The joint study addressed issues relating to the management and use of road user revenues that are collected from users including the method of collection and made recommendations for various studies to be undertaken to provide data for future refinements to the proposed harmonised system.

### *Competition in the Road Sector*

The LLCs in the region are paying between 45 and 50 percent of CIF value for Uganda and between 45 and 75 percent of the same value for Rwanda and Burundi as overall transportation charges in the region. The direct transportation costs accounting for between 64 and 88 percent of the overall costs of transportation. Road routes are on the higher end. Such proportions of road transport costs relative to overall costs of transportation are considered high, and efforts should be made to lower them. This can be achieved through increased competition among in-country transport operators as well as intercountry operators. However, this may not be achieved unless the issues that govern road transport costs are known. We consider that there is a need for a regional study on road transport costs to be undertaken. The study should 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 address the possibility of harmonizing duty on imported vehicles and spare parts for the approved vehicle models : optimal truck engine capacity and fuel consumption should also be considered and analyzed taking into account the region's position as a net importer of petroleum fuels. The issue of loading on fuel costs through duty and taxes should be looked at and the possibility of harmonising them regionally explored. The study should also look at the possibility of removing government protection on certain transport operators in the region once the above issues are tackled. It is after such a study is done that recommendations to promote fair and increased competition in the road transport sector can be made. Implementation of such recommendations by the national governments would alleviate market distortions, and hence reduce road transport costs in the region.

### *Regional Cooperation*

The operational base of the TTCA should include Tanzania as a member and should coordinate transit traffic from all the coastal ports within the region by way of identifying and recommending the most cost effective routes for landlocked countries who benefit the most from transit routes. The TTCA should also be charged with the responsibility of recommending regional projects that may benefit the LLCs as well as the transit countries through economic evaluations. With these responsibilities, the TTCA will gain acceptability to other transit countries as well as the LLCs and its funding base will broaden and improve.

Specifically, 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 coordination 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 inorder to promote better management and operational practices of transit traffic. Finally, the TTCA should continue to coordinate studies which have impact on transit traffic, including being the custodian 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.

### *Training*

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 has organized 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 states and delegates from sub-regional organizations. 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*

It is considered that options and route decisions developed as part of this study must reflect the objectives of the LLCs related to transit traffic, which are the development of low cost routes, and the achievement of transit security. In the past, these two objectives have been difficult to balance, particularly in a region characterized by civil wars, inflation, (until recently) foreign exchange shortages, and a transport infrastructure which is aged, in poor condition, and lacking in capacity. At present, the landlocked countries pay upto 90 percent of CIF value of imports 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, or route (and therefore mode), such that cargo flow is not disrupted by any 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 often the diversification of routes and modes to ensure a steady flow of cargo negates low cost considerations. Notwithstanding, all the three landlocked countries in the region enjoy considerable transit security for their cargo, but as discussed in the preceding sections, there are constraints and weaknesses in the various sub-sectors of the transportation chain which need to be addressed to enhance the competitiveness of the existing and potential routes to achieve low cost and continued transit security objectives.

*Uganda*

Uganda has access to both Mombasa and Dar-es-Salaam ports, and is served by railway (via Malaba), two rail/ferries (Kisumu and Mwanza) and road connections (via Malaba). The three routes from Mombasa in total accounted for 89 percent and 92 percent of Ugandan transit cargo, in 1992 and 1993 respectively. Thus, Dar-es-Salaam and the rail ferry route via Mwanza accounted for only 11 percent and 8 percent of Ugandan transit cargo in 1992 and 1993. Mombasa and the transit routes through Kenya are therefore Uganda's primary outlet to the world. It is however Uganda's policy to use Dar-es-Salaam and the Mwanza route for upto 60 percent of its cargo.

Against this background, Uganda is therefore 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 cooperation and coordination 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.

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 lack of TRC capacity to move cargo between Dar-es-Salaam and Mwanza, and the condition of the road route between the two centers. 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-organized to accept both trucks and rail wagons.

In the case of Malaba road, transit security will only be achieved through additional costs. Due to expansion in the road freight industry in the region, vehicle fleets have grown indiscriminately in quantity but not in technical standards. The industry is further characterized with poor management, high costs and low returns.

*Rwanda and Burundi*

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.

TRC has over the past few years exhibited a total capacity of some 1,000,000 tons a year, with transit traffic accounting for 340,000 tons in 1993, thus leaving a domestic capacity of 660,000 tons. As transit cargo throughput via Tanzania increases, mainly as a result of the Isaka system, there will be pressure on TRC to increase its transit throughput to say 500,000 tons, 47 percent, within the next few years. This increase in transit capacity will put a constraint on TRC's domestic capacity. It is probable that Tanzania will give priority to domestic traffic, thus it is likely that the pressure for transit traffic to go through Tanzania will increase but without corresponding capacity to move it to Rwanda and Burundi. The obvious scenario is that transit traffic will be blockaded at the port of Dar-es-Salaam, earning revenue for the THA as storage charges, which will be an additional cost for the LLCs.

The above situation will lead Rwanda and Burundi to seek transit through Mombasa port to achieve transit security. This will be achieved through the two roads via Malaba and Isebania, but at higher costs, which have no comparative advantage to the proposed alternative rail/ferry/road route via Kisumu and Kemondo Bay. As presented in chapter VI, the current cost per ton from Mombasa to both Rwanda and Burundi via Isebania and Malaba are higher than the potential route via Kemondo Bay. It would be desirable to upgrade the Kemondo Bay - Biharamulo road to realize the full potential of this proposed alternative route, however, this depends on whether the Tanzanian Government will prioritise this development, particularly as it poses greatest competition to its infrastructures from the port of Dar-es-Salaam along different routes to Rwanda and Burundi. This will also require Kenya, the other transit country to embark on the Nakuru - Kisumu railway branchline. Already an ICD and an oil depot has been constructed at Kisumu.

In the short run, however, Rwanda and Burundi will continue to seek transit security via the Mombasa based road routes, via Isebania and Malaba. The rehabilitation and upgrading of the Isebania road is ,

however, ongoing on various sections, and it is probable that this will have a downward pressure on the transport costs along it.

# Notes

1. See for example the particular problems of Landlocked countries: Basic considerations, by UNCTAD prepared for the symposium on Transit Traffic: Issues and Prospects. Mombasa Kenya 20 - 22 June 1991.

2. Africa Social and Economic Trends pp.82, W B 1993.

3. Africa Social and Economic Trends pp.59, W B 1993.

4. Gordon H. Pirie, Transport, Food Security and Food Aid in Sub-Saharan Africa, in journal of Economic Geography Vol. IV, 1993.

5. Practical capacity is dependent on available facilities and equipment.

6. Some Ugandan companies have their own basic facilities within the Mombasa port periphery: these include the Coffee Marketing Board, Cotton Lint Board and Transocean.

7. Belgian Base (Belbase) agreement between Belgium and United Kingdom in 1921 allowed Belgium Government easy access through Tanzania (a UK colony) to its colonies (Zaire, Burundi and Rwanda). This facilitation included the designation of certain areas of the port of Dar-es-Salaam and Kigoma as Belbases.

8. Each boogie is represented by 2 wagon units.

9. The number of Kilometres run by an available locomotive during a period of 24 hours.

10. Includes livestock traffic.

11. The customs regulations in Kenya require import cargo to be entered within 21 days or 15 days (for transit cargo) of the commencement of discharge of the importing vessel. If they are not declared within this period, they are removed to the Customs Warehouse and may eventually be auctioned in public.

12. C35 for Uganda, C38 for Tanzania, and Declaration of Transit for Rwanda, Burundi and Zaire.

13. Wharfage charges which are linked to cargo values have been consolidated with shorehandling expenses and the current port charges are strictly tied to weight and/or volume, and time.

14. TSC was recently inaugurated and consists of actual shippers who are trying to bring commercial logic into shipping and are fighting a very spirited battle against the new port and rail tariffs.

15. General cargo rates for transit traffic (Imports and Exports) at Dar-es-Salaam do not include US $1 per H/T (or part thereof) being loading/unloading charges on to rail wagons or trucks.

16. Dangerous cargo attract storage charges immediately upon arrival.

17. There is currently a moratorium of 60 days for transit cargo because of the long dwell time at the port as a result of restricted availability of wagons.

18. One great problem with a container terminal designed to be operated by rubber wheeled cranes is that incase of breakdown there is insufficient room in the aisles between the container stacks to allow a forklift stacking truck to be used to handle the containers.

19. The interrupted number in a series starting 1st January each year.

20. The direct freight costs presented in this chapter focuses only on the actual rates and charges demanded by the firm of transport used and does not include for example clearing and forwarding charges, port charges, transit charges, etc.

21. Varying between US cents 3.0 and 3.7 per ton Km for transit general cargo (Dar-es-Salaam - Kigoma 1252 kms and Dar-es-Salaam - Mwanza 1229 Kms) and US cents 4.4 for domestic general cargo over same distances.

22. Standing at US cents 12.3 per ton Km for 333 Kms between Kampala - Kasese for transit general cargo and US cents 8.6 for 440 Kms distance Mwanza - Kampala for similar type of cargo.

23. At US cents 6.4 per ton Km for Mombasa - Eldoret (997 Kms) and US cents 6.5 from Mombasa to Malaba (1082 Kms) for Containers.

24. Round trip rates

25. Rates for cement

26. Coffee rates at flat US$37.0 per ton

27. Rates for salt

28. Heavy cargo

29. Figures in brackets relate to containerized cargo - 40ft container weighing 30 tons.

30. Rate for various agricultural commodities including coffee (Class B)

31. Rate for white oils US $2.23 per boogie Km.

32. Rate inclusive of CTL at 15%.

33. Rate inclusive of CTL at 15%.

34. Rate inclusive of CTL at 15%.

35. Rate inclusive of CTL at 15%.

36. Rate for agricultural commodities class B scale 9

37. Rate for white oils US $2.56/boogie Km

38. Rate in bracket includes CTL at 15%

39. Rate in bracket includes CTL at 15%

40. Rate in bracket includes CTL at 15%

41. Rate in bracket includes CTL at 15%

42. Rates between Kampala and Port Bell not specified.

43. Rates for 3 (light weight double wagon)

44. URC Rate for agricultural commodities class B - Scale 9 (30 tons)

45. Rate for Light cargo

46. For Diesel

47. Light cargo plus CTL

48. Figures in brackets represents %ages of the transit charges to the direct freight costs.

49. As of December 1995, there was a moratorium of 60 days for transit traffic because of the backlog of cargo at the port of Dar-es-Salaam resulting from lack of adequate inland transport capacity.

50. This charge of general cargo: CFAs in Dar-es-Salaam charge between US $200 - 300 as agency fees for containers.

51. AMI handling charges which are fixed for ZBR cargo. These charges are US $21.20 for stripped containers. AMI also charges a flat handling fee of US $350 per container, and US $185 for demurrage.

52. Bond fees related to Bond Enforce (Duty + VAT) and estimated at 0.8 % of CIF.

53. Substantial volumes of cargo were delayed in DSM in between 1986 - 1989, but this delay could by related to political issues rather than purely availability of wagons.

54. Port transit time assumed 13 days from all Mombasa traffic, and 22 days for all Dar traffic.

55. Nairobi - Kisumu 7 days Kisumu - Port Bell 6 days (including transshipment at Kisumu)

56. Relates to escort convoys and waiting to offload at Nakawa.

57. 5 days to Isaka, 1 day transshipment and 2 days to Rwanda/Burundi.

58. Figures in bracket for Rwanda traffic

59. Figures in bracket assumes wagon ferry loaded with rail wagons, rather than road vehicles.

60. Figures in bracket assumes wagon ferry loaded with rail wagons, rather than road vehicles.

61. The cost analysis undertaken in this chapter assumes a CIF value of US $10,000, and therefore these proportions are relative to this value. As CIF value increases, the proportions of total transport costs to CIF value falls, and vice versa.

# Appendix A

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