The government's role in multimodal development and trade facilitation in Tanzania

S. G.I. Tumpe Mwaijande
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THE GOVERNMENT’S ROLE IN MULTIMODAL DEVELOPMENT AND TRADE FACILITATION IN TANZANIA.

By

S.G.I TUMPE MWAIJANDE
(Tanzania)

A dissertation submitted to the World Maritime University in partial fulfillment of the requirements for the award of the degree of

MASTER OF SCIENCE
in
SHIPPING MANAGEMENT

2000

DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

………………………. (Signature)
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Finally, I would like to express my gratitude to my colleagues and friends who in one way or another helped me in discussions.

GOD BLESS AND THANK YOU ALL SO MUCH.
Title of Dissertation: The government’s role in multimodal transport development and trade facilitation in Tanzania.

Degree: MSc

The purpose of this dissertation is to examine the role of the Tanzanian government in developing multimodal transport and facilitating the movement of international trade in the country and why the government should play a major role in this development.

The study in brief, addresses the new responsibilities and duties of the government on how to manage business under fair and free market competition. It is analyzing the technical and economic capability of developing multimodal transport in the country in terms of strengths, weaknesses, opportunities and threats. It also looks into how the government could meet the global economic challenges, and how the nation could benefit from the technological development, which is changing the traditional way of doing business. The drawbacks are identified and challenges are described.

The development of multimodal transport largely depends on the reduction and elimination of physical and non-physical barriers to trade movement. The study evaluates and makes assessment of all transport sectors, development of information and
communication technology and customs regulations, procedures and practices. Safety and environment protection issues are also assessed. Problems are identified and proposed solutions are made according to national, sub regional and international scenarios. A forecast of trade movement through the Tanzanian ports is also examined.

The competence of freight transport facilitators is examined, and proposals are made on what the government should do to help the non-competent facilitators wishing to be MTOs. Special case is made as an example of what the government should consider to enhance the development of MTOs in the country.

Transport economics, quality and cost of different modes of transport is analyzed. Operational problems, which hinder a good pricing structure, are identified with suggested solutions.

Finally, the concluding chapter summarizes the study with emphasis on the Tanzanian government to consider the importance of developing the multimodal transport in the country. A number of recommendations make suggestions by taking into account the process of developing the multimodal services and improving the facilitation of trade in Tanzania.

KEYWORDS: Multimodal, Government, Trade, Facilitation, Economic aspects, Process
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ABBREVIATIONS

ACIS  Advanced Cargo Information System
CBR  The Democratic Republic of Congo, Burundi and Rwanda
C & F  Clearing and Forwarding agents
EDI  Electronic Data Interchange
EEZ  Exclusive Economic Zone
FCL  Full Container Load
GATT  General Agreement on Tariffs and Trade
GPS  Global Positioning System
INCOTERMS  International Commercial Terms
IT  Information Technology
ICD  Inland Clearance Depots
ICT  Information and Communication Technology
KICD  Kurasini Inland Clearance Depot
LCL  Less than Container Load
LLC  Landlocked Countries
MCC  Malawi Cargo Centre
MT  Multimodal Transport
MTO  Multimodal Transport Operator
NTTFC  National Trade and Transport Facilitation Committee
OSCAR  Operational Simplified Costing for African Railways
P & I  Protection and Indemnity Club
SATCC  South African Transport Coordination Committee
SWOT  Strengths, Weaknesses, Opportunities, Threats
TAZAMA  Tanzania Zambia Pipeline
TAZARA  Tanzania Zambia Railway Authority
<table>
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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>TCFB</td>
<td>Tanzania Central Freight Bureau</td>
</tr>
<tr>
<td>TEU</td>
<td>Twenty Foot Equivalent Unit</td>
</tr>
<tr>
<td>THA</td>
<td>Tanzania Harbours Authority</td>
</tr>
<tr>
<td>TRC</td>
<td>Tanzania Railway Corporation</td>
</tr>
<tr>
<td>UICD</td>
<td>Ubungo Inland Clearance Depot</td>
</tr>
<tr>
<td>URC</td>
<td>Uganda Railway Corporation</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>WFP</td>
<td>World Food Program</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
<tr>
<td>ZAMCARGO</td>
<td>Zambia Cargo Center</td>
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</table>
1. INTRODUCTION

Poor economic development, which is prevailing in most of the developing countries in the world, could be solved by increases in production and by opening their borders for international trade. In the developed countries, multimodal transport immensely contributes to the development of national economies, and most of the developing countries are following suit.

Improving transport infrastructure and adaptation of new technology in communication and information systems, formulation and harmonisation of customs procedures and regulations, which allow smooth flow of goods from one country to another are very important in facilitation of the movement of trade. As Shou Ma emphasises “that people do not need shipping, they need trade. Shipping becomes interesting just because it is part of trade chain” (6).

Multimodal transport (MT) is not a new concept as it is closely aligned to containerisation, which goes back to 1960s. What is new and most important in this transport operation is the facilitation of door to door services by at least two modes of transport from one country to another country. The carriage of goods in a continuous flow through the entire transport chain from origin to destination in the most cost and time effective way, with a single liability taken care of by a single carrier called a multimodal transport operator (MTO). The high technology in information and communication systems, which take into account the effects of activities in the entire logistics supply chain of in time delivery, high quality
management services and safety and environment protection are among the interesting part of the multimodal philosophy.

The government must have a considerable interest in the movement of containerised cargo as the world sea borne trade in general cargo is dominated by container ships. The tremendous increase in container ship sizes from carrying capacity of 5000 TEU (1996) to 6,600 TEU (1999) to an expected 18,000 TEU in 2010 or earlier than the expected time, shows the importance of this type of ships. The trend shows how fast the container ships are growing in the market, and the importance of government’s to look on this trend as it has great impact on the movement of international trade to the global market. Despite that the small ports like Dar es salaam port could not be able to accommodate these big ships. Small ports have to expect an increase in the sailing frequency of feeder vessels, which will demand shorter time in ports. This will only be successful if there is more efficiency and high quality of services in ports and their hinterlands. Good information flow and smooth flow of goods to and from the hinterland supported by good integration of modes of transport will increase efficiency and productivity, decrease congestion in ports and stimulate more movement of cargo at a minimum total transport cost.

The pressure of the growth in containerisation and unitisation of general cargo to the developing countries is unavoidable. Powerful forces, which are coming from the world shipping industry, are growing very fast as a result of technological development, and integration of solutions on logistics management, which drive the world according to the standard of development.

Ports are becoming logistics centres. Big shipping companies are establishing their own shipping agencies in the ports they are serving. The trend is frightening the small freight forwarding companies whom became unemployed as a result of these changes in the interfaces they are operating. Freight forwarders are very important in the facilitation of trade. For example in Switzerland freight forwarders comprises
90% of multimodal operating companies due to their experience and knowledge they have in facilitation of international trade. The government should be creative in solving such kind of problems by coming up with new ideas, which could help to solve the economic and social problems and boost the national economies. The government should prepare itself for the challenges that are going on in the global market even if today, there is inadequate volume of international cargo but the country could benefit in the coming years by raising export levels.

Multimodal transport is an organisational process, which is mainly concerned with the government policies and regulations in the movement of international trade. It touches many authorities like foreign trade, foreign exchange, customs authorities, insurers, port authorities, multimodal transport operators, carriers, shippers and consignees. MT has significant impact on their way of doing business that results from many changes in policies, regulations, procedures and application of new technology and practices. Changes in people’s attitudes and skills and public expectations also help to improve the level of productivity in these organisations.

The idea of developing multimodal transport in the country must be addressed and accepted by the top government officials. The government has to develop the multimodal transport operators (MTOs), who must have good relationships with the above named authorities. The government has to keep close eye and back up the MTOs activities because the increase or decrease in volume of cargo transiting through the country, to a certain extent will depend on how much the government supports the industry, how it creates room for competition and how it controls the industry.
Figure 1. MTO’s relationship with various parties.
Source: UNCTAD secretariat (1979) Annex V.
The government has a special role to play in development of multimodal transport operation. It contributes to the growth of the national economy through facilitation of import and export trade, and acts as a catalyst in creating a competitive situation in manufactured products to be exposed to the global market. It helps to reduce the foreign exchange expenditure and improves the balance of payments of the country. The introduction of new technology in communication and information systems raises the number of people involved in international trade by being acquainted with new ways and methods in securing more markets from outside. People become more skilled and demand more payment, more savings and more investment to the country. Multimodal transport also creates more job opportunities, which means the number of unemployed people will be reduced. With good, integrated transport links, the country becomes more attractive to foreign investments.

However, there are issues which contradict the government policy such as, first, the elimination of import dues which contributes to the national budget, second the transmission of information electronically which goes against the traditional and normal practice and regulations of handling trade transactions. The government have to decide between two options: is it better to remain with traditional ways of doing business while the country continues to lag behind and continues to be among the ten poorest countries in the world? Or the government has to decide to follow the blowing wind of global changes, which can stimulate trade in the country, because Tanzania can not benefit by being a member of the World Trade Organisation (WTO) if the country has nothing to sell. Then, it is the government’s responsibility to ratify important United Nations conventions that enhance and harmonise the smooth flow of trade. It must formulate policies and regulations, which will develop the multimodal transport (MT) operations and multimodal transport operators (MTOS) in the country, to invest in information technology and improve the physical infrastructure. The improvement in infrastructure and Information Technology (IT) will not benefit the movement of trade alone, but both social and economic benefits will be realised.
Normally, there are six modes of transport, but in this study only five modes have been looked into. These are road, railway, air, and sea transport and inland waterways. Pipeline transportation is not covered in this study because the level of investment as a mode of transport is very limited and there is only one pipeline in the country, which transports crude oil from Dar es salaam to Zambia, known as the Tanzania-Zambia pipeline (TAZAMA). The distribution of transport network in Tanzania is as shown in a map below. The landlocked countries (LLC) which use the Tanzanian coastline of about 850 km are the Democratic Republic of Congo, Burundi and Rwanda (CBR), Uganda, Malawi and Zambia.

Difficulties encountered during research period were, among others, inadequate time for collecting data and information on which this study is based. For example, the discussion about railway operations concentrates more on TRC and very little on TAZARA. Timing for research work was also not good because most of the responsible people in different organisations were on Christmas and new-year holidays.

Map 1. The distribution of transport network in Tanzania.
CHAPTER 2

2. THE APPRAISAL OF THE GOVERNMENT BUSINESS ENVIRONMENT.

2.1 Government responsibilities

The government business environment is influenced by internal and external factors such as economic factors, legal factors and socio-political factors. Before de-regulation in the 1980’s the government had a monopoly in the transport industry where it owned infrastructures, equipment and operated transport entities. After de-regulation and liberalisation of trade in which fair and free competition dominates the trade, the government became a policy and regulatory body. Most of the local industries, which produce traditional commodities, gain the exposure of the international markets; this results in the growth of import and export trade. The same changes are taking place in Tanzanian neighbouring countries thus, creating the demand for good infrastructure and equipment and transparency in facilitation of efficiency and flexibility with optimum cost services to foster the international trade in the area. Therefore, it is the government’s duty to concentrate on the provision of law and order, strategic planning, policy provision, monitoring and putting in place the regulatory regime and institutional framework to facilitate the development process.

The main function of the government is to alleviate poverty and provide economic infrastructure in which the government provides basic institutions, rules and arrangements necessary for the satisfactory operation of a dynamic economy in the competitive free market conditions. These include policy formulation on trade regulations such as transport regulations, import and export trade regulations,
technology development, currency, measures and weights, customs regulations and procedures, tariff systems and regulations governing foreign investments.

The government has to provide highest quality inputs. In today’s global market, high quality of labour involvement in business entities is essential. To meet the requirement, the government has to be equipped enough with necessary skills and competent manpower to meet the present and future needs. It requires people with intensive knowledge in the technical, legal and commercial fields. Therefore, the government has to educate, train and fund research and developments projects.

The indigenous entities have to acquire new skills which will be used to adopt new technology and modern methods of doing business and cope with the emerging development. They have to change attitudes to the way of doing business, from traditional ways to more advanced and modern ways. It needs more effort, experience and skills to be compatible with the prevailing revolution, which changes the market regulations and global trends in relation to transport and total logistics supply chain management.

The government has a responsibility to formulate new policies in line with the economic changes, which are going on inside and outside the country: regulatory, financial and fiscal measures. The government has to look into ways to speed up the economic development of the country by amending old regulations and adding new regulations in the National Transport Policy. It has to devote all necessary organisational resources to meet the challenges of new developments, and eliminate natural and artificial barriers that could hinder the economic acceleration.

The government has to provide order, justice and stability. Transport industry has international implications that require official agreements that are best conducted at governmental levels, and imposed as a body of rules upon operators of each particular country. In international trade there is a conflict of laws that can easily
arise when goods cross the frontiers. The conflict arises because the parties concerned, living in different countries are free to bring their conflicts in the courts of their own countries. Of course, the courts of both countries may reach the same conclusions about a particular matter so that no conflict rises. The case is more difficult where the national laws are different, what is permissible in country A is illegal in country B, hence conflict of laws is inevitable. This problem has been solved by international conventions. A country, party to a convention, has to incorporate the basic framework of the rules in its domestic laws to make it enforceable. Any transport system requires basic regulations in the interest of the parties concerned, which are carriers and shippers of goods. There are problems like liabilities for loss of or damage to goods, pollution, loss of life or injuries, transportation of dangerous goods and responsibilities of each party concerned in execution of the contract of carriage of goods by sea, air, road or by rail. All these matters are subject to discussions at intergovernmental levels and lead to conclusions embodied in international conventions that are to be enacted as laws. This gives a very broad system of control and secure standardisation and comprehensiveness. Some of the prevailing international conventions are as follows:

<table>
<thead>
<tr>
<th>Conventions</th>
<th>Limitation of liability</th>
<th>Mode of transport</th>
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<tbody>
<tr>
<td>Hague rules (1924)</td>
<td>£100 sterling in gold</td>
<td>Marine</td>
</tr>
<tr>
<td>Hague/Visby rules</td>
<td>SDR 666.67/package or 2 SDR/kg whichever is higher</td>
<td>Marine</td>
</tr>
<tr>
<td>Hamburg rules</td>
<td>SDR 835/Unit or 2.50 SDR/kg whichever is higher</td>
<td>Marine</td>
</tr>
<tr>
<td>Warsaw convention</td>
<td>SDR 16.66/kg</td>
<td>Air</td>
</tr>
<tr>
<td>Multimodal convention (not yet in force)</td>
<td>SDR 920/Unit or 2.75/kg whichever is higher</td>
<td>Multimodal</td>
</tr>
<tr>
<td>CIM</td>
<td>17 SDR or USD 26/Kg</td>
<td>Rail (Europe)</td>
</tr>
<tr>
<td>CMR</td>
<td>SDR 8.33/kg</td>
<td>Road (Europe)</td>
</tr>
</tbody>
</table>

Table 1. International transport conventions.
In international trade, the parties concerned are sellers and buyers of goods who are assisted by the International Chamber of Commerce through provision of international commercial terms (INCOTERMS) to identify which party is responsible for what and when in the sense of cost, risk and documents. A Multimodal transport operator has nothing to do with Incoterms, but as a carrier he needs to know which Incoterm is in use in executing his duties. The carrier is liable to exercise his due diligence to take care of the goods. To fulfil this obligation he has to know the multimodal transport INCOTERMS and their applicability.

In INCOTERMS 2000, the International Chamber of Commerce provides six INCOTERMS that are tailor made to suit the multimodal transportation.

1. EXW-Ex-Works (named place)
2. FCA-Free Carrier (named place)
3. CPT-Carriage Paid To . . (named place of destination)
4. CIP-Carriage and Insurance Paid To . . (named place of destination)
5. DDU-Delivered Duty Unpaid . . (named place of destination)
6. DDP-Delivered Duty Paid . . (named place of destination).

The traditional INCOTERMS which are commonly used in the carriage of goods by sea: FOB-Free on Board and CIF-Cost Insurance and Freight, which uses the “ship’s rail” as a critical point are not compatible with multimodal transportation in which a critical point is “a named place”. In multimodal transport operation instead of buying FOB and selling CIF, the terms FCA and CIP are used respectively.

The documentation is following the same changes. The “shipped onboard” bill of lading lacks its importance because in the multimodal transport the sea leg may or may not be covered; it may only cover road/rail/road or road/air/road, in which a Multimodal transport document is used.
Due to these changes which are applicable in multimodal transportation, it is the government’s duty to raise awareness among all concerned parties to formulate and make amendments to cope with new documentation in banking, customs, insurance, tariffs and control of trade. The government has to update its policies and formulate other regulations that are needed to suit the changes for the benefit of the country and international trade.

The government is responsible for maintaining the business competitiveness. It is vital for the government to monitor the economic trends of the country, and to ensure that businesses can and do compete. The competitive conditions of business have to rely on suitable regulations on securities and exchange laws, companies’ acts, free and fair-trading, laws against monopolies and consumer protection.

The government has to protect natural resources. The government must have enforceable laws concerning environmental damage. It is only the government, by using its coercive powers, which can alleviate environmental damage. For example, the government action should include road safety and environment degradation regulations. This emanates from poor driving standards and poor vehicle maintenance standards that have led to smoke accumulations in cities. The government needs to establish specific levels of smoke emission, review driving codes, have definite penalties and ensure that laws are enforceable.

The government also has to provide measures to stabilise the economy. The Country’s economy is always being affected by the world business cycles that are booms and recessions. The government action is to alleviate the recessions through the monetary policy, budgets, interest rates, and control of prices and tax regimes.

Most of the world trade today is moved by containers, which enhance the door to door services. The development of logistics management make more transport service providers to change their strategies and concentrate on moving cargo from
the shipper’s warehouse to its final destination, that is to the consignee’s warehouse. To be able to achieve this new task of moving cargo, shipping companies are merging together to have good asset management, increase their efficiency and serve their customers in a more cost effective way.

The concept of door to door services results in the development of multimodal transportation. It is an organisational process integrating all modes of transport with more flexibility, reliability, efficiency and in the most cost-effective way, and satisfies the customer on short transit time and less damages to cargo and safe environment. The concept does not necessarily need an operator to be a shipowner or owning any means of transport. Important qualities needed to be a multimodal operator are financial strength and knowledge in international trade. In that case, all transport providers and transport facilitators with the above qualifications could be multimodal transport operators. Unfortunately, Tanzania is not a shipowning country, but have human resources that have ability and may wish to operate as multimodal transport operators. So, it should be a government strategy to develop the concept in the country as a source of foreign income and also as a catalyst for increasing the level of export trade, creation of job opportunities and other social and economic benefits.

To be able to understand the business environment prevailing in the country, and if the environment permits the government to develop multimodal transport operations in the country there is a need to analyse the country’s strengths and weaknesses, threats and opportunities the country could benefit from. Therefore, the second part deals with the SWOT analysis.
2.2 SWOT analysis

2.2.1 Strengths

Despite the fact that Tanzania is among the poorest countries with annual per capita income of USD 570, the geographical location and political stability give the country good opportunities to develop its economy.

Tanzania has a coast of about 850 kilometres, which serves a hinterland of more than 200 million people. The land locked countries that use Tanzania as a gateway to foreign trade has only a single border crossing, which makes it easier to formulate and introduce new customs rules, regulations and procedures to increase efficiency and flexibility in processing international trade documents. The road and railway networks connecting these countries increase the chance of Tanzania being a trade transiting country. Globalisation of trade increases the pace of investment and enhances international trade in the region. What is needed now is an effective and efficient regulations and transport system to facilitate and stimulate the trade in the country and co-operation between countries in the sub-region.

2.2.2 Weaknesses

Tanzania is capable of developing its economy if the transport and information technology infrastructure and equipment are properly taken care of. Lack of seriousness, accountability and embezzlement of State projects funds cause deterioration of infrastructures to unrepairable states. Financial obstacles, bureaucracy, corruption and lack of a master plan for infrastructure development and maintenance add to the problem.

High transport costs, inefficiency in privatisation policies and poor information technology development and inadequate skills in technological developments and
Poor currency reduce the chance of attracting foreign investors, even neighbouring countries to use Tanzanian ports.

Poor transport infrastructure, equipment and cargo handling facilities, lack of enough expertise in information and communication technology and inadequate use of advanced communication systems such as Internet make the society unaware of what is going on in the transport industry today.

Lack of awareness of the importance of developing multimodal transport services is a major weakness especially for Tanzania where the government has less interest in how shippers are moving their goods. Shippers do not think logistically, what they care about is the price of transportation and safety of cargo. This problem was also seen in Spain and Pakistan as a big hindrance during the development of intermodal transport services in their countries (Containerisation international, March 1996. P. 95). Lopez Bravo, S. M. discussed the problem as psychological weakness, which made Spain to lag behind from the rest of Europe. She said “people just do not think intermodally here, and for the shippers, all they care about is price and transit times”. From this example, the government has to learn from the experiences of other countries and how other countries managed to develop this process. However, what was suitable in Spain, for example, does not mean that it will suit the Tanzanian environment because there is a big difference in economic development and geographical location of these two countries.

In summary, the strengths and weaknesses are:

<table>
<thead>
<tr>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Economic reforms</td>
<td>1. Poor transport and information infrastructure.</td>
</tr>
<tr>
<td>2. Political stability</td>
<td>2. Lack of awareness of the importance of</td>
</tr>
<tr>
<td>3. Geographical location</td>
<td>multimodal transport.</td>
</tr>
<tr>
<td>4. Transport distribution network.</td>
<td>3. Bureaucratic administrative system and</td>
</tr>
<tr>
<td>5. Single border crossing to landlocked</td>
<td>corruption</td>
</tr>
<tr>
<td>countries</td>
<td>4. Inefficiency in policy and regulatory reforms.</td>
</tr>
</tbody>
</table>

2.2.3 Opportunities

The advantage of globalisation is that less developed countries get opportunities to adopt and cope with new ideas of doing business. More markets are available and even traditional goods get an opportunity to be tradable in international markets. For almost five years now, the trade to and from landlocked countries, which in the past used Tanzanian ports as their transit point, is decreasing (see the trade flow). This means that customers are not satisfied with the quality of services provided by Tanzanian ports and other transit cargo service providers. It lacks competitive criteria compared to other countries in East and South Africa.

To be competitive, Tanzania has to cope with World Trade Organisation on customs, tariffs and legislation. This is not easy for a poor country like Tanzania for which more than half of its national budget comes from import dues. The government has to change step by step by taking into consideration the economic growth of the country, and take the challenges of the world economic trends as an opportunity for national economic development. The country cannot cope with the new development of the developed world, but must be prepared for the better to come in the future.

The Tanzanian government is operating under mixed economy, where the government controls a significant share of output through taxation. The structural changes in the world economy will be seen as an opportunity for the Tanzanian national economy only when the government evaluates and makes analysis on how the national economy will respond to these new changes. For example, the Tanzanian economy is jeopardised by high fuel prices. High fuel prices affect to a large extent the productivity of both the production and service provision sectors. A substantial increase in fuel prices means allocation of high prices to consumers. On the other hand, sectors which are able to shift away from using expensive fuel to other substitutes will do so, like the household sector, which tend to use coal and firewood heating system which also have an impact on the environment through
deforestation. Then, the most affected are the manufacturing and transport sectors that are not able to find other substitutes like gas. The whole logistics supply chain, which includes materials management and physical distribution and other value added activities, is becoming expensive, which leads to high production cost, poor national economic development as a consequence of poor productivity and non-competitive market prices.

Tanzania is not oil producing country and world oil production and prices are not under the control of the government. Then, the only remedy to achieve a competitive price in the world market is application of trade-off functions between high fuel prices and cheap provision of trade facilitation services. Application and simplification of customs regulations and procedures, increases efficiency and flexibility, reliable information systems, safety and environment protection, offering high quality services and short transit time are all important. The interaction of the government, through market and price control regulations, and the private sector is needed in solving the economic problems of the country.

### 2.2.4 Threats

As the world is very dynamic on science and technological development, trade patterns are also changing. Markets are becoming global. The elimination of customs barriers has created an economic environment that permits the free movement of goods and freedom of service provision to achieve high quality of services, minimum total transport cost and short transit time and fair and free competition of services within the international markets.

International transport is demanding better speed that depends on better connectivity, flexibility and reliability and security of services, which are influenced by better communication and information systems during transportation. The development of e-commerce threatens the pace of growth of developing countries because technology is very fast and dynamic. When developed countries are flying to catch
the next technology coming into existence, developing countries are still walking
towards the history of technology development. Yesterday was the era of electronic
data interchange, today is Internet and we do no yet know what will come next, but
with expectation of another development. What are threatening more are inadequate
infrastructure and equipment in modern information technology, and the
development of electronic commerce. Another problem is inadequate skilled labour
in new technology. This causes most of the developing countries to delay in
deciding if it is the right time to adapt to electronic commerce.

Increasing competition between East and South African ports is another threat to
Tanzania. There are seven ports along the Indian coastline, which are competing to
serve the same hinterland. Dar es salaam port in Tanzania and Mombassa port in
Kenya are competing to serve Uganda, Rwanda and Burundi. Dar es salaam port,
Nacalla, Beira and Maputo ports in Mozambique and Durban in South Africa are
competing to serve Malawi, Zambia and Zimbabwe.

For a country to be competitive, ports alone cannot meet the challenges and provide
customer satisfaction. Efficiency in hinterland infrastructure and good information
flow are other important variables. Tanzania inland infrastructure development and
operational efficiency is at lower level compared to other countries like South Africa,
and, Mozambique ports and Mombassa port in Kenya are more favourable for
Malawi and Zambia and Uganda cargoes respectively, due to short haul distances in
comparison with Dar es salaam. Tanzania, to be able to compete in the area, needs to
improve the infrastructures and integrate the transport network into one logistics
supply chain to increase efficiency and flexibility in operations and shorten the
transit time.

Electronic commerce is steadily growing very fast in the developed countries despite
some hurdles of legal issues, but they put more efforts into solving the problem and
countries already start to benefit from the electronic trade transmission. This shows
that within a very short period of time all information about international trade will be transmitted electronically, so for the developing countries, whether they like it or not, they have to cope with these new trends to be able to be part of the global market. It needs optimistic governments with courage, vision, hard working, accountability and love for their countries, to use the minimum resources available for the economic development of their countries.

In summary, the opportunities and threats are:

<table>
<thead>
<tr>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Liberalisation of trade</td>
<td>1. Time significant factor</td>
</tr>
<tr>
<td>2. High technology developments.</td>
<td>2. Change of trade pattern</td>
</tr>
<tr>
<td>3. World-wide multimodal transport dev.</td>
<td>3. Increasing competition in East and South</td>
</tr>
</tbody>
</table>

Therefore, the next chapter deals with multimodal transport development in Tanzania. Why the concept of multimodal transport is important for the national economic development, and what factors to be considered for its development.
CHAPTER 3

3. DEVELOPING MULTIMODAL TRANSPORTATION IN TANZANIA

The government of Tanzania is putting great efforts into developing transport infrastructures through the International Road Projects (IRP I & II) and Railway Rehabilitation Project. The objective is to boost the output of the manufacturing and agricultural sectors by producing efficiently for the needs of people and supply competitively in the world market. To achieve this goal, the government should focus on developing safe, reliable, effective, efficient and fully integrated transport operations, which will increase productivity, lower the total transport costs and support the government strategy for economic and social development. The government’s dedication is to achieve and promote the external trade and the internal trade to have a competitive price in the global market. The development of Multimodal transport will be the suitable solution for that. The advantages of developing Multimodal transport are divided into two: Government and commercial aspects as seen from table 2 below.

Despite that, Tanzania has not yet ratified the United Nations Convention on International Multimodal Transport of Goods and there is no multimodal regulatory body in the country. The country is a contracting party to the United Nations convention on the Carriage of Goods by Sea, 1978 (the Hamburg Rules) and the General Agreement on Tariffs and Trade (GATT) Article V, which can be used as a base for developing the multimodal transport in the country. These conventions have the same interests with the same basis of liabilities. For example, according to Article 5 in the Humberg rules and Article 16 in the MT convention, both provide
that the carrier is liable for loss and damage to the goods as well as delay in delivery except if the carrier prove the contrary, that is presumed fault or neglect. GATT enhances the smooth flow of transit goods through simplification of customs formalities. So the two conventions can be used as a starting point.

Advantages of developing multimodal transportation:

<table>
<thead>
<tr>
<th>Governmental points of view</th>
<th>Commercial points of view</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MT allows a greater share of the transport freight to remain in the country.</td>
<td>10. MT makes it easier to calculate the total transport costs.</td>
</tr>
<tr>
<td>2. MT if used to aid freight facilitation will smooth customs procedures.</td>
<td>11. MT reduces documentation.</td>
</tr>
<tr>
<td>3. Improves national control over the transport chain.</td>
<td>12. MT improves shipper’s control over the total transport costs.</td>
</tr>
<tr>
<td>4. May further greater use of national insurance companies.</td>
<td>13. MT brings less dependence on loading/discharge port ranges.</td>
</tr>
<tr>
<td>5. Introduces new transport technology to the country.</td>
<td>14. MT simplifies claims and action and reduces claims expenditure and insurance premiums.</td>
</tr>
<tr>
<td>6. Improves use of national infrastructure.</td>
<td>15. MT reduces transit time.</td>
</tr>
<tr>
<td>7. May make national products more competitive and thus possible to improve exports.</td>
<td>16. MT reduces interest payments.</td>
</tr>
<tr>
<td>8. Reduces foreign exchange expenditure and thus helps the balance of payment.</td>
<td>17. MT reduces inventory of goods.</td>
</tr>
<tr>
<td>9. Helps the environment (possibility of guiding transport towards least environmentally damaging mode.</td>
<td>18. MT reduces warehousing needs.</td>
</tr>
<tr>
<td></td>
<td>19. MT improves forward planning of stock positions.</td>
</tr>
<tr>
<td></td>
<td>20. MT gives better control over distribution outlets.</td>
</tr>
<tr>
<td></td>
<td>21. MT gives better reliability.</td>
</tr>
<tr>
<td></td>
<td>22. MT gives satisfied customers.</td>
</tr>
</tbody>
</table>

Table 2. Main reasons in favour of multimodal transport.


The development of multimodal transport can not be done only at the national level; there must be a support and co-operation from neighbouring countries especially those who are using Tanzanian ports as their route to international markets. These are Zambia, Rwanda, Burundi, Malawi, Uganda and D. R Congo.
3.1 National and Sub-regional level

3.1.1 National level

To develop multimodal transport in the country, there must be an effective National Trade and Transport Facilitation Committee (NTTFC). The main purpose of this committee will be to encourage the use of modern practices and technology and promote the international trade through the development of multimodal transport in the country. The objectives of the committee will be:

A. To analyse the facilitation practices procedures, formalities and documentation used in international transport and trade. One such process is to go through all customs regulations and procedures, insurance regulations and practices, and the use of MT documents and INCOTERMS that favour multimodal transport operations.

B. To put forward for government approval the proposed draft and all amendments to be made concerning trade and transport-related regulations and practices.

C. To develop the transport policy for future investment.

D. To raise the awareness of the methods and advantages of transport and trade facilitation through organising workshops, seminars, television programmes etc.

Training: Efficiency of transport and trade organisations that are involved in multimodal transport depends to a large extent on the quality of the workforce. To meet the requirements, a manpower development program has to be developed and implemented. There is a need to have competent and skilled personnel to meet the present and future challenges of global markets. Intensive knowledge of legislation and technical matters, commercial and world economics are very important for the
international multimodal transportation. Short courses inside and outside the
country, seminars and workshops with assistance from international agencies and
donors such as UNCTAD will be fruitful for the program.

Some of the activities of the committee will be:

a) To encourage the use of information technology and ensure that the government
   reduces tax on importation of computers and other communication infrastructures
   and equipment. For example, the NTTFC could discourage the analogue system
   and encourage use of digital systems by setting standards and quality of
   equipment needed to avoid the country to be a dumping area for outdated
   technology.

b) To ensure that a licensing and registration body is established and set standards
   for the approval system of Multimodal Transport Operators.

c) To design a regulatory framework, which favours national and international co-
   operation.

To achieve the objectives, the National committee main task should be to co-ordinate
all interested parties in trade and transport sectors. These are:

1) Ministry of Communication and Transport: Tanzania Harbours Authority,
   Tanzania Railway corporation, Tanzania-Zambia Railway Authority, Tanzania
   Communication Commission, Tanzania Central Licensing Board, Tanzania
   Central Freight Bureau.

2) Ministry of Finance: Tanzania Revenue Authority (Customs and Excise
   department), The Central Bank (Foreign exchange policy), Commercial Banks
   and Insurance Companies.

3) Ministry of Trade: Tanzania Registrar of Companies, The Tanzania Chamber of
   Commerce, The Board of External Trade, Board of Internal Trade, Tanzania
Freight Forwarding Association, Tanzania Shipper’s Council, and Shipping Agencies.

4) Ministry of Research and Planning-Lead the National Committee.

The National committee will be acting as an advisory body to the government, and propose recommendations on internal and external policy regarding the development of the transport and trade. From the National committee two or three members will be selected to participate in the sub-regional committee. To be successful the government has to adhere to other potential customs and transport conventions.

3.1.1.1 United Nations Convention on Transit Trade of Landlocked countries

Most of the neighbouring countries of Tanzania are landlocked which use the Tanzanian ports as the ports of nearby coastline. The United Nations Convention on the Law of the Sea (1982) provides for freedom of the high seas (article 87), and that the high seas are open to all nations who have no coastline (Article 89). Tanzania by adhering to this convention will encourage neighbouring countries to use its ports, especially for those who are contracting parties to the convention like Burundi, Rwanda and Zambia. By using Tanzanian ports their transit goods will not be subject to customs duty, which means a decrease in total transport cost and shorter delivery time, and for Tanzania enhances more trade.

3.1.1.2 International Convention on the Simplification and Harmonisation of Customs Procedures, Kyoto 1973

This convention is important for the government of Tanzania to adhere with, because with simpler formalities and procedures, efficiency, and increased productivity of the customs department, it is easier to computerise the system, decrease congestion of cargo at the stacking area and decrease fraud. With complex formalities it is easier for dishonest customs officers in collaboration with dishonest freight forwarders to
collude with customers and deviate transit cargo to the domestic market. This convention will also increase the quality of customer services if the country will comply with the standards and recommended practices of the convention. The contracting parties to this convention include Uganda, Burundi, Zambia, Rwanda and Zimbabwe. It will be of benefit for Tanzania to adhere to the same annexes of the convention that other neighbouring countries accept; this will enhance the smooth flow of trade.

3.1.2 Sub-Regional level

The objectives of developing multimodal transport will be more advantageous if the project will get support from neighbouring countries. Their participation in sub-regional meetings and signing of co-operation agreements will be useful. Agreements on joint use of equipment, joint pools of containers, common use of multimodal transport document, and common tariffs will boost the trade in the area and reduce the capital investment which may be used for acquisition of equipment for the individual country.

Integration of developing countries in economic ties today is more important than ever before. Some of the problems, which the sub-region is facing today, like inadequate transit traffic facilities and services and lack of co-ordination between modes of transport can be solved by, joined efforts. With courage and co-operation, countries will be able to solve some of the common problems prevailing in the area within a short period of time.

The establishment of a Sub-Regional Trade and Transport Facilitation Committee will be of great help in identifying common problems and solutions in technical and commercial matters in the trade and transport sectors. The project will be successful only when all members without interference from individual country interests implement all decisions taken by the sub-regional committee. The national
committee will take care of the national problems. The National Trade and Transport Facilitation Committee representatives in the Sub-Regional committee meeting have to encourage other representatives to sign Co-operation Agreements.

Other agreements that can facilitate the development of multimodal transport in the sub-region are trade and transport agreements that exist between Tanzania and neighbouring countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zambia</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>Uganda</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Malawi</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Rwanda</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Burundi</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 3. Existing Agreements between Tanzania government and neighbouring countries.

KEY:
A = Transit Agreement, B = Railway joint ownership
C = Inter Railway Agreement, D = Bilateral Agreements Ports
E = Preferential Trade Area for eastern and Southern African States (PTA).
F = South Africa Development Community (SADC), G = Reserve port.

There are enough resources available that can facilitate the development of multimodal transport in Tanzania and neighbouring countries. It is about time for the government to have a National policy that supports the development of multimodal transport, to ensure that the philosophy is implemented for the economic development of the country. Deliberate efforts are needed to reduce if not eliminate the physical impediments which could hinder the multimodal transport operations in different sectors.
3.2 Road sector

Many Tanzanian roads pose a problem to transit cargo shipments because some are impassable in the wet season. The road network on the Tanzanian mainland has an estimated length of 85,000 km. The network consists of trunk roads (10,300 km), regional roads (24,700 km), district roads (20,000 km), urban roads (2,450 km) and community roads (27,550 km). Only 5% of the road network are bituminised.

The Integrated Road Project, which deals with rehabilitation and construction of highways and rural roads, was designed to improve the condition of roads. About 80% of the trunk road network and 50% of the regional road network including 3000 km of essential district and feeder roads are to be rehabilitated to good condition by the year 2000.

The fragmented functional responsibilities of the road sector involving many departments under different ministries constrain the smooth and effective development of the road sector. The solution for the problem is to integrate all activities and have a master plan that can be used as guidance by all organisations dealing with the road sector. The government has to select one body to administer the sector. These activities are:

1. Ministry of Works-Axle load control and road safety.
5. Regional administration-Regional licensing and
6. The Vice President’s office-Environment protection.

Poor co-ordination between authorities, and lack of a national integrated long term strategy are among the major problems facing the road sector.
The government has to realised the importance of the road sector in economic development of the country. The government body that will be chosen to manage the sector must be free from political interference and individual government officials, who use such kind of instruments to satisfy their own interests.

Trucking in Tanzania is increasingly expensive due to high costs of new vehicles and consumables (i.e. fuel, spare parts) and poor vehicle utilisation. The government has to understand the problems of trucking companies in the country and to assist them by alleviating operational burdens by introducing regulations that protect the industry. Reduction of import dues for trucks spare parts, and introducing new methods, which will ensure the increase of vehicle capacity utilisation and setting suitable conditions for investors, will increase the manufacturing and agricultural sector output. Introduction of multimodal transport can be one of the solutions to increase vehicle capacity utilisation by decreasing the transit time for long haul journeys and minimising distances and the number of handling and to be assured of back haul cargo.

### 3.2.1 Axle-load limit

The maximum load limit in Tanzania is 50 tons. In fact, considerable damage is caused to roads by exceeding axle-load limits, which is the maximum weight the axle can transmit to the road. The set limits are often violated because hauliers complain of under-utilisation of vehicles if strict enforcement is applied. There are axle-load regulations, which are applied in countries under the South African Transport Co-ordination Committee (SATCC). SATCC set up a regional axle-load control system, in which axle-load regulations are standardised with the designed standards of roads at the regional level. This is to ensure that the same vehicles can cover a journey with the same load. The haulier has to observe the axle limit because it is one of the conditions for issue of the Transit Carrier Licence applied in the region.
Due to increasing capacity of the trucks and the pressing need of the carriers to overload, so as to maximise the income per journey, the governments in the region should review the pavement standard specifications to accommodate higher axle load limits. This is important to be able to cope with the increasing volumes of heavily loaded vehicles. It is important to note that operators aspire to acquire larger and longer vehicles to benefit from economies of scale, USD/tonne/km, and manufacturers are responding to the needs positively. Hence, the long distance truck will continue to increase in size and capacity despite the road design standard limitations. This calls for review of existing road design construction standards as well as the existing axle load limits.

3.3 Railway sector

The railway network in Tanzania consists of two networks. First there is Tanzania Railway Corporation (TRC) which has 2,605 km of mainline and branch line track and 377 km of sidings with 1-M gauge. The second is Tanzania-Zambia Railway Authority (TAZARA), which has a total length of 1852 km with 1.067-M gauge. The TAZARA network is owned by two nations Tanzania and Zambia and is of modern technology compared to the TRC system. TRC infrastructure such as track, bridges, signal systems, terminals, marshalling yards and communication facilities are old and obsolete in technology and require replacement. This limits speed and safety of domestic and transit cargo movements. There is an on-going project to modernise and replace old track and communication systems to be more efficient under the Railway Rehabilitation Project. Due to poor infrastructure a number of reasons contribute to poor performance of the line among which are accidents, which occur due to poor track, poor signal facilities and communication systems, staff negligence, wagon defects and theft of communication wires. Other factors, which contribute to a large extent to the poor performance of Tanzania Railway Corporation, are:
1. Low availability and reliability of equipment lead to poor turn around time, as a result of poor state of the fleet and long delays, waiting for spare parts and materials for repair and maintenance from suppliers.

2. Locomotive utilisation, this is another factor, which hinders achievement of good transit time of transit traffic and results in poor customer satisfaction and customer deviation to other East African, and South African ports. Most of the locomotives are old and consume more time for repair and maintenance. This makes locomotive reliability to be very poor with frequent breakdowns.

3. Lack of wagon availability is a major problem, which frustrates customers whenever it occurs. The number of wagons operated by TRC is not sufficient to cater to the needs of customers. This makes the government to allow Kenyan and Ugandan governments to employ their own wagons for state owned cargo destined to these two countries. Taking as an example the traffic moved within the week ending 31st December 1999, there were 57 wagons owned by Uganda Railway, and 70 wagons owned by Kenya Railway respectively. This kind of shared use of equipment could be a positive step for sub regional co-operation and enhancing the idea of multimodal transport development in the region.

3.3.1 Bridges and tunnels

There are no problems with the strength of bridges and measurements of tunnels with the TAZARA line. Containers are moved on this line can be moved without any hindrances. The problem lies with the TRC line, where bridges are very weak and are easily washed away during heavy rains. The network has no tunnels. So the government has to construct new strong bridges than can resist the movement of heavy containers, or rehabilitate the existing bridges by increasing the strength.

The TRC line has a gauge of 1 M, identical to Uganda rail and Kenya rail. It is time to fully utilise the East African network by having good connectivity and flexibility of rail operations. Another opportunity of TRC is the feasibility study to construct a
railway line connecting the TRC network to Burundi and Rwanda. According to the “East African online” of March 20, 2000, the governments of Rwanda and Burundi have a plan to build a direct railway link to the Dar es Salaam port as an alternative route to the sea. This decision was reached due to increased fuel prices and the recent introduction of the axle load limits in Uganda and Kenya, which increases the transport costs and delays caused by customs procedures at Mombasa port. Rwanda and Burundi are connected by road to Uganda and Kenya with a distance of more than 700 kilometres, while it is 280 kilometres from the existing railway terminal at Rusumo in Tanzania to Burundi, and 500 kilometres from Isaka Inland Customs Clearing terminal in Tanzania to Kigali Rwanda. This project will increase the potential of the TRC network in the Central and East African countries. That means the Tanzanian government has to give all necessary assistance needed by Rwanda and

For many years and in many countries, railway administrations have had to fall back on the government for subsidies, because they have not made enough money to cater for all their needs and plough back part of their incomes to develop their infrastructures and facilities. The government finds it difficult to continue offering subsidies to the national railways. The railway corporations, therefore, need to find ways and means of delivering services at a cost to keep them afloat in the business with positive revenues.

The need for privatisation of railway services may somehow change the situation. The possibility of establishing landlord railway systems that take care of the permanent infrastructure and possibly leave operations to other service providers might be an alternative solution. Big customers can operate their own locomotives and employ their own wagons and pay trackage to the landlord. This will increase flexibility and efficiency in railway operations.
3.3.2 Block trains

Tanzania Railway Corporation (TRC) introduced the block train service to improve turn around time, safety and reputation with customers who were starting to abandon their services. This system becomes a remedy to users with cargo that are destined to the same destination. The benefit of block train services is that it offers faster turn-around time, quick operations by eliminating depots and terminal delays, reduced en-route stoppage, increased security of cargo and therefore decreased transport cost, increased customer satisfaction and company productivity. For example, for cargoes those are going to The D. R Congo, Burundi and Rwanda there are more than four block trains per week to Isaka and Kigoma. For traffic going to Uganda and Kenya there are more than five block train services per week and one block train to Mwanza and Tanga respectively. Targeted and actual time used to move cargo to different destinations are as shown below in table 4. Terminal charges like transhipment charges, warehousing and storage charges are consolidated in total freight charges.

<table>
<thead>
<tr>
<th>Route Dar es salaam to</th>
<th>Departure date</th>
<th>Arrival date</th>
<th>Composition</th>
<th>Commodity</th>
<th>Targeted transit time</th>
<th>Actual transit time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mwanza</td>
<td>24 Dec</td>
<td>26 Dec</td>
<td>Covered</td>
<td>GAPCO</td>
<td>72 hours</td>
<td>52h10</td>
</tr>
<tr>
<td></td>
<td>25 Dec</td>
<td>28 Dec</td>
<td>Covered</td>
<td>Grain</td>
<td>72</td>
<td>72h05</td>
</tr>
<tr>
<td></td>
<td>26 Dec</td>
<td>29 Dec</td>
<td>Covered</td>
<td>Gen. Cargo</td>
<td>72</td>
<td>68h40</td>
</tr>
<tr>
<td></td>
<td>26 Dec</td>
<td>30 Dec</td>
<td>Cov/OPH</td>
<td>Gen. Cargo</td>
<td>72</td>
<td>76h05</td>
</tr>
<tr>
<td></td>
<td>28 Dec</td>
<td>31 Dec</td>
<td>Covered</td>
<td>Gen. Cargo</td>
<td>72</td>
<td>74h35</td>
</tr>
<tr>
<td></td>
<td>28 Dec</td>
<td>31 Dec</td>
<td>Cov/tank</td>
<td>Gen. Cargo</td>
<td>72</td>
<td>71h15</td>
</tr>
<tr>
<td></td>
<td>28 Dec</td>
<td>31 Dec</td>
<td>Cov/OPH</td>
<td>Gen. Cargo</td>
<td>72</td>
<td>68h05</td>
</tr>
<tr>
<td>Kigoma</td>
<td>24 Dec</td>
<td>28 Dec</td>
<td>Covered</td>
<td>Fertiliser</td>
<td>72 hours</td>
<td>78h05</td>
</tr>
<tr>
<td></td>
<td>25 Dec</td>
<td>28 Dec</td>
<td>Covered</td>
<td>Gen. Cargo</td>
<td>72</td>
<td>54h00</td>
</tr>
<tr>
<td></td>
<td>27 Dec</td>
<td>30 Dec</td>
<td>Covered</td>
<td>Ferti/Maize</td>
<td>72</td>
<td>51h25</td>
</tr>
<tr>
<td></td>
<td>28 Dec</td>
<td>31 Dec</td>
<td>OPH/OP</td>
<td>Gen. Cargo</td>
<td>72</td>
<td>68h55</td>
</tr>
<tr>
<td></td>
<td>28 Dec</td>
<td>31 Dec</td>
<td>Cov/OPH</td>
<td>Gen. Cargo</td>
<td>72</td>
<td>46h05</td>
</tr>
<tr>
<td>Isaka</td>
<td>26 Dec</td>
<td>29 Dec</td>
<td>Covered</td>
<td>WFP</td>
<td>48 hours</td>
<td>52h50</td>
</tr>
<tr>
<td></td>
<td>28 Dec</td>
<td>31 Dec</td>
<td>Covered</td>
<td>WFP</td>
<td>48</td>
<td>54h05</td>
</tr>
</tbody>
</table>

Table 4. Block train services and transit time to different destinations for week ending 31st December 1999.
Source: Tanzania Railway Corporation.
3.3.3 Isaka Dry Port

The Tanzania Railway Corporation (TRC) manages Isaka dry port. Isaka is strategically located to serve Rwanda, Burundi, D. R Congo, Uganda and North Western Tanzania. Isaka provides a holding point for containerised and non-containerised general cargo, thus alleviating the necessity for shippers to travel to Dar es salaam. The terminal is dedicated to provide an efficient sea link at competitive tariff rates, short transit time, safety and security of cargo, easy documentation and proactive customer services. Services provided by the terminal are as follows:

a) Documentation: There are simplified and timely processing of documents, all done under one roof. TRC, THA and shipping agents do Dar es salaam port documentation and they issue a Through Bill of Lading to Isaka.

b) Shipping services: There are a number of shipping companies rendering various services for the port of Dar es salaam, and offer shipping services world-wide.

c) Clearing and Forwarding Agents: There are a number of CFAs operating at Isaka. Shippers are advised to appoint their agents who will assist them in documentation processing, customs clearance and delivering goods to final destination.

d) Tanzania Central Freight Bureau (TCFB): TCFB is a regulatory organisation for commercial shipping. It has responsibility to promote the economy through fair competition for the benefit of providers and users of shipping services. In particular, TCFB is concerned with levels of freight charges, surcharges, port productivity, container holding free time and demurrages, inland costs and research into and dissemination of information to meet the needs of stakeholders in the shipping industry.

e) Inland transport: Isaka terminal is connected to Kigali by a tarmac road the distance of which is 480 km. TRC also operates a rail network to Isaka. There is a daily train service between Dar es salaam and Isaka, and two container blocks trains weekly (see table 4).
Isaka dry port is equipped to receive and dispatch all types of cargo, and it has the following facilities:
A Container stacking ground for 300 TEUs, container-handling equipment, and two sheds for 3000Mts forklifts with various capacities, and shunting tractors.

3.3.3.1 The achievement of the block train services and Isaka dry port

Isaka achieves to some extent to provide reduced total transport costs to customers through short transit time, efficient wagon allocation, no storage charges at Dar es salaam port, no demurrage charges on wagons, more container free time, no trucks to Dar es salaam and better utilisation of trucks. Less movement of empties achieves better utilisation of containers and reduced repositioning costs, and assured safety and security of cargo.

The observations are that, there is a big improvement of transit time in block train services compared to normal services in which it takes more than 96 hours to Mwanza and Kigoma, Isaka, Mwanza and Kigoma are interface terminals. Containers coming from Dar es salaam have to be discharged from the railway wagons and loaded onto other means of transport whether trucks or wagon ferries ready to be transported to its final destinations. That means the cargo owner (the shipper or the consignee) has to arrange for other transport and negotiate for new freight charges and signs a new contract of carriage of goods by road or inlandwater transport. Before concluding the contract, the cargo owner has to keep the containers in a stacking area where he has to pay the storage charges and demurrage charges if the free time for the container ends. After concluding the contract of carriage, he has to receive another transport document, the road consignment note or the inland waterway consignment note and invoices in which he is supposed to pay cargo handling charges and transportation charges. The probability of loss and damage to the cargo increases as a result of double handling, unsuitable handling facilities or
unskilled crane drivers. The probability of pilferage to cargo may also increase due to poor security at the terminals. Then, the cargo owner has to insure his cargo against loss and damage to cargo to the final destination.

The first carrier’s liability and control of cargo ends at Isaka, Kigoma or Mwanza. The new carrier has to assume the responsibility of taking care of the cargo until its final destination. Therefore, for the cargo owner situating in Uganda, Burundi, Rwanda and the D. R. Congo, the achievement of short transit time by TRC is meaningless. The consignee still has no assurance of safety of his cargo and he does not know when he is going to receive the cargo into his custody. He is loosing a lot of time at the Isaka interface terminal and he spends more money.

Developing multimodal transport operations will solve high total transport cost. Easy to recognise the responsible carrier, known as the multimodal transport operator who will be liable for safety and time of delivery in the whole transport chain and capable to handle the above named problems in a more cost-effective way.

3.4 Maritime sector

The private sector largely controls the maritime industry both for sea and inland waterway transport, with the exceptions of Tanzania Harbours Authority (THA) and TRC marine activities. The industry has vast underlying potential for growth of domestic and international trade. Maritime transport is positioned to provide vital linkage in regional trade and is highly interdependent with rail and road transportation.

There are three major ports in Tanzania. Dar es salaam is the biggest port with annual total capacity of 5 million tonnes, and Tanga and Mtwara are the two others. The port of Dar es salaam handles cargo for the neighbouring countries of Zambia, Malawi, Burundi, Rwanda, Uganda and D R Congo. The transit traffic consists of
both general cargo and liquid bulk petroleum products. The economic performance and political unrest of some of the countries using Tanzanian ports, coupled with increasing competition in East and South African ports, affect the volume of transit trade.

Development of a good interface between lakes and roads is important to decrease dwelling time of containers at the terminals and increase transit capacity by having more trips to the hinterland. For example, MV Victoria performs only two trips per week between Mwanza and Port Bell in Uganda and it takes eighteen hours for a round trip. This means, with reliable vessels and wagons, good interface facilities and equipment for handling transit cargo and with regular and preventive maintenance for the vessels, it is possible to increase the frequency to three or four round trips per week.

The system of carriage across the lake is biased towards wagon ferries. It is important to ensure good integrated links of rail/road-lake-rail/road, so that the landlocked countries can increase their choice of routing without being restricted to either mode of transport. This applies to Ugandan traffic where a customer has a choice of Mombasa port in Kenya or Dar es salaam port through Mwanza port in Tanzania.

3.4.1 Kurasini Inland Clearance Depot (KICD) and Ubungo ICD (UICD)

KICD is located 2 km from the Dar es salaam port and is designed to handle transit traffic. The depot has a stacking area of 20,539 sq. metres. The depot is used as a customs clearance and distribution centre for transit goods. Ubungo is used for domestic cargo and is located 10 km from the port area. Both depots have very good railway and road connections that make it easier for transfer operations from one mode of transport to another.
It is customs procedure and practice not to open the container if the seal is intact or unbroken. By doing that inspection can be done without impeding the container movement. The seal remains intact from when the shipper and the customs officer at the original point put it on the container until when the consignee receives

3.5 Air freight sector

In the 1990s, Tanzania’s air transport exhibited some positive growth in the sector following the 1992 liberalisation of air transport services; more private operators have been licensed to operate. There is new policy and regulatory reforms that aim at improving the establishment of Tanzania Airports Authority as an executive agency, which takes over the operation of airports including the promotion of commercial ventures, is a big step in the development of the air transport industry in the country.

The establishment of Tanzania Civil Aviation Authority as an independent executive agency is another step forward. The agency will operate without government bureaucracy and run air traffic control systems adhering to international standards on regulations and recommended practices. The government is pulling out from business oriented activities to policy and regulatory activities to improve the services while the government is relieved from funding requirements. The Kilimanjaro International Airport has already been privatised and is being operated under a concession agreement.

3.6 Information and communication technology (ICT)

Movement of information is as important as movement of cargo. With reliable information and good communication systems, quick dispatch of information to all logistics service providers could decrease delay of cargo handling at terminals.
The application of Electronic Data Interchange (EDI) in the movement of goods, especially containerised cargo, is very essential to meet the customer needs. Application of EDI ranges from quick transmission and exchange of information, fleet management to documentation. Despite the fact that, the EDI technology is more expensive and complex with stringent standards and data translation, with value added networks, the technology is very secure and saves money and time when it is used in appropriate way.

The Internet evolution and especially the development of the World Wide Web, are becoming more acceptable and less expensive to both transport providers and shippers. The system includes facilities and technical operational features that can benefit the user through high accessibility, productivity and reliability. The system is more flexible, saves time and money and assures high quality of services. Both EDI and Internet are widely used in international trade.

Global positioning system (GPS) is becoming a popular and very important tool in the trucking industry. The problem of this system is that it is very expensive; a small operator could not afford to buy and fit the system in his truck.

3.6.1 The Advanced Cargo Information Systems (ACIS)

ACIS is a United Nations Conference on Trade and Development (UNCTAD) project, which tracks the cargo from before the arrival of the ship until when the cargo reaches its destination. It is being implemented in Tanzania and neighbouring countries. The system monitors port activities, rail and road but so far it concentrates on port and rail activities. The objective of ACIS is to assist and make sure that the real-time data and information is available for smooth flow of cargo and other logistics activities.

ACIS benefits shipping lines, road hauliers, railways and forwarding and clearing agents in different ways:
(a) By providing them with advance information for cargo expected to arrive in terminals for intermodal transfers.

(b) For port and railways it assists them to manage efficient movements of traffic in their networks by deploying their manpower and equipment optimally.

(c) For consignors and forwarding and clearing agents, it provides them with the positions of their freight in the transport networks and that can make interventions to carriers in order to reduce transit time from origins to destinations.

(d) For terminals and inland container depots and warehousemen, they can know beforehand what is expected from ports and railways and arrange for storage of cargoes in transit due to customs bond requirements or transferable liens held on goods by agents, transporters or financing banks.

ACIS provides information to regulatory authorities, such as customs and inspection bodies who need to perform their duties promptly to avoid administration delays to cargo clearance from ports and terminals. The individual consignment is tracked along the inland transport route at regular intervals of time. Its position is known and is available to the consignor and consignee as well as to all other operators involved in through transport.

![Diagram](attachment:image.png)

**Figure 2.** The benefits of the use of information and communication technology.

By February 2000, there were 6000 individual who were regular users of Internet among 30 million Tanzanians. The government has to realise the importance of information. There must be a co-ordination of efforts within the government that will enable Tanzanians to start using Internet to get decisive information. Internet will improve their effectiveness in work, raise efficiency and increase their opportunity of exploring new markets and learn new ways of doing business. Internet will help to understand where the world is heading on technology development and its impact on the economy of the country.

3.7 Safety and Environment protection

The pollution problem is increasing from the land-based sources more than from the ocean-based sources. This is caused by high population growth, rapid growth of coastal settlement, increase in number of recreational centres and the concentration of industrial development along the coast areas. Areas around the big ports of Dar es salaam and Tanga and the growing towns of Kigoma and Kyela and the city of Mwanza which are acting as interface terminals, are highly For example, the Dar es salaam population grows from 2.6 million people in 1990 to 3.8 million people by January 2000.

After the liberalisation of trade, the government has set regulations, which allow more involvement of the private sector in importation of second hand goods, which make the country a dumping area for poor quality and second hand materials; as a result it increases the environment problems. Disposal of residuals from trawlers, noise and smoke from vehicles, and bad land planning; small and big industries to be built in wrong areas, results in wastes, chemicals and oil spillage and sewage going directly into the sea. Some are left in open areas threatening the people’s lives that are adversely affected by this menace and it is ecological disaster.
Poor vehicle maintenance The government needs to establish specific levels of smoke emissions for various categories of vehicles, and these should be internationally accepted and enforceable. Introducing one way traffic lanes and development of parking areas could reduce the problem of congestion.

The government has to integrate the environmental problems with social and economic development to have a basis on how to deal with the problem and have long term strategies for maintaining the environment.

The capability of the Tanzanian government to manage the current pollution and environment problem is still insufficient and this limits the future choices for meeting the challenge of sustainable development. The technical problems are significant challenges, which make the government responsibility on safety and environment protection more difficult. Non-availability and incorporation of scientific and technical information in the policy process, jurisdiction and lack of enough funds in financing the safety enhancement programmes increase the problem. This is because the country lack the scientific equipment to identify and measure the level of pollution and lack of enough skilled personnel in the particular field increases the problem in dealing with environment protection and management.

Tanzania is party to the International convention on the Law of the Sea (1982), in which it provides the basis for legislative issues governing many international relationships and for ocean management. There are two levels, which the government needs to harmonise in the management of oceans and coastal areas, the exclusive economic zones (EEZs), where the government has certain rights and the responsibilities within the national jurisdiction. The second is the high seas, which requires the international, regional and national co-operations. Political, legal and economic, especially financial and national priority problems are the major bottlenecks to environment protection and sustainable development.
The identification of technical solutions such as national regulation and policy reforms, capacity building, public awareness, exchange of information and strengthening of regional and international co-operation will help to improve safety and the environment.

3.8 Movement of trade

It is unfortunate that movement of trade through the port of Dar es salaam is decreasing year after year. This is because of fierce competition in East and South African ports that creates variations of service provisions to shippers, such as: Total transit times, total transport costs and safety of goods, reliability and efficiency of inland modes of transport, reliability and availability of cargo handling facilities and provision of value-added services. Second, because of poor economic development in neighbouring countries which is associated with political instability in the area. A third reason is the shipper’s freedom to choose the best preferable route, which indicates that Dar es salaam has been losing in competitiveness in recent years.

3.8.1 Evaluation of individual country performance

3.8.1.1 Uganda

A total of 86,544 tons of Ugandan cargo were handled in 1996/97 compared to 95,670 tons handled in 1995/96, a decrease of 9.53%. Imports decreased by 32% from 73,390 tons to 50,012 tons. Exports increased by 64% from 22,280 tons handled in 1995/96 to 36,532 tons handled in 1996/97. Container traffic handled in 1996/97 was 2479 TEU carrying 44,588 tons compared to 1875 TEU carrying 32,751 tons handled in 1995/96.
3.8.1.2 D.R Congo, Burundi and Rwanda (CBR)

During 1996/97, CBR traffic handled at the port totalled 304,394 tons, which is a 35.42% reduction compared to 471,348 tons handled in 1995/96. Import cargo handled in 1996/97 was 233,606 tons, a decrease of 37.59% against 374,329 tons handled in 1995/96. Import cargo constituted 161,542 tons of general cargo, 54,641 tons of liquid bulk and 17,423 of dry bulk. The export volume was 70,788 tons in 1996/97, which was 26% less than the 97,019 tons of exports handled in 1995/96. Containerised traffic decreases to 5,207 TEU carrying 86,065 tons handled in 1996/97 from 9,755 TEU carrying 154,537 tons handled in 1995/96.

3.8.1.3 Malawi

The transit trade to Malawi is very low compared to other countries using the port of Dar es salaam. The main problem that hinders the achievement of more traffic to and from Dar es salaam port to Malawi is the long distance compared to Beira and Nacala ports in Mozambique. It is 1108 Kms from Lilongwe to Beira, and 640 Kms from Blantyre to Beira, while it is 1594 Kms and 1772 Kms from Dar es salaam to Lilongwe and Beira respectively. Despite the fact that, there were a decrease of import traffic of about 1402 tons and an increase of 1343 tons of exports, there were no significant increase in the total traffic handled in 1995/96 (8614 tons) and 1996/97 (8615 tons).

The development of Mtwara port, the so-called Mtwara corridor may woo back the cargo lost to Beira and Nacala ports. Mtwara port has more competitive advantages than the Mozambican ports. First, by the distance between Mtwara and Malawi is very short; secondly, security reasons may make Malawi choose the Mtwara corridor.
3.8.1.4 Zambia

Zambia is the major transit user of Dar es salaam port. During 1996/97 Zambia traffic constituted 19.6% of the total port throughput, having decreased by about 9% from 781,056 tons in 1995/96 to 726,922 tons in 1996/97. Zambia total traffic imports and exports decreases by 3.97% and 13.77% from 545,111 tons and 235,948 tons in 1995/96 to 523,478 tons and 203,444 tons in 1996/97 respectively.

Containerised traffic decreased from 11,322 TEU carrying 207,710 tons in 1995/96 to 10,360 TEU carrying 198,517 tons in 1996/97.

<table>
<thead>
<tr>
<th>Imports</th>
<th>1996/97</th>
<th>1995/96</th>
<th>TEU Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>TEU</td>
<td>Tonnage</td>
<td>T/TEU</td>
</tr>
<tr>
<td>Zambia</td>
<td>3415</td>
<td>56839</td>
<td>17</td>
</tr>
<tr>
<td>CBR</td>
<td>4267</td>
<td>69792</td>
<td>16</td>
</tr>
<tr>
<td>Malawi</td>
<td>412</td>
<td>6677</td>
<td>17</td>
</tr>
<tr>
<td>Uganda</td>
<td>744</td>
<td>12441</td>
<td>17</td>
</tr>
<tr>
<td>Others</td>
<td>934</td>
<td>15024</td>
<td>16</td>
</tr>
<tr>
<td>Total Imports</td>
<td>9,772</td>
<td>160,773</td>
<td>16</td>
</tr>
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</table>

Table 5: Imports 1996/97 Vs 1995/96 Source: THA

<table>
<thead>
<tr>
<th>Exports</th>
<th>1996/97</th>
<th>1995/96</th>
<th>TEU Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>TEU</td>
<td>Tonnage</td>
<td>T/TEU</td>
</tr>
<tr>
<td>Zambia</td>
<td>6945</td>
<td>141678</td>
<td>20</td>
</tr>
<tr>
<td>CBR</td>
<td>940</td>
<td>16273</td>
<td>17</td>
</tr>
<tr>
<td>Malawi</td>
<td>109</td>
<td>1938</td>
<td>18</td>
</tr>
<tr>
<td>Uganda</td>
<td>1735</td>
<td>32144</td>
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</tr>
<tr>
<td>Others</td>
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<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Total Exports</td>
<td>9729</td>
<td>192,033</td>
<td>20</td>
</tr>
</tbody>
</table>

The trade flows show that in 1996/97, there was practically balanced container traffic for import cargo (9772), compared to export cargo (9729) although in respect of tonnage moved, there was more in exports (192,033) than imports (160,773), due to difference in carrying capacity per TEU. The average carrying capacity per TEU for import cargo was 16 tons per TEU and 20 tons per TEU for exports. In respect of containerised cargo, the most important factor is the number of containers moved because the tariff charges are in USD/TEU.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
</thead>
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<tr>
<td>General cargo-</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Tanzania</td>
<td>454</td>
<td>470</td>
<td>486</td>
<td>519</td>
<td>542</td>
</tr>
<tr>
<td>Zambia</td>
<td>52</td>
<td>52</td>
<td>53</td>
<td>54</td>
<td>55</td>
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<tr>
<td>CBR</td>
<td>257</td>
<td>267</td>
<td>277</td>
<td>277</td>
<td>298</td>
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<tr>
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<td>4</td>
<td>4</td>
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<tr>
<td>Uganda</td>
<td>41</td>
<td>42</td>
<td>43</td>
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<tr>
<td><strong>Sub total</strong></td>
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<td><strong>834</strong></td>
<td><strong>861</strong></td>
<td><strong>905</strong></td>
<td><strong>940</strong></td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Tanzania</td>
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<td>369</td>
<td>390</td>
<td>413</td>
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<tr>
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<td>80</td>
<td>85</td>
<td>89</td>
<td>94</td>
<td>99</td>
</tr>
<tr>
<td>CBR</td>
<td>94</td>
<td>101</td>
<td>109</td>
<td>117</td>
<td>125</td>
</tr>
<tr>
<td>Malawi</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Uganda</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><strong>Sub total</strong></td>
<td><strong>526</strong></td>
<td><strong>567</strong></td>
<td><strong>599</strong></td>
<td><strong>634</strong></td>
<td><strong>671</strong></td>
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<td>Dry Bulk</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Tanzania</td>
<td>98</td>
<td>104</td>
<td>108</td>
<td>114</td>
<td>119</td>
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<tr>
<td>Zambia</td>
<td>44</td>
<td>45</td>
<td>47</td>
<td>48</td>
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<tr>
<td>CBR</td>
<td>66</td>
<td>69</td>
<td>73</td>
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<td>81</td>
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<tr>
<td>Malawi</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Sub Total</strong></td>
<td><strong>208</strong></td>
<td><strong>218</strong></td>
<td><strong>228</strong></td>
<td><strong>238</strong></td>
<td><strong>249</strong></td>
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<tr>
<td><strong>Total dry cargo</strong></td>
<td><strong>1542</strong></td>
<td><strong>1618</strong></td>
<td><strong>1688</strong></td>
<td><strong>1777</strong></td>
<td><strong>1860</strong></td>
</tr>
</tbody>
</table>

Table 7. Dry cargo forecasting through Tanzanian ports for the period from 1996/97 to 2000/01. Source: THA.
3.9 Trade forecasting

Forecasting by THA indicates that the proportion of containerised cargo will decrease by 0.7% from 35.6 in 1996/97 to 34.9% in 2000/01. It is an assumption that the volume of containerised cargo will grow but slower than break bulk and bulk cargoes, because of the trends which are taking place in the world movement of general cargo. Today, there is tremendous increase of general cargo moved in containers in the world sea borne trade, that made the freight rate per box to be cheap in comparison to freight charges on movement of break-bulk cargoes. As a result all cargoes that can be moved in containers are containerised. This has led to containerisation of cargoes, which by experience were never containerised such as forest products, animal feeds, cocoa beans and so on, except for bulk and project cargoes. Therefore, the forecast to be used by planners to foresee the growth of trade in the area will be the general traffic movement.

The transport technique employed in moving cargo is also important for development of multimodal transport services in the country. For example, it is not expected for a shipper to import cargo by using containers if the country has inefficient systems for handling containerised traffic, that increase the total transport costs and offer services that do not satisfy the customer. The same shipper will be more attracted to import cargo in containers if the country develops efficient systems in handling containerised traffic that result to minimum total transport cost and satisfy the customer.

The forecasting of any economic activity will much depend on various factors that in one way or another affects the trade movement such as political reasons, social, legal and so on. For example, the actual movement of the CBR containerised traffic in 1996/97 shows a big different from the forecast figures. The CBR traffic decreased by 24,208 tonnes, which may be associated with political instability of the area, and Zambia traffic decreased by 23,161 due to poor economic development of the area.
Imports in tonnage:

<table>
<thead>
<tr>
<th>Country</th>
<th>Actual</th>
<th>Forecast</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zambia</td>
<td>56,839</td>
<td>80,000</td>
<td>-23,161</td>
</tr>
<tr>
<td>CBR</td>
<td>69,792</td>
<td>94,000</td>
<td>-24,208</td>
</tr>
<tr>
<td>Malawi</td>
<td>6,677</td>
<td>6,000</td>
<td>+677</td>
</tr>
<tr>
<td>Uganda</td>
<td>12,441</td>
<td>7,000</td>
<td>+5,441</td>
</tr>
</tbody>
</table>


In investment analysis, there is a distribution of positive and negative outcomes that can be associated with unexpected events, such as inflation rates and interest rates. That could happen because of changes in economic policy of the country, which influence a large number of economic activities, where trade and transport activities are among the major affected areas, and are called the market risk. So, the government should take that into account because most of the countries in the sub region are taking under such economic changes.

Lack of good information systems in the hinterland is another problem for developing data that are suitable for forecasting the trade. Gathering of up to date statistics is hindered by inadequately skilled researchers and equipment such as computers for processing and storage of statistics gathered. The government has to take this into consideration.

The government needs to look at the forecasts in a wide scope, by analysing all the parameters that have impact on development of trade in the country and sub region, to encourage the new multimodal transport operators. The government has to be flexible and not depend on information from one organisation. It is good to gather information from various organisations to get a best-fit equation during computation.

An example of the model that can be used in trade forecasting is linear regression or straight-line equation where \( Y = a + bx \). Figures are from table 7.
<table>
<thead>
<tr>
<th>Year</th>
<th>X</th>
<th>Y (000 tonnes)</th>
<th>XY</th>
<th>XX</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996/97</td>
<td>1</td>
<td>1542</td>
<td>1542</td>
<td>1</td>
</tr>
<tr>
<td>1997/98</td>
<td>2</td>
<td>1618</td>
<td>3236</td>
<td>4</td>
</tr>
<tr>
<td>1998/99</td>
<td>3</td>
<td>1688</td>
<td>5064</td>
<td>9</td>
</tr>
<tr>
<td>1999/00</td>
<td>4</td>
<td>1777</td>
<td>7108</td>
<td>16</td>
</tr>
<tr>
<td>2000/01</td>
<td>5</td>
<td>1860</td>
<td>9300</td>
<td>25</td>
</tr>
<tr>
<td>n = 5</td>
<td>15</td>
<td>8485</td>
<td>26250</td>
<td>55</td>
</tr>
</tbody>
</table>

\[
a = \left( \frac{\text{sum } y \times \text{sum } xx - \text{sum } x \times \text{sum } yy}{n \times \text{sum } xx - \text{sum } x \times \text{sum } x} \right)
\]

\[
b = \left( \frac{n \times \text{sum } yy - (\text{sum } x \times \text{sum } y)}{n \times \text{sum } xx - \text{sum } x \times \text{sum } x} \right)
\]

From the table above \( Y = 1458.5 + 79.5x \)

4. FREIGHT TRANSPORT FACILITATORS

Freight transport providers play an important role in multimodal transport operations, and are known as Multimodal Transport Operators (MTOs). According to the definition provided by the Multimodal transport convention, Multimodal transport operator “means any person who on his own behalf or through another person acting on his behalf concludes a multimodal transport contract and who acts as a principal, not as an agent or on behalf of the consignor or of the carriers participating in the multimodal transport operations, and who assumes responsibility for the performance of the contract.”

There are three types of MTOs:

1. Ship Owners who are known as Vessel Operating Multimodal Transport Operators (VO-MTO). These extend their services from port to port to door to door services.

2. Non-Vessel Operating Multimodal Transport Operators (NVO-MTO). These are non-vessel-owning operators. The operator may own other means of transport such as a trucking company, and assumes his responsibilities by sub contracting other logistics activities to railways or sea leg.

3. Freight Forwarders. This group does not own any means of transport. They carry on their operations by sub-contracting all logistics activities from other service providers, such as shipping companies, railways and road hauliers. This type of MTO also falls under the general heading of NVO-MTOs.
A Multimodal Transport Operator like a Freight Forwarder provides many services including cargo consolidation from Less than container Load (LCL) to Full container Load (FCL), packaging, weight and measurements, negotiation with carriers and advising the shipper on market conditions, know-how etc. but they have different duties and responsibilities.

Duties and responsibilities of MTO VS Freight Forwarder:

<table>
<thead>
<tr>
<th>Multimodal Transport Operator (MTO)</th>
<th>Freight Forwarder (FF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Is an independent contractor who assumes responsibility in his own name for provision of services required, in that sense he is issuing a Multimodal Transport Document.</td>
<td>• Is an agent of his principal (shipper/consignee) in arranging transport contract.</td>
</tr>
<tr>
<td>• He is responsible for acts or omissions of third parties such as carriers, re-forwarders and sub contractors whom he engages for the performance of the contract.</td>
<td>• The principal determines and limits the tasks of a Freight Forwarder but the FF is obliged to fulfil his obligations.</td>
</tr>
<tr>
<td>• He has to negotiate a total transport cost for the whole performance of the contract, and is liable for all services including the subcontracted ones, that is from the origin to the final destination.</td>
<td>• Most of the Freight Forwarders are found in interfaces between transport networks and assist the shipper to sign a contract on segmented transport and not the total transport chain.</td>
</tr>
<tr>
<td>• He is liable for all loss and/or damages occurring during transportation, and needs to have sufficient cover for cargo under his control.</td>
<td>• He must be loyal to the shipper and obey reasonable instructions.</td>
</tr>
<tr>
<td>• He controls the movement of cargo</td>
<td>• He is obliged to provide advisory services to the shipper but is not liable for the results. The application of this practice is different from one country to another, for example in France (Civil law country) the FF is liable for the results while in a</td>
</tr>
</tbody>
</table>
and he is liable for delays on delivery.
• He keeps a lien on goods; he has a right of detention over the goods for the customers’ failure to pay his dues.
• Is very well established, with good financial position and reputation with agents or partners in all routes or market share is operating.

Tanzania (Common law country) the FF is not liable for the results.
• He has to advise the shipper to have an insurance cover for the goods.
• The FF can be a local company with or without any link or partnership in other countries, or it can be an international company with partnerships in other countries.
• The FF is not liable for any loss and/or damage, which occur during transportation of those particular goods.

<table>
<thead>
<tr>
<th>Table 9. Duties of an MTO Vs Freight forwarder.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: Compiled by S.G.I Tumpe.</td>
</tr>
</tbody>
</table>

There are no MTOs in Tanzania. There are local and sub-regional Freight Forwarders. Therefore, for the government to develop a Multimodal transport system in the country they need to develop the freight forwarding companies wishing to be MTOs by diversification of logistics activities; instead of serving port to port, they have to provide door to door services.

4.1 The position of freight forwarding industry in Tanzania.

In Tanzania the Clearing and Forwarding industry is dominated by the private sector. There are local businessmen and companies serving the sub-region with few international freight forwarders operating worldwide. The government has no involvement in clearing and forwarding activities except for providing the regulatory framework and services such as licensing and registration of operating companies. As at December 1995, there were more than six hundred Clearing and Forwarding agents operating at the port of Dar es salaam. Unfortunately it was observed that
most of them were briefcase C&F agents lacking necessary skills in processing and handling international transit goods, and they also have weak financial positions. To reduce the number and remain with competent C&F agents, the government through the Tanzania Revenue Authority (TRA) imposed strict rules in granting licences to C&F agents. The licence fees increased from Tanzania Shilling 10,000 (USD17) which was payable up to December 1995, to Tanzania Shillings 10 Million (USD 16,667) effective January 1996; and was lowered to Tanzania Shillings 5Million (USD 8,333) effective early 1997. This led to a decrease in the number of agents to less than 300 as at the end of July 1997.

The government needs to assist and develop Freight Forwarders wishing to be Multimodal Transport Operators: The government has to raise awareness of the importance of MTOs in the economic development of the country and what benefit they will gain by being MTOs.

Encourage small companies to join together in joint ventures or partnership. Then the government needs to assist them to secure soft loans from Commercial banks as capital investments for their new companies.

Encourage new MTOs by minimising regulations and introducing tax break system.

Avoid monopoly. The industry must have regulations that allow free and fair competition, and the government has to control the competitive conditions. The government has to avoid keeping foreign companies only to dominate the sector; indigenous companies have to be developed for the betterment of the country’s economy.

Encourage adaptation of new information technology and reduce/eliminate import dues for computers imported by new MTO companies because a good and advanced information network is a key to success of MTOs.
4.1.1 SPECIAL CASE: TANZANIA CENTRAL FREIGHT BUREAU (TCFB)

The Tanzania Central Freight Bureau was established by an Act of Parliament No. 3 of 1981. The functions of the bureau include:

- Allocation of cargo space on any ocean going vessel.
- Aggregation of cargo space on any foreign going vessel in respect of goods shipped from or to any port in Tanzania.
- Regulation of activities of Freight Forwarders.
- Undertaking research in matters relating to shipping services and freight rates.
- Centralisation of booking of freight for cargo space in respect of goods intended to be shipped from any port outside Tanzania or from any port inside Tanzania to any destination outside Tanzania.
- Negotiation with ship owners and shipping lines individually or collectively on matters relating to freight rates, surcharges, currency and bunker adjustment factors, adequacy, frequency and efficiency of shipping services and other matters connected with shipping services and chartering of ships.

The strategy of the company is to achieve the following objectives:
To ensure that Tanzania’s exports and imports are shipped at economical and affordable freight rates and enjoy reliable and favourable shipping terms thus protecting the Tanzania shipper/consignee interests and the nation as a whole. Promoting the growth of the national merchant fleet and acting as a dedicated reference and research centre on maritime transport are also objectives of the TCFB.

Performance:

The Bureau achieved very good performance during the year 1997/98. The cargo booked through TCFB increased by 42.51% compared to 1996/97. In 1997/98 they booked and monitored freight rates for 1,612,326 tonnes compared to 1,131,401
tonnes handled in 1996/97. During 1997/98, through ocean freight negotiations and monitoring of shipment costs, the company saved foreign exchange amounting to USD 6,849,199.

The total of USD 6,849,199 is broken down as follows:

- USD 2,773,120 collection of Terminal Handling Charges (THC) by shipping lines at Tanzania Ports.
- USD 3,162,221 through suppression of freight over invoicing.
- USD 913,858 brokerage commission on imports
- USD 42,626 was cash refundable savings to shippers.

4.1.1.1 Negative impacts on TCFB existence

The World Bank and the International Monetary Fund (IMF) advised the government of Tanzania to abolish TCFB by insisting that the company has no financial gain to the economy due to the structural changes in the world economy. The company was established during the monopolistic system prevailing in Government Parastatal Organisations. But the government acknowledged the positive role played by the TCFB to the betterment of the country’s economy and decided to retain the company as a state regulatory body on commercial shipping even in the free market environment. In view of the negative standpoint of the World Bank and the International Monetary Fund, it is wise for the government to re-structure the TCFB to become a Multimodal Transport Operator (MTO), instead of being a regulatory body for commercial shipping, which is the responsibility of the Ministry of Transport (Shipping Department) as provided by the Merchant Shipping Act of 1967.

There are several reasons in support of this opinion:
1. Tanzania has no shipping line.
2. TCFB is an international freight forwarding company and very well established with agents in twenty-four different countries worldwide. It is easy for the company to diversify the logistics activities, instead of serving from port to port
they have to provide door to door services. They have good co-operation with neighbouring countries. For example in 1998 they signed the Co-operation Agreement with Maritime Freight Management (OGEFREM) of the D. R Congo (DRC) which basically extended TCFB freight rate monitoring functions to cover DRC’s cargoes which will be transiting through Dar es salaam port.

3. TCFB is a business entity, and competes in the freight forwarding industry like any other small freight forwarding company. To make TCFB a regulatory body and at the same time a competitor in the market means the government gives TCFB a green light to monopolise the freight forwarding industry in the country which goes against the strategy of the government to enhance fair and free competition. TCFB will be controlling and regulating the industry in favour of the company and not otherwise. On the other hand the government is deviating from the strategy of being a regulatory body to enhance competitiveness in the country and able to increase trade flow in the country by favouring TCFB to dominate the market.

4. The company is well equipped with experienced and professional personnel in different transport fields-commercial shipping, railway transportation and road transportation.

5. They have a good financial position.

6. TCFB equate themselves with the establishment of a Maritime Authority in Tanzania that will be the regulatory body on safety issues. The government has to make this issue clear for the benefit of the country. A Maritime Authority is a service-oriented organisation while the TCFB is a stakeholder, a profit making company.

From this example, it is possible for the government to create more opportunities for entities that seem to have uncertain future caused by the structural changes of the world economy of deregulation, by developing multimodal transport services in the country. Small freight forwarding companies should be encouraged to join their
forces together and be assisted by the government to be multimodal transport operators and able to compete in the market.

It is not wise for the government to protect some of the companies and leave others to die a natural death by developing an imperfect competition in the market. The government has to be open and creative to use the opportunities brought by the globalisation and enhance competition in the country to boost the national economy.

4.2 The Malawi freight forwarding company

The Malawi Cargo Centre (MCC) limited was established in the early 1980’s. The main purpose was to facilitate the smooth flow of Malawi traffic passing through the port of Dar es salaam. The MCC developed the cargo handling facilities at Dar es salaam and Mbeya depots. In both depots, dry bulk and container handling facilities are provided. Today the company competes in the market as any other freight forwarding company as a result of decreasing of Malawi cargo passing through the port.

4.3 The Zambia freight forwarding company (ZAMCARGO)

ZAMCARGO is a well-developed company with cargo handling facilities at the port of Dar es salaam. The company was established for the purpose of facilitating the smooth flow of Zambian cargo. The company gained more reputation in the late 1970’s when the Tanzania-Zambia Railway line was built. At that time more Zambian cargo was moved through the port of Dar es salaam because of security reasons in other South African ports and Mozambique ports. Today Zambia cargoes have alternatives of Mozambique and South African ports, and as a result, the company is competing in the market like any other freight forwarding company.
4.4 Freight consolidators

Most of the Tanzanian freight consolidators are warehouse operators. They consolidate cargo from less than container loads (LCL), to full container loads (FCL) ready for shipments. They also breakdown the shipments from FCL to LCL. They do not own any means of transport; the consignee has to contract the carrier for the carriage of his cargo. These are very important trade facilitators especially for the small shippers, and they also have very good knowledge in marking and labelling of packing.

4.5 Shippers’ council

The Tanzania shipper’s council is acting as freight forwarder on behalf of a group of shippers. It is a non-profit making association with an interest of moving cargo collectively to different destinations in the world and benefit from discounts according to the volume of cargo they provide to the shipping lines.

Shippers are the source of cargo. By using their good relationship with other shippers associations from neighbouring countries and having strategic goals like reduction of import dues and back up from the government, the council will be able to attract more international trade to pass through Dar es salaam port.

Customers are demanding value of services, which among other factors includes quality and pricing. Therefore, in chapter five it is important to analyse the economics and the cost of transport.
CHAPTER 5

5. TRANSPORT COST ANALYSIS

5.1 Transport economics

Distance is a natural barrier to different markets, and it is transport that bridges the gap between different markets. Some of the important factors, which have contributed to globalisation of trade, include technological advances; borderless capital markets a lowering of artificial barriers to trade and reduced government constraints on foreign investment. Reduction on inventory and distribution costs and convergence of economic objectives of countries with different political systems have also been contributing factors.

Transport proves to be an economic development catalyst. It brings new ideas and knowledge, new technology and changes people’s attitudes on how they view and cope with their environment. Generally, it changes the way of life and brings social-economic development to the country. With cheap, effective and efficient transportation, organisation of large-scale production will be possible, productivity will be enhanced and market competitiveness will be created. Governments will be able to make economic reforms by reviewing their policy measures in a new and global context.

The movement of containers in door to door services is determined by transport cost variables, which include both financial and economic costs. The efficient movement
of goods from origin to destination solely depends on the cost effectiveness of transport linkages between the two points.

The level of investment in multimodal transport will depend on the conditions of physical infrastructure, handling equipment at terminals and interface and inland destinations. The integration of all modes of transport with good information flow is vital for multimodal transport operator achievements. When the government decides to improve the infrastructure they have to look into the whole chain and not part of it, because any problem which may occur in one mode of transport may deter the whole chain. The choice of mode of transport could be made by an MTO and the shipper or by a consignee according to type and volume of cargo to be carried, safety, distance, reliability and availability, capacity to offer door to door services, flexibility, transit time and environmental impact.

It is important for a multimodal transport operator to determine beforehand which modes of transport are suitable and even which route is the best to meet the customer demands. To be able to achieve his goals, transport cost analysis has to be made.

5.1.1 Quality of transport services

An MTO should understand that cost of transport is one element of the total package in the supply chain. He should never be able to optimise the total logistics cost by focusing on each aspect of transportation activities in isolation because the logistics supply chain is concerned with the trade-offs between the various functions. Shippers are looking to carriers to advice and assist them to quicken and simplify their operations in the most cost-effective way and make their supply chain more efficient. Shippers today are demanding value and to provide that value, MTOs will have to be low-cost throughout their operations while meeting the customer satisfaction; high quality services today is the norm of business.
Pricing in transport results from logistics strategy and planning, which is the optimal combination of cost pattern to give minimum total cost such as managing transportation with other logistics activities and time and cost trade-off between different transport modes. Much can be done to minimise cost of transport and transit time, increase efficiency and productivity, but it is not easy for the transport industry for example, to have equal speed in all means of transport, vessels, trucks, barges and locomotives due to natural barriers existing in each mode of transport, such as difference in forces of gravity and so on. So what is exactly needed is to increase the quality of transport services and to integrate logistics activities to achieve the customer satisfaction.

![Figure 3](image)

**Figure 3.** Managing transportation with other logistics activities.
Source: World Maritime University, Malmö.

### 5.1.1.1 Road transport

Road transport plays an important role in the national economy due to its availability, reliability, rapidity, flexibility and its convenience. It is the only mode of transport that is accessible by most shippers and consignees in the country. It plays a major role in connecting different modes of transport like sea, air, railway and inland waterways to create a network of transportation in the area. The drawback of road transport is that it mostly covers very short distances economically and its carrying
capacity is very small in comparison with other modes of transport. Over-regulations that are imposed in road transport services due to congestion, road designs and to a certain extent inadequate administrative control mechanisms on safety issues affect the operating cost of this mode. Trucks also cause pollution and are environmentally unfriendly. Road tolls, too many transit checkpoints and high cost of truck consumables like fuel and spare parts also affect road transport operations.

5.1.1.2 Rail transport

The rail services are another key element to improve cargo movement economics while at the same time relieving road congestion and reducing damage to the environment. Organisation of block trains and double stacking services (which is not applicable in Tanzania) have proven to be very economic in transportation of containers to different hinterland destinations. The main drawback of rail transport is its heavy investment in infrastructure. To be able to move double stack containers for example, the track, bridges and tunnels must have certain strengths and heights, powerful locomotives to be able to move the wagons, good handling equipment and skilled personnel. The integration between modes must have good connectivity and continuity to avoid congestion at terminals.

5.1.1.3 Inland waterways

This is the oldest traditional way of moving cargo in the country as water, the Indian Ocean and the Great Lakes of Victoria, Tanganyika and Lake Nyasa surround most of Tanzania. Despite the fact that it has low speed, its carrying capacity is big compared to road transport, it is very cheap and covers long distances. Unfortunately, it is the undeveloped mode of transport compared to other modes of transport. The government has to look at the development of this mode of transport with high expectations. With investments in modern barges, vessels and equipment, Tanzania will be able to serve the hinterlands of Burundi, Uganda, D. R Congo and
even Malawi. The fighting of the water hyacinth in Lake Victoria needs a cooperation of all the three countries-Kenya, Uganda and Tanzania.

<table>
<thead>
<tr>
<th></th>
<th>Rail</th>
<th>Road</th>
<th>Sea</th>
<th>Air</th>
<th>Inlandwater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>Low</td>
<td>High</td>
<td>Very low</td>
<td>Very high</td>
<td>Very low</td>
</tr>
<tr>
<td>Cost saving</td>
<td>High</td>
<td>Low</td>
<td>Very high</td>
<td>Very high</td>
<td>Very high</td>
</tr>
<tr>
<td>Reliability</td>
<td>Very high</td>
<td>Very high</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Safety</td>
<td>Very high</td>
<td>High</td>
<td>High</td>
<td>Very high</td>
<td>Very high</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Low</td>
<td>Very high</td>
<td>Very low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Availability</td>
<td>Low</td>
<td>Very high</td>
<td>Very low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Environment friendly</td>
<td>Good</td>
<td>Very poor</td>
<td>Very good</td>
<td>Good</td>
<td>Very good</td>
</tr>
<tr>
<td>Infrastructure cost</td>
<td>Very heavy</td>
<td>Heavy</td>
<td>Heavy</td>
<td>Heavy</td>
<td>Various</td>
</tr>
<tr>
<td>Infrastructure maintenance cost</td>
<td>High</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Various</td>
</tr>
<tr>
<td>Vehicle size</td>
<td>&lt;3000 t</td>
<td>&lt;40 t</td>
<td>&gt;3000 t</td>
<td>&lt;100 t</td>
<td>&lt;5000 t</td>
</tr>
<tr>
<td>Door-to-door potential</td>
<td>Low</td>
<td>Very high</td>
<td>Very low</td>
<td>Low</td>
<td>Very low</td>
</tr>
<tr>
<td>Suitable cargo (packing)</td>
<td>All</td>
<td>General cargo</td>
<td>All</td>
<td>General cargo</td>
<td>All</td>
</tr>
<tr>
<td>Economical distance</td>
<td>Long</td>
<td>Short</td>
<td>Long/Very long</td>
<td>Long/very long</td>
<td>Long</td>
</tr>
</tbody>
</table>

Table 10. Comparison of Major Transport modes.

Source: Dr. Ma, S. (1999). Maritime Economics. P. 186

5.2 Freight Rates

5.2.1 Road freight rates

The government does not regulate road freight rates from Dar es salaam to landlocked countries (LLC). Rates are determined for the most part by the market conditions such as availability of trucks, type of cargo to be moved and the volume of cargo. Clearing and Forwarding agents and the Tanzania Hauliers Association
publish the guiding rates on a daily basis as indicative rates and not mandatory rates. Hauliers achieve the cost reduction through route choice. The haulier may prefer to choose a long distance route if the transit procedures on the chosen route are not cumbersome, have few check points compared to short distance route to benefit from short transit time. Also, road conditions, security in transit and availability of back haul cargo are other factors considered in choosing the favourable route.

5.2.1.1 Road operational problems

Besides physical barriers like poor road conditions, operational problems of the trucking industry in the country affect to a large extent the transport cost structure. The first problem has been exacerbated by high cost of new vehicles, spare parts, fuel, tyres and other consumables as a result of customs duty and other taxes. To overcome the problem hauliers opt to acquire second hand materials and cheap spares with poor quality standard, which increases the accident risks and compromises the safety of cargo. This forces the insurers to increase the premiums both for vehicles and cargo. As a result hauliers charge high freight rates to overcome the operating cost and make profit. Secondly, road transport operations suffer from management related issues. After deregulation and liberalisation of trade, the road transport industry has grown indiscriminately in terms of vehicle numbers, but not in technical standards. Many of the trucking companies’ management and individual operators do not have adequate knowledge of the business they are running. Operators lack management skills, accounting, operational planning and marketing skills, which would facilitate better management and cost effectiveness in business. Third, it is a government restriction that hauliers are not allowed to transport cargo during daytime, they are only allowed to move at night due to safety reasons. This increases the transit time, because the journey that would take 24 hours takes 36 hours. This also increases the freight rates because payments like driver’s salary and overtime have to be covered even for unproductive time.
Good governance, regulations, and control on sub standard products, reduction of import dues on new acquisitions, increasing of safety awareness, training in commercial and managerial skills will enhance competitive pricing structures in the road transport industry.

<table>
<thead>
<tr>
<th>Route (from DSM)</th>
<th>Distance (km)</th>
<th>Rate USD/ton</th>
<th>USD/ton/km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dodoma</td>
<td>479</td>
<td>60</td>
<td>0.125</td>
</tr>
<tr>
<td>Arusha</td>
<td>647</td>
<td>80</td>
<td>0.123</td>
</tr>
<tr>
<td>Kigali</td>
<td>1149</td>
<td>200</td>
<td>0.174</td>
</tr>
<tr>
<td>Bujumbura</td>
<td>1164</td>
<td>200</td>
<td>0.172</td>
</tr>
<tr>
<td>Mwanza</td>
<td>1178</td>
<td>100</td>
<td>0.085</td>
</tr>
<tr>
<td>Lilongwe</td>
<td>997</td>
<td>85</td>
<td>0.085</td>
</tr>
<tr>
<td>Lusaka</td>
<td>1513</td>
<td>110</td>
<td>0.073</td>
</tr>
</tbody>
</table>

Table 11. Road freight rates as at 23 December 1999.
Source: Tanzania Hauliers Association.

For all transiting cargo the freight rates are quoted in American dollars.
Movement of a container 20 TEU = 20 tons.
1 USD is equivalent to 800/= Tanzanian shillings
The observations from the above table is that, although the distance from Dar es salaam to Lilongwe is less than from Dar es salaam to Lusaka, the freight rate per ton /km is higher because most of the traffic going to Zambia is moved by TAZARA rail, while for Malawi cargo customers avoid transhipment costs and delay time at Mbeya ICD which is a rail/road interface terminal for Malawi cargo. For traffic moving to Burundi and Rwanda, security reasons and poor road conditions affect the freight rates.

5.2.2 Rail freight rates

The rail freight rates are continuously changing with the new focus on cost recovery and profitability. Since 1990, the commercial rail operations use the Lotus 1-2-3
based Operational Simplified Costing for African Railways (OSCAR), which is a standard costing package in sub-Saharan Africa. OSCAR is defined as a cost centre and is divided into four major categories:

<table>
<thead>
<tr>
<th>Line haul costs</th>
<th>Depreciation</th>
<th>Variable capital cost</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loco running</td>
<td>Track</td>
<td>Locomotives</td>
<td>Fixed costs allocated to</td>
</tr>
<tr>
<td>Fuel</td>
<td>Locomotives</td>
<td>Wagons or coaches</td>
<td>service</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
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<td>Traffic</td>
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<td>Fuel</td>
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<td>Terminal and Station</td>
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<td>Maintenance</td>
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<th>Direct Variable cost</th>
<th>Variable operating cost</th>
<th>Variable costs</th>
<th>Total costs</th>
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Table 12. OSCAR cost centres and definitions
Source: TRC

The TRC tariff structure for the transiting goods is composed of several elements:

- The transiting rates for general cargo are provided for small and large wagons per km and are charged in US dollars.
- Transiting rates for containers of 20’ or 40’ are expressed in USD/TEU. However, charges for 20 TEU are much higher reflecting the possibility of ferrying the single container on large wagon.

Additional charges are transhipment charges, demurrage charges, warehousing and storage. Fortunately, there are no charges for returning empty containers carried by TRC as loaded on their forward journey. TRC rates are only applicable within Tanzania and are quoted for transit traffic to destinations of Mwanza, Kigoma and Isaka. Transit traffic for Uganda is subject to Uganda Railway Corporation (URC) rates. The tariff for traffic going to Mbulungu in D. R Congo and Bujumbura in Burundi moved on TRC vessels are maintained by TRC. Break-Bulk or
containerised cargoes destined to Mpulungu and Bujumbura have the same rates despite the differences in distances. It is 571 km from Kigoma to Mpulungu and 185 to Bujumbura.

<table>
<thead>
<tr>
<th>Route from DSM to</th>
<th>Rate USD/TEU</th>
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<td>Mwanza</td>
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<tr>
<td>Kigoma to Mpulungu</td>
<td>3500</td>
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<tr>
<td>Kigoma to Bujumbura</td>
<td>3500</td>
</tr>
</tbody>
</table>


5.2.2.1 Rail operational problems

Improvement in rail operations largely depends on efficiency and quality of interface operations and the Inland Clearance depots (ICD), the availability of other means of transport, reliability and availability of information about the expected cargo. High investment in operating cost and maintenance cost greatly affect the performance of railway services in Tanzania. The performance may improve if the ownership of equipment and the operational activities will be separated. The track may remain under TRC or TAZARA as a landlord, but the operations might be privatised. By having more than one operator, the landlord system will encourage competition, quality of services will improve and price rates will be more attractive. Today, ownership and operations are under one company, which makes the government to subside the company to make sure that the services are available and maintain the government source of income.

The observations are that, when comparing the road and rail/inland waterway freight rates, road freight rates are higher than rail /inland waterway freight rates, because of security reasons, fuel prices and road conditions. But the road services have an advantage of offering door to door services unlike rail and inland waterway transportation. In the late 1980s there were a fast growth of road hauliers in Tanzania, which was attributed to the substantial decline in the service standards and efficiency of the rail transport industry. This led to improvement in rail operations
such as the introduction of block train services that help the rail industry to gain the business that was dominated by road transport.

5.3 Infrastructure investment and maintenance costs.

The infrastructure investment and maintenance costs needed to develop multimodal transport industry are very big. However, the country should not wait until all infrastructure needed is in place, which, after all, the country will not be able to meet. So what is important is to take initiatives step by step. First, to make sure that all conventions which are needed to implement the multimodal transportation are ratified. Secondly, the government has to start making important reforms in the national transport policy by making sure that what is done today in the transport sector will cope with the development of Multimodal transport system. It is possible that at the end the country will realise that, no huge investment is needed if the equipment and infrastructure we have are fully utilised and maintained accordingly.

Increasing capacity in the movement of traffic is the key to meet the objectives of landlocked countries (LLC) which use Tanzanian ports as their transiting ports. Traffic levels only justify the investment in rail but the unpredictable factors like political instability and the routing choice of the landlocked countries slow down the decision. It seems that there is more risk for an individual country to take a decision without the reassurance of the transiting countries committing themselves to fully utilise the line. So there is a need for integration and co-ordination of governments concerned to view such kind of investment as a regional project, which is a very important aspect for the development of multimodal transport in the region.
CHAPTER 6

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The major objective of this study is to provide recommendations on the importance of multimodal transport, what the government is supposed to do and why the government should play a major role in its development.

The trend of export and import of goods through Tanzanian ports to neighbouring countries is decreasing. This indicates that there are operational or managerial problems, which need better solutions to improve the international trade in the country. The government has to know the customer needs and how to satisfy them. The integration of all modes of transport to provide seamless transportation services is becoming increasingly important in solving the problems of quick customer response, just in time delivery and one stop shopping.

The role of the government is not to debate about globalisation of trade, but to look into how technological development could be better utilised to promote more growth, more trade and greater modernisation in the country. The government has to utilise the opportunities and deal with challenges brought by globalisation for social and economic development of the country.

Lack of combining the trade and transport sectors in Tanzania has caused loss of competitiveness and absence of diversification due to trade barriers and policy
intervention. As a result, there is a decline of export trade through high input prices resulting from high tariff rates and uncompetitive production structures.

The government has to take seriously the policy reforms on the development of multimodal transport services and multimodal transport operators. Tanzania has to participate fully by using the limited resources it has to cope with the world trends for the benefit of the national economy. World wide penetration of containers into the carriage of dry cargo is one of the technological innovations which are used to move the goods faster, cheaper in a more flexible way and allow door to door services which are the main objectives of the supply chain management. The development of infrastructure and interface facilities and development of human resources are of fundamental importance to improve the management of transport operations in the country and to benefit from the utilisation of containers and information technology development.

International co-operation is vital for the existence of multimodal transport. The Tanzanian government should co-operate with neighbouring countries to make the dream come true. With good partners, persistence and patience, the government will manage to develop multimodal transport services for the benefit of Tanzania and the sub region.

Safety and environment protection is an important issue in the transport industry. Despite that, the level of pollution and environmental damage, which result from transport activities, are much less than pollution and environmental damages from other land side industrial activities. The international rules and regulations on transport safety and environment protection are increasing day by day. To be able to achieve the international safety standards in the transport industry and sustainable development, the government has to comply with the international regulations.
All in all, it is noteworthy that there is a potential need to develop multimodal transport operations to stimulate the social and economic growth in the country.

6.2 Recommendations

6.2.1 Government policies and regulatory reforms

Poor transport infrastructure is a severe bottleneck to the movement of trade and growth of the national economy. The government has to promote further investment in information and communication infrastructure and interface facilities. However, additional investment in infrastructure will not necessarily provide more trade capacity, provide a basis for minimum total transport costs and short transit time. High quality of services, efficiency and reduction in total transport costs and short transit time will be achieved by the government’s great effort in developing multimodal transport services by providing policy and regulatory reforms in the trade and transport sectors.

6.2.1.1 Customs regulations and procedures

The government has to ratify the United Nations conventions which promote the simplification, harmonisation and unification of customs regulations and procedures in the country, such as the United Nations Convention on Transit Trade of Landlocked countries and the International Convention on the Simplification and Harmonisation of Customs Procedures, Kyoto 1973. The unification of customs regulations in the sub region on customs documentation, standards, health regulations, banking and insurance regulations will create better trading conditions. International recommendations will be necessary to achieve the required uniform standard of services. Minimum regulations and accepted simple standardised forms
will ease the rigidity and complications in documentation and verification of transit traffic, which is a major issue on delay and cost.

6.2.1.2 Promotion of new trade transaction terms

The government has to promote and encourage use of new trade transaction terms, such as the new incoterm, which enhance multimodal transport services, and electronic transmission of documents to facilitate quick documentation. The cooperation and links between different government agencies as well as central and commercial banks, external trade, customs, insurance and transport and communication will be essential to achieve the goals.

6.2.1.3 Training policy

For the government to achieve in developing multimodal transport in the country must have a training policy for all people who are concerned with its development. Government officials who have a direct link to the project must understand what are the importance of the MT operations, what are its requirements and the different between the multimodal concept and other transport operations. Private companies and other individuals, they have to be equipped with relevant knowledge concerning the Mt operations. For example their responsibilities and liabilities and the impact of multimodal transport to the national economy.

6.2.1.4 Promotion of multimodal transport operations

The government has to prepare a suitable environment to boost and promote the multimodal transport services in the country. The government has to enhance modern technology and finance research projects in each segment to have a unifying master plan concerning all modes of transport. The master plan should be a
guideline in all government departments dealing with the transport sector. The government has to establish multimodal transport divisions to co-ordinate effectively the transport industry and the movement of trade in the country, whilst improving the carriers through transport links in facilitating the international trade. It also needs to assist companies wishing to be multimodal transport operators, to spearhead the government reforms on pricing policies, marketing, loans, taxation, information technology, market competitiveness, safety and environment protection and other important areas, which need clear and effective government directives. The NTTFC should direct the decisions to the multimodal division for implementation, and the division must have a clear mandate for its existence.

6.2.1.5 Multimodal transport operators (MTOs) development policies

The government has to encourage and assist companies wishing to be multimodal transport operators such as carriers and freight forwarding companies. They have to encourage co-operation between companies to join together by establishing partnerships, joint ventures with foreign companies and other types of co-operations. This will help the companies to be stronger financially and in quality of specialisation to meet the market challenges.

The government has to help MTOs by providing them with training opportunities for those who are not qualified enough to be independent MTOs through World Bank programmes, other international agencies and donors.

The government has to establish a law providing a preferential tax system and a scheme to make sure preferential credits are available for companies wishing to be MTOs, for example access to soft loans. The reduction/elimination of import dues on information technology equipment (computers, software, fax machines and so on), scientific equipment, vehicles and spare parts and other consumables, which are
inputs of core business of multimodal operations, are other examples of necessary tax reforms.

6.2.1.6 Policies encouraging competition

The government has to create a competitive condition and avoid monopoly in the market. The main problem of monopoly is under-production; it affects the quality of services and the market price. The government has to avoid establishing one big company, because the company will use its market power and benefit from restricting their output in order to achieve higher prices. The result will be inefficiency, since the price of services will be higher than the marginal cost and customer choice of service providers will be limited. In a competitive market, where two or more companies are competing in the market the services will increase and customers will be satisfied and they will be able to pay for the services they need. Companies will compete on offering high quality services, which will increase the range of services available in the market, and the market will provide valuable services that are demanded by customers.

6.2.1.7 Regulations and policies on safety and environment protection

a) The government has to promote and encourage improvement in national capacity building by funding training institutions. The government has to seek assistance from international agencies and other donors who are ready and willing to sponsor multidisciplinary training programmes, which educate and raise the public awareness on the benefits of safe environment to the society. The government also has to make sure that they develop the quality and standard levels for imported equipment and good, which in short term or long term could affect the environment.
The government ministries, which indirectly or directly deal with environment protection, should develop one integrated plan showing how to deal with safety and environmental problems at the national level. It is advisable also to establish advisory bodies as a driving force and supportive mechanism, which will be useful for broad consultations, and encourage participation with the local administrations, business community, academic sectors and the general public.

The government has to encourage shippers, consignees and transport providers to use containers for cargo carriage, because containers are being regarded as the most secure and environmentally friendly equipment. The international container standards have to be enhanced to cope with the national infrastructures.

b) The government has to adhere to international conventions on safety and environment protection. Besides the United Nations Convention on the Law of the Sea (1982), Tanzania does not adhere to the International Convention on Safety of Life at Sea (SOLAS 1978) and the International Convention for the Prevention of Pollution from ships (MARPOL 1973/78). The country depends on its domestic regulations, which are limited in practice in comparison to international regulations. This makes it more difficult for Tanzania to implement the international rules and regulations concerning safety of life at sea and marine environment protection. For example, despite the fact that Tanzania is a member and signatory of the Indian Ocean Memorandum of Understanding (MOU-Indian Ocean), the country does not implement the port state control on foreign flag vessels due to lack of adhering to international conventions.

All these problems at national, regional and international level have a big impact on the national economy and on ensuring the sustainable development management in the country. Therefore, to solve these problems, Tanzania has to adhere to these important international conventions for the benefit of the nation and the coming generations.
The government has to take issues of safety and environment in a more serious and strict manner than it has before, because the country cannot survive in international competition if it does not put safety as an agenda in day to day activities.

6.2.1.8 Transparency in investment policies

The government has to increase transparency in investment approval mechanisms to encourage inward foreign investments as a means to increase competition in the domestic market. The restructuring and diversification of the economy in both the transport and manufacturing sectors will help to create a free market environment and will contribute to meeting government objectives like job creation. By recognising and developing a supporting domestic environment, indigenous companies will be able to benefit from foreign partners by learning the modern ways of doing business and how to compete in the global market. International companies may also contribute to a cleaner environment by using the most modern environmentally clean technology in their operations.

6.2.2 Sound and predictable financial system

The government has to create a system, which is predictable to the outside world as attraction for foreign investments in the country. Sound foreign exchange regulations, institutional certainty and a stable and predictable system of the government are very important policy related factors in international business. There are factors, which contribute in one way or another to the investor’s loss of confidence in investing in a certain country. For example, the perceived weakness of financial systems due to lack of experience in financial institutions, many and complex regulations and supervision by the authorities and inadequate transparency and stability of tariff structures are factors which tend to weaken international confidence.
6.2.3 Information technology policies

The government has to encourage the adoption of information technology. The increasing speed in international trade document transactions, movement of containers and express freight deliveries needs the adoption of modern technology to spearhead the information flow. To increase the company efficiency and productivity, companies need effective communication systems, which will allow fast transmission and exchange of information before the arrival of cargo to avoid delay on delivery. Information technology is also useful for identifying cargo at terminals and interface links. The computerisation of shipping marks improves the smooth and safe flow of goods and saves time and cost. Reliable information assists the management in planning, monitoring and controlling the flow of goods. Activities such as container tracing and tracking, scheduling and dispatch systems are results of modern technology and improve the company’s reputation.

6.2.4 International agreements and co-operations

The government has to encourage co-operation with other countries in the sub-region, because trade integration cements relations among nations. However, to achieve competitive market prices, minimum total logistics costs, short transit time, efficiency and high quality of services in the whole supply chain, all countries concerned must have the same level of high quality services needed by customers.

Today, companies are increasingly relying on outsourcing across national frontiers as a means of cutting costs and increasing efficiency. That means international co-operation and agreements will increase the level of trust between international companies. Therefore it is important for Tanzania to improve its relationship with neighbouring countries to be able to improve its economic and social strategies.
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UNPUBLISHED LECTURE HANDOUTS:


**THESIS:**


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## APPENDIX 1

### CONTAINER PENETRATION IN THE DRY GENERAL CARGO TRADE 1996/97 COMPARED WITH 1995/96

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<td>45</td>
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<td>44,465</td>
<td>616,100</td>
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<td>Dar es Salaam</td>
<td>653,544</td>
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<td>63,609</td>
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<td>Mtwara</td>
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<td><strong>Sub Total</strong></td>
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<td><strong>GRAND TOTAL</strong></td>
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APPENDIX 2

IMPORTS CLEARANCE BY MODE OF TRANSPORT DAW ES SALAMAN PORT COUNTRYWISE 1996/97

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<th>July</th>
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<th>Sep</th>
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<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
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