



No.

The Research on the Cross-Border Transport Infrastructure: Phase 3

Final Report

March 2009

Japan International Cooperation Agency

PADECO Co., Ltd.

Mitsubishi UFJ Research and Consulting Co., Ltd

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PREFACE

In 2003, the Japan International Cooperation Agency (JICA) conducted the “Research on the Experience and Perspective of ODA on Infrastructure Development in the Developing Countries” in which the role of infrastructure was redefined and issues in infrastructure development for future JICA assistance were identified.

Based on this study’s results, two research studies were then conducted: (i) the “PPP (Public-Private Partnership) Project Study” in 2004 and (ii) the “Research on Program Management: Guide for the Application of P2M to JICA Activities”, from 2003 to 2005, with the aim of reducing the infrastructure gap and taking an integrated approach to infrastructure development. Since addressing cross-border infrastructure gaps was identified as one of the solutions to reducing infrastructure gaps, a Phase 1 research study on cross-border transport infrastructure was conducted from October 2005 to July 2006. It examined the progress of regionalization from a global perspective and summarized the major characteristics of cross-border transport infrastructure. JICA continued with a Phase 2 project, “Research on the Cross-Border Transportation Infrastructure: Targeting the GMS [the Greater Mekong Subregion of Southeast Asia]”, from November 2006 to December 2007, which examined current conditions, identified cross-border transport infrastructure issues, and assessed future directions for JICA assistance in this area.

As Phase 3 of this Cross-Border Transport Infrastructure research series, this study focused on Sub-Saharan Africa, a region where there is a great need to maintain and rehabilitate the cross-border infrastructure connecting ports and 15 landlocked countries. Discussions were held in five research group meetings, with Professor Tsuneaki YOSHIDA of the Department of International Studies, Graduate School of Frontier Sciences, University of Tokyo, as technical advisor. The research group consisted of staff from the Economic Infrastructure Development Department of JICA. This study sets out the analyses undertaken in this study of cross-border transport infrastructure in Sub-Saharan Africa, including a focus on the systems and infrastructure in East Africa. Based on these analyses, future directions for the area are presented.

The Study Team, led by Mr. Yuichiro MOTOMURA of PADECO CO., Ltd. of Japan, conducted field surveys, literature research in Japan, and discussions between the research group and relevant agencies, as well as a public symposium based on the study’s findings. The Team also prepared this report describing the study results.

I hope that this report will contribute to the improvement and enhancement of development assistance in Cross-Border Transport Infrastructure. To all those who cooperated and extended assistance to this study, I would like to express my sincere gratitude.

March 2009

Toshiyuki KUROYANAGI
Director General,
Economic Infrastructure Department
Japan International Cooperation Agency

Executive Summary

1. General Information on the Sub-Saharan Africa Region

Society and Economy

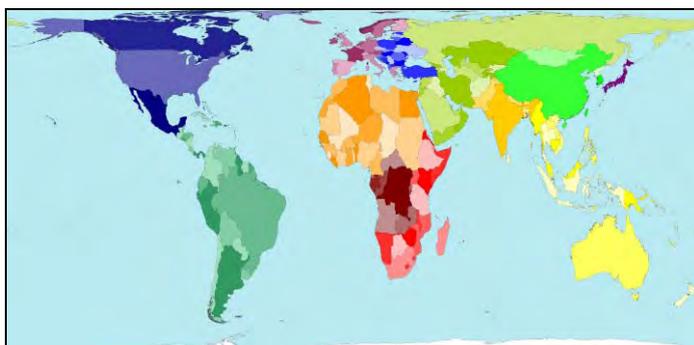


Figure 1.1 World Atlas (by area; 2006)

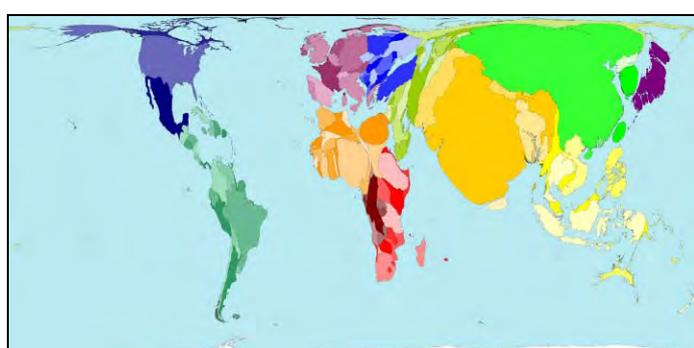


Figure 1.2 Relative Proportion of Population (2002)

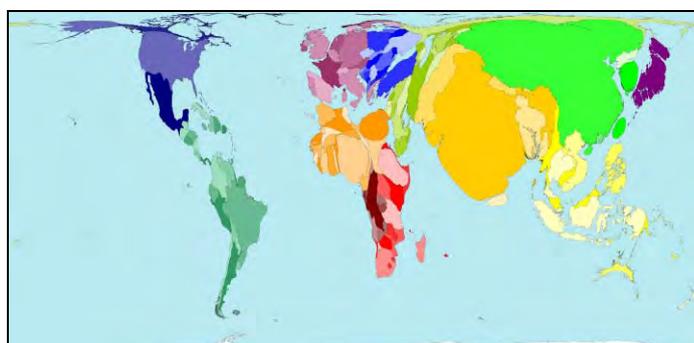


Figure 1.3 Relative Proportion of Truck Ownership

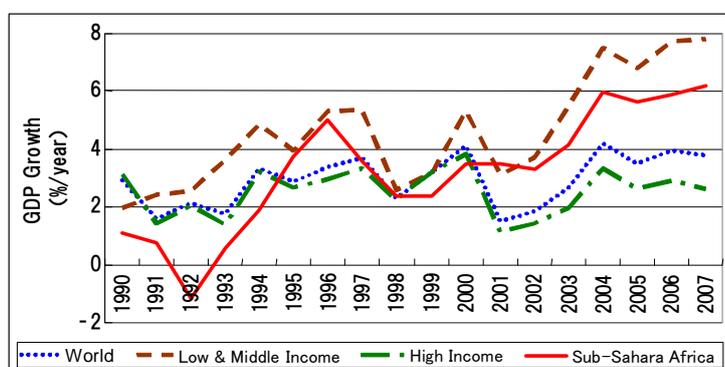
Source: Figure 1.1–1.3 © Copyright 2006 SASI Group (University of Sheffield) and Mark Newman (University of Michigan)

Sub-Saharan Africa is a collective name for the 48 countries in Africa excluding the five countries of North Africa. While Sub-Saharan Africa accounts for 18% of world’s area (24.3 million km²) and 12% of the world’s population (799.8 million), its GDP is less than 2% (US\$840 billion, 2007) of the world’s total, and one-third is accounted for by South Africa. Sub-Saharan Africa’s per capita GDP in 2007 was US\$1,053, but if South Africa is excluded, the region’s GDP is only US\$752. About 400 million people—half of the region’s total population—live in poverty and subsist on US\$1.25 or less a day; 34 of the 48 poorest countries in the world are in Sub-Saharan Africa.

Infrastructure development in the region has been laggard and does not meet the transportation demand. For example, truck ownership ratios in Sub-Saharan Africa are very low as shown in Figure 1.3.

On a more positive note, since 2000 Sub-Saharan Africa has been achieving relatively stable economic growth. Since 2004 it has sustained annual growth rates as high as 6%, which translates into 3–4% per capita. This rapid economic growth is considered to be largely attributable to the surge in global prices of natural resources, which has also led to natural resource development in inland African nations. However, the sharp decrease in mineral resource prices caused by a reduction in speculative investing and decreasing demand for natural resources following the recent financial crisis is likely to dampen short-term economic growth in the region.

The World Bank has identified sound economic policy, a competitive exchange rate, improvements in governance and management, and declining conflict as major factors contributing to strong economic growth. It points out that in order to sustain rapid economic growth the region should further improve its investment environment, infrastructure, technology, and organizational capacity.



Source: Study Team (Prepared from World Bank Data)

Figure 1.4 World GDP Growth Rate

Trade and Industries



Source: World Bank, African Development Indicators 2007

Figure 1.5 Cost Composition of Private Companies in Sub-Saharan Africa and Other Parts of the World

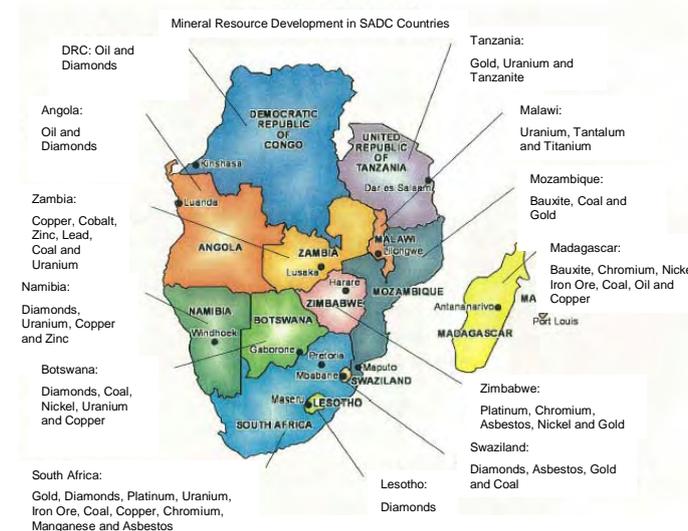
A total of 20% of Sub-Saharan Africa’s GDP is accounted for by agriculture, forestry, and fisheries, while mining accounts for 35% and the service sector for 45%; these percentages have not changed much over the past 40 years. Regarding trade structure, many countries in the region export primary commodities and oil/mineral resources, and import industrial goods. Their largest trading partners are typically their former colonial powers, but trade value with Asia has been increasing in recent years.

The major constraints on the region’s industrial development are: (1) high overhead costs (e.g., cost for transportation, energy, security: Figure 1.5); (2) low agricultural productivity; and (3) high labor costs. The main factor inhibiting industrial development and economic growth in the region has been high transport costs. For example, the agricultural sector, which employs 60–70% of the region’s working population, suffers from very low productivity due to high prices for imported fertilizer as a result of high transport costs. For example, average cereal production per hectare in Africa is 1.3 tons whereas in Asia it is 3.7 tons (2005).

Wage levels in urban areas are high due to high food prices and postcolonial policies that favor urban residents, and this has significantly impeded industrial promotion. As a result, capital-intensive industries (e.g., mining) rather than labor-intensive industries are playing a central role in the secondary sector.

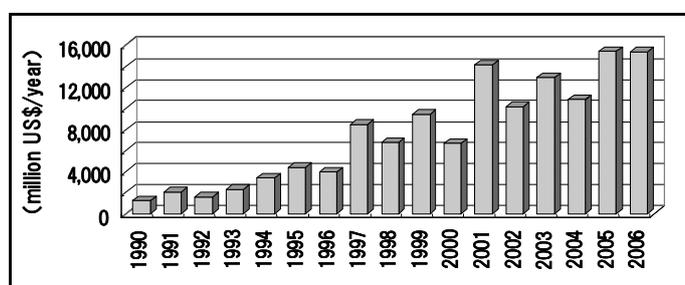
As mentioned, high overhead costs, low agricultural productivity, and high labor costs have inhibited the region’s economic development, but with the stabilization of political and economic conditions in recent years, oil- and mineral-related foreign direct investment (FDI) mainly from the European Union (EU) and China has been increasing (Figure 1.7). Sharp rises in the prices of natural resources such as oil and minerals has prompted the resource majors and juniors to rapidly step up their investment in natural resource development in inland countries (Figure 1.6). This trend also has had a significant ripple effect in stimulating domestic consumption and expanding non-natural resource investment opportunities.

Until recently, the spike in the global price of crude oil, coal, nonferrous metals, and rare metals had strongly driven an influx of FDI into inland African nations where natural resource investments had lagged before due to its prohibitive drilling/mining costs. Capital flight and declining demand caused by the global financial crisis last year has depressed global prices for natural resources. However, as the steady demand from the emerging economies picks up, commodity prices are likely to return to a long-term upward trajectory.



Source: Conference for Ambassadors in Middle East Region, 2009

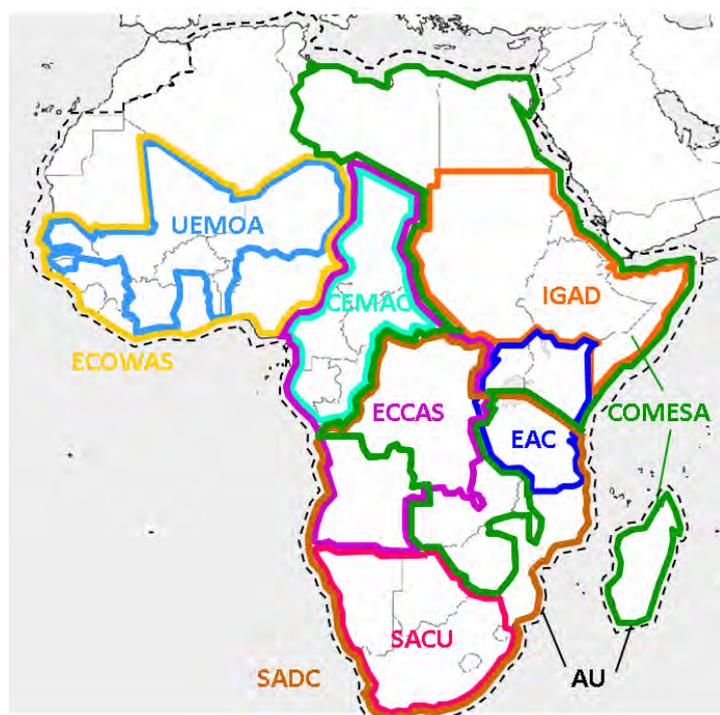
Figure 1.6 SADC Countries’ Mineral Resource Deposits



Source: World Bank

Figure 1.7 FDI in Sub-Saharan Africa

Regional Integration/Regional Economic Community



Source: Study Team (prepared from a variety of references)

Figure 1.8 Regional Economic Communities (RECs) in Africa

In Africa, where national borders were established artificially by colonial policies according to which a number of small countries in terms of both economic scale and population were formed, interregional cooperation and integration has been a longstanding issue. As a result, numerous regional economic communities (RECs) have been established in the region. Major RECs are shown in Figure 1.8. Their aim is to integrate the economies of neighboring nations and promote the establishment of custom unions, introduction of a common currency, cross-border trading, and the creation of common markets. Some RECs also conduct research studies on transport corridors, e.g., assessing coordination of maintenance activities in different countries, and promoting the conclusion of various agreements to facilitate intraregional movements of people and goods.

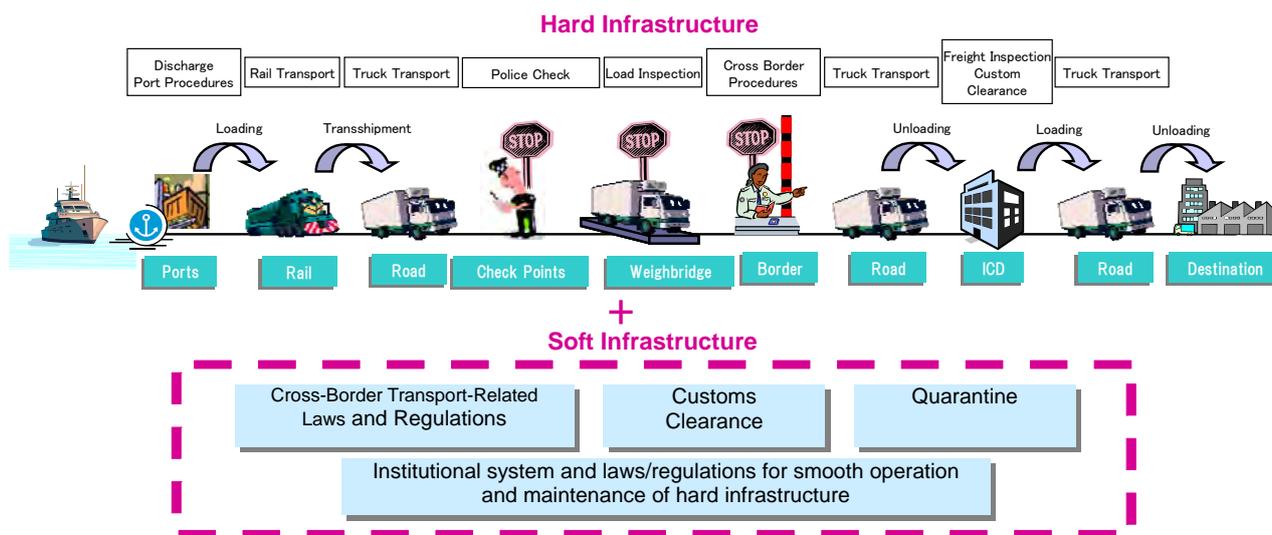
Recently, as these RECs have become more active, they have gained more international presence as recipients of donor assistance. On the other hand, most of these regional bodies are funded by their member states, and their decisions are not legally binding. They often face a number of challenges in promoting effective regional integration.

The African Union (AU), which is by far the largest regional community, includes all 52 states on the African continent except for Morocco.

2. Cross-Border Transport Infrastructure in Sub-Saharan Africa

What is Cross-Border Transport Infrastructure?

In this research study, CBTI is defined as the infrastructure required for transportation that crosses multiple national borders. It comprehensively includes physical “hard infrastructure” such as ports, railways, highways, cargo transshipment facilities, international border facilities, weighbridges (truck scales), and inland container depots (ICDs), as well as “soft infrastructure” such as transport laws/regulations related to border crossing (e.g., customs clearance, quarantine), and organizational systems and resources for smoothly operating and maintaining the hard infrastructure (Figure 2.1). This study aims at analyzing the current situation and issues regarding CBTI in Sub-Saharan Africa, and formulating a CBTI development strategy.



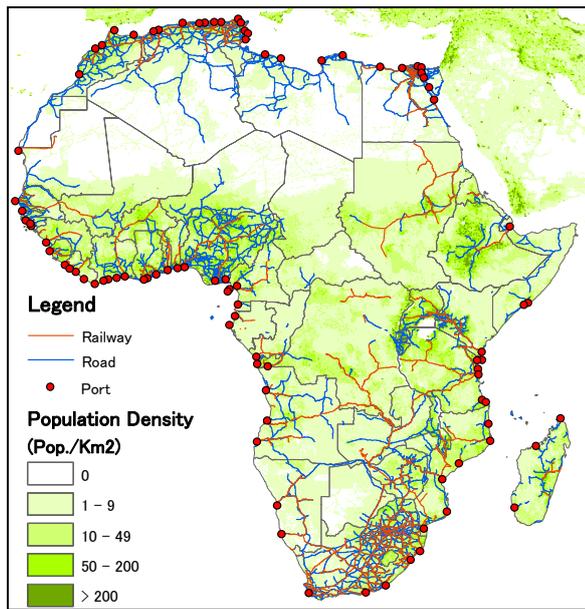
Source : Study Team

Figure 2.1 Main Elements of Cross-Border Transport Infrastructure

Historical Background of CBTI Development in Sub-Saharan Africa

It is critically important to consider the historical background of CBTI development in Sub-Saharan Africa. Ports and the land transport system to serving inland areas were developed in the colonial era. As these African colonies gained independence in 1960s to 1980s, their transport infrastructure progressively degraded due to insufficient investment. Under the import substitution industry policy at the time, the public sector played a leading role in imports of raw materials and exports of agricultural products. As a result, the transportation system, which was integrated into this industry policy, lost its efficiency. From the latter half of 1960s other industrialized nations rapidly underwent a transport revolution and containerization, and significantly improved their transport efficiency. It was not until the 1990s that the containerization “revolution” began in Africa. However, containerization also meant increasing port maintenance costs and a shortage of large-scale port facilities supporting the efficient utilization of container carriers and trucks. Due to these factors, the full cost reduction benefit from containerization has yet to be realized.

Current Situation of CBTI

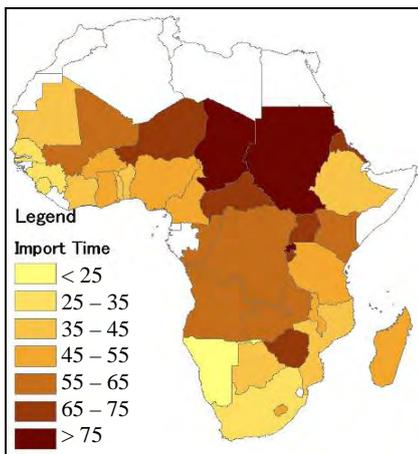


Source: Study Team (prepared from a variety of references)

Figure 2.2 Main Roads, Railways, and Ports with Population distribution

Most of the railways and highways in Sub-Saharan Africa were constructed and established in the colonial period, and they form a major CTBI network that provides trading links between densely populated inland areas and ports (Figure 2.2). However, there are few areas suitable for port development in the region due to natural constraints of water depth, and there are a very limited number of locations where large containers can be unloaded.

In addition, due to the poor maintenance of roads, railways, and ports after independence, most of the region’s infrastructure is deteriorating. A high percentage of highways are unpaved, and even paved roads are often degraded (Figure 2.6). Regarding railways, since the repair and renewal of rolling stock and track has been delayed, transport volumes have been decreasing. The shortage of port capacity and low port operational efficiency is also a factor, with cargo concentrated in the region’s limited ports. These factors have resulted in high transport costs (Figure 2.7), which in turn has caused a decline in competitiveness and increased living costs. Especially inland nations tend to face longer transport times, higher transport costs, and (as a consequence) lower GDP growth rates. Therefore, inadequate transport infrastructure is a major cause of intraregional economic disparities (Figures 2.3–2.5).



Source: Study Team (from World Bank WDI database)

Note: Time and costs for transporting 20-foot containers from the nearest port)

Figure 2.3 Average import time

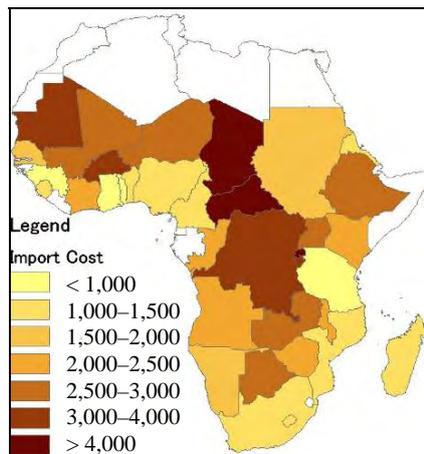


Figure 2.4 Average import cost(US\$)

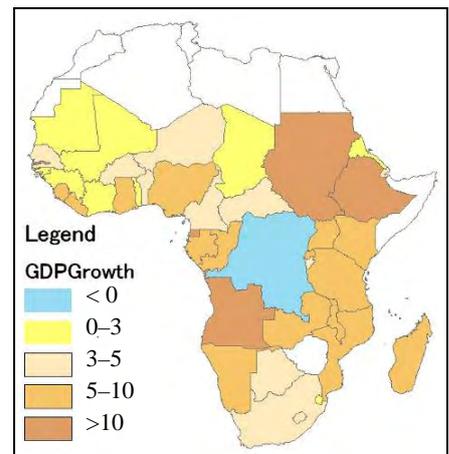
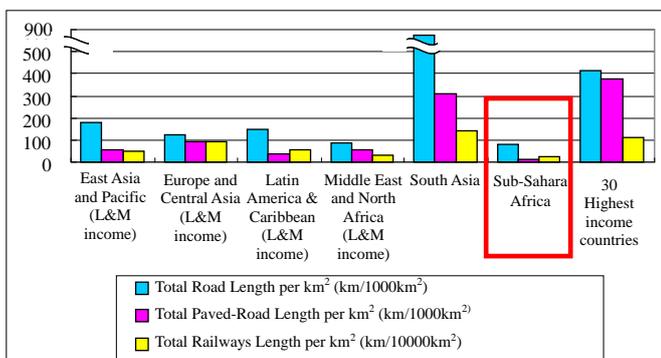
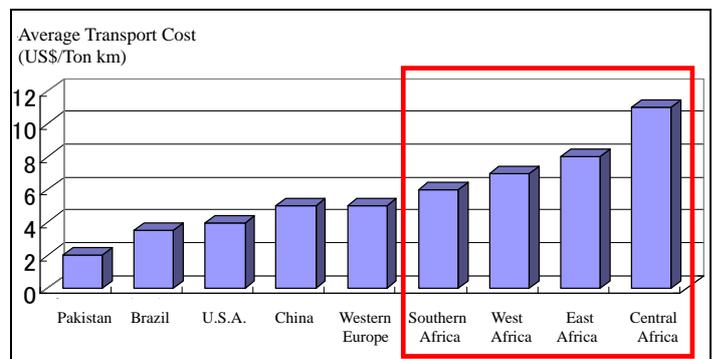


Figure 2.5 GDP growth rate 2007(%)



Source: Study Team (prepared from WB data)

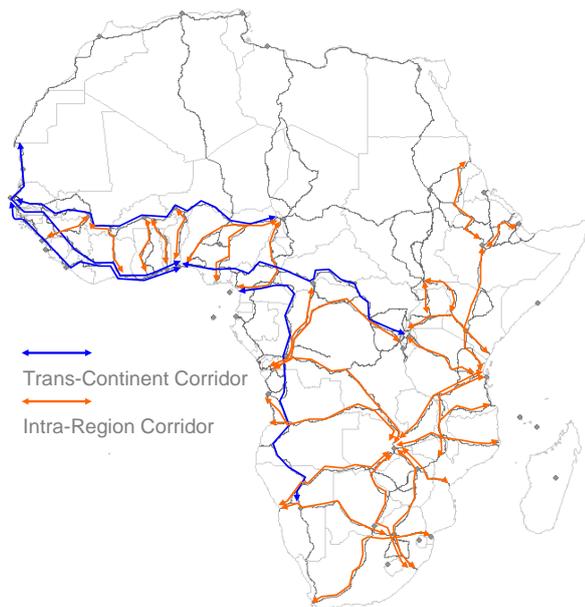
Figure 2.6 Comparison of Road and Railway Infrastructure



Source: Study Team (prepared from WB data)

Figure 2.7 Comparison of Average Transport Cost 2007

Development Priority Corridors and Areas

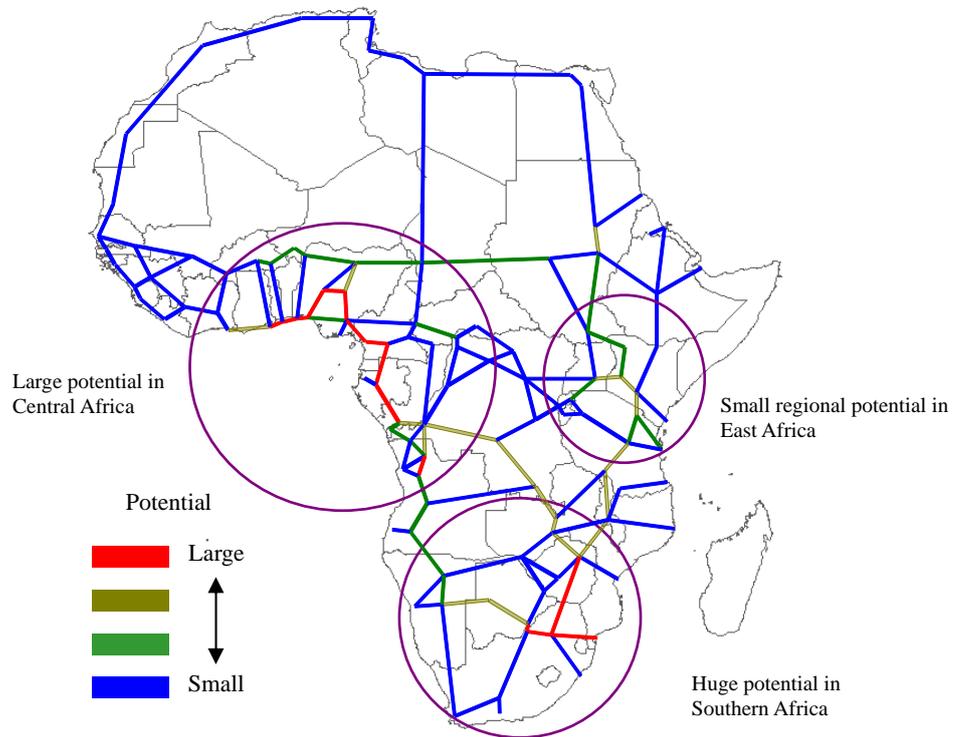


There are many existing and planned international transport corridors in Sub-Saharan Africa, e.g., the Trans-African Highway (TAH) and the Sub-Saharan Africa Transport Policy Program (SSATP) regional economic corridors (Figure 2.8). In order to determine maintenance priorities for these corridors, the Study Team analyzed potential transport demand along each corridor. Due to the unavailability of detailed statistical data on trade flows, GDP was defined and used as “potential value” of trade quantity. “Potential value” of trade quantity within Sub-Saharan Africa and that of between Sub-Saharan Africa and other regions were analyzed.¹

The analysis showed that there is a large potential in corridors around South Africa and Nigeria in terms of intraregional trade, moderate potential in long-distance corridors that link South/Central Africa and East Africa, and small interregional potential in the East Africa region (Figure 2.9).

Source: Study Team (prepared from a variety of references)

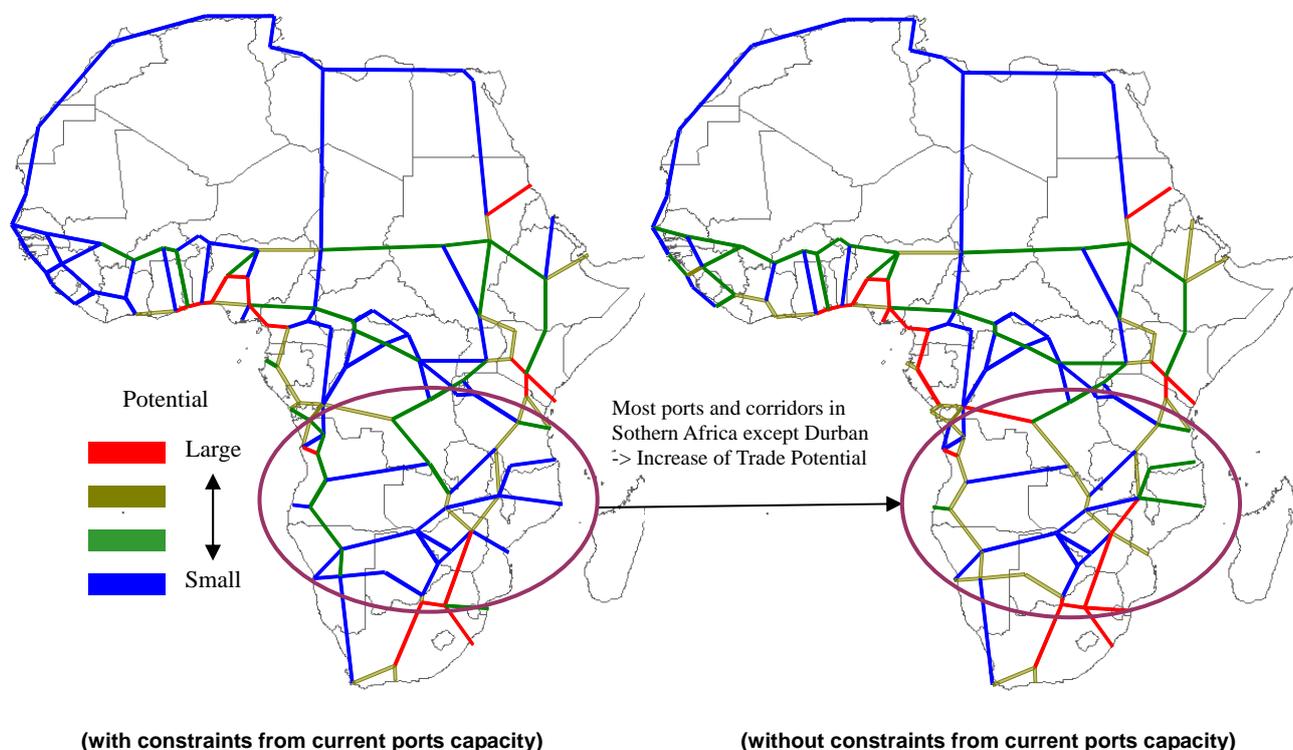
Figure 2.8 Major Corridors in Sub-Saharan Africa



Source: Study Team

Figure 2.9 Potential Volume of Intraregional Trade

Extra-regional trade potential was analyzed with (1) constraints from the current port capacity, and (2) without constraints. A comparison of the potential of Sub-Saharan Africa with that of the rest of the world showed that trade volume will increase in many ports as well as in inland corridors especially in southern Africa assuming that port capacity constraints are resolved (Figure 2.10). This result suggests that future improvement in port facilities will lead to a more efficient distribution network.



Source: Study Team

Figure 2.10 Potential Value of Trade between Sub-Saharan Africa and the Rest of the World

¹Analysis Procedures

In the analysis of intraregional trade potential in Sub-Saharan Africa, since trade volume origin-destination (OD) data for each country could not be obtained, the GDP of each country was assumed as their potential, and a gravity model was used to calculate the trade potential OD between each country pair. The results were allocated on major corridor networks by the shortest path search method. For trade potential between Sub-Saharan Africa and the rest of the world, the GDP and the container transaction volume of major ports (assumed to be proportional to the port capacity) of each country along with the gravity model were used in a similar manner as above to calculate the trade potential OD between each country and port. Also, similar calculations were conducted in cases in which all major ports have sufficient capacity (with improved port facilities).

In this analysis, the state of infrastructure such as roads, railways, and ports, and the cost and time required for crossing borders were not considered, so these assumptions differ somewhat from the reality. However, the relative comparison of each corridor's potential can serve as input for broadly assessing relative maintenance priorities.

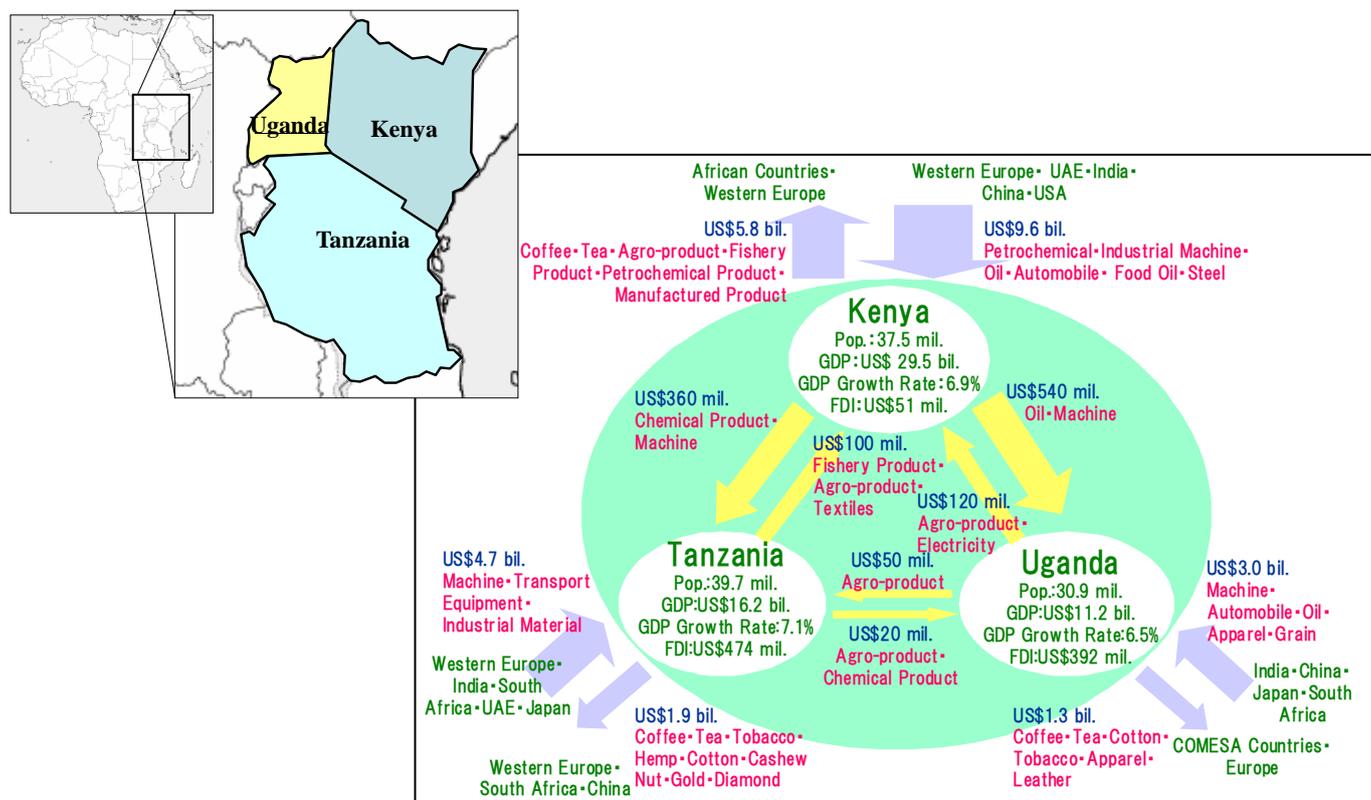
3. Assessment of CBTI – A Case Study in East Africa

CBTI consists of various subsectors including both physical (“hard”) and non-physical (“soft”) development aspects. Therefore, it is critical that CBTI development proceed not with a project-based approach but with a program approach that addresses development from a comprehensive viewpoint. Accordingly, this study prepared a model program of CBTI development, focusing on three countries in East Africa (Kenya, Tanzania, and Uganda).

Summary of Society and Economy in East Africa

Figure 3.1 summarizes the economy, trade, and investment in the three case study countries. Recently, horticultural products (flowers, ornamental plants, and vegetables) have been at the heart of trade promotion programs of the three countries. The export of these products is rapidly increasing in addition to main traditional products, e.g., coffee, tea, cigarettes. However, there has been difficulty in adding value to agricultural exports in the course of processing (except some products for which mass production, processing, logistics, and exports have been established with foreign investment). In addition, middlemen (intermediaries) lead to complexities in the logistics of agricultural exports, creating obstacles for businesses in price determination and market information sharing. A further limiting factor is that the infrastructure for logistics, e.g., access roads to markets, the cold chain (i.e., refrigerated trucks and facilities), and market information system, has not been developed well (Source: Ministry of Economy, Trade and Industry, “Research on Policy Consistency of ODA and Agricultural Trade”, 2007).

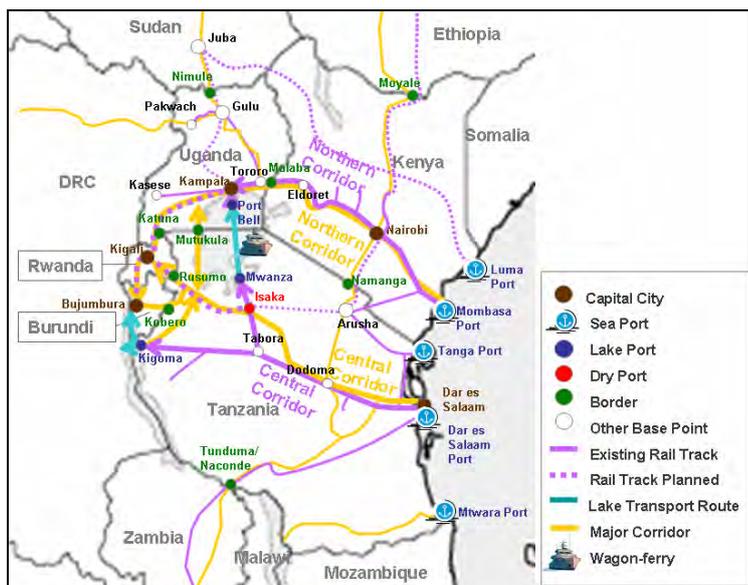
At the same time, regional economic integration is proceeding. The EAC has established a customs union (2005), and will abolish tariffs (by 2010). The Common Market for Eastern and Southern Africa (COMESA) established a Free Trade Area or FTA (2000) and will introduce intraregional tariffs (by 2008). The Southern African Development Community (SADC) will establish a customs union (by 2010) and a common market (by 2015), and will introduce a common currency (by 2018).



Source: Study Team (prepared from a variety of references, FDI data for 2006 and the other data for 2007)

Figure 3.1 Summary of Economy and Trade in the Three Largest Countries in East Africa

Current Status of CBTI in East Africa



Source: Study Team

Figure 3.2 Major Corridors in East Africa

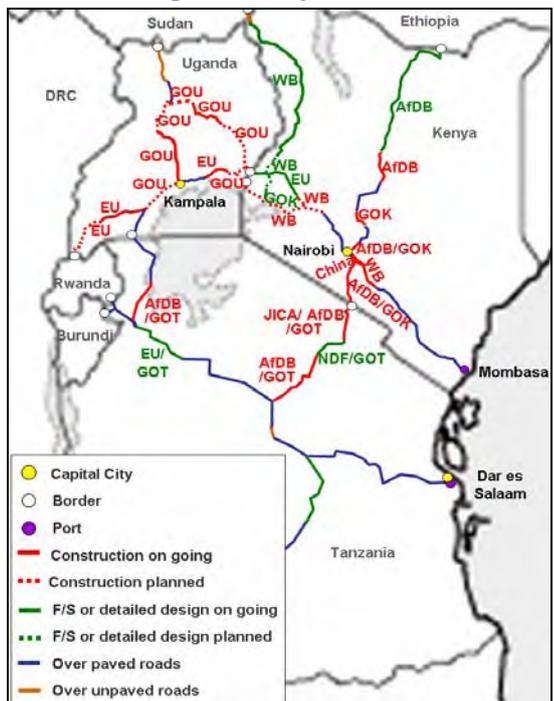
There are two major international corridors in East Africa: the Northern Corridor and the Central Corridor (Figure 3.2). Both start from a port and consist of two modes (road and rail). With assistance from the EU, the World Bank, the African Development Bank (AfDB), and others, CBTI has been developed mainly on the following two major corridors.

Roads

Road infrastructure on the major corridors is being improved with assistance from the Japan International Cooperating Agency (JICA), the African Development Bank (AfDB), the World Bank (WB), the European Union (EU), and the NDF (Nordic Development Fund) (Figure 3.3). JICA provides considerable research and grant assistance for bridges and roads. In addition, JICA is providing a yen loan for the Arusha (Tanzania)-Athi River (around Nairobi, Kenya)

road development project, with co-financing from the AfDB, in conjunction with a One-Stop Border Post (OSBP) project at Namanga.

However, there have been problems in maintaining pavements. Road bureaus and road funds for sustainable road maintenance were established in Kenya and Tanzania and are being established in Uganda. While institutional capacities are being enhanced to improve maintenance, the lack of capacity of the private companies that undertake road repair work remains a constraint.



Source: Study Team

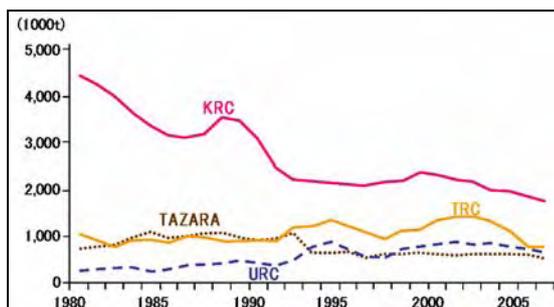
Figure 3.3 Current Status of Major Roads

Railways

The region's railways have been deteriorating. While the railways of the three case study countries have been privatized based on concession agreements, transport volumes after privatization have decreased and fallen far behind demand, which has increased with economic growth (Figure 3.4). This in turn has resulted in very long waiting times at ports before loading cargo on trains, leading to a greater dependence on road transport for most cargo. This is because the national railway organizations abandoned maintenance and the rehabilitation of infrastructure and rolling stock after the decision to privatize was taken, so when the operating companies took over the railways, the track and the rolling stock were degraded.

Ports

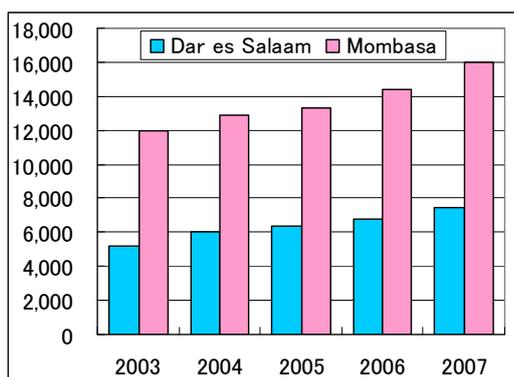
The performance of region's ports has also been poor. The ports of Mombasa and Dar es Salaam are always crowded because the cargo handling capacity is lagging behind the increasing demand (Figure 3.5). Import and export procedures require considerable time, and the detention of goods at ports has become a major obstacle to distribution (Figure 3.6). To help alleviate this constraint, JICA is assisting a port expansion project at Mombasa Port with yen loans; completion is expected in 2015.



Source: EAC Railway Master Plan, 2008

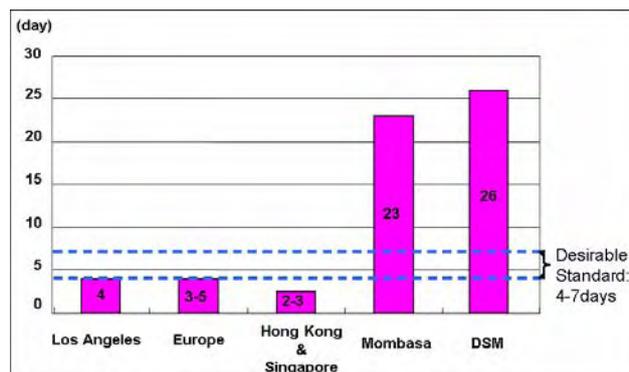
Note : KRC: Kenya Railway, TRC: Tanzania Railway, URC: Uganda Railway, TAZARA: Tanzania-Zambia Railway

Figure 3.4 Transitions in Handling Cargo of Railway Companies (thousands of tons)



Source: Study Team (prepared from a variety of references)

Figure 3.5 Cargo Handling at Major Ports (in thousands of deadweight tons, dwt)



Source: Study Team (prepared from a variety of references)

Figure 3.6 Detention Days of Cargo at Major Ports in the world (days)

Borders (OSBPs)

One-Stop Border Posts are now being established at international borders, supported by the World Bank, the United States Agency for International Development (USAID), and JICA. At the Namanga border between Kenya and Tanzania, OSBP support is provided in terms of both soft and hard aspects through JICA technical cooperation and yen loans. In Malaba between Kenya and Uganda, the first railway OSBP in East Africa was opened in 2007, and border crossing times for railway freight have been reduced to 30 minutes to one hour, while previously 1–2 days was required. OSBP support is also provided at other international borders by various development partners.

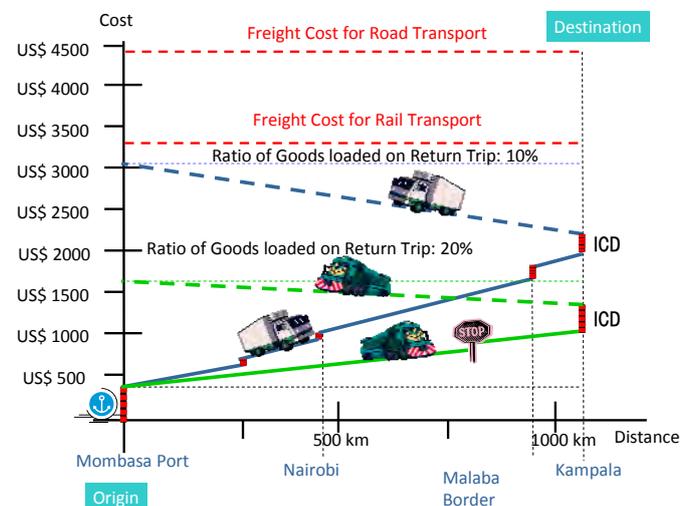
Cross-Border Transport System

Since the road transport agreement concluded by the three case study countries in East Africa is to be applied to Rwanda and Burundi, growth in cross-border transport is envisaged. To address the bond (guarantee) system, one of the barriers impeding cross-border transport, the countries are seeking to establish a common bond system under the auspices of COMESA; a pilot project has already been initiated in the Northern Corridor with support from USAID. Weighbridges, police checks (inspections), and escorts (police accompanying cargo vehicles) to prevent smuggling and the evasion of customs duties are also factors that cause delays in cross-border transport, but these are expected to be improved by the introduction of a global positioning system (GPS) for trucks with World Bank assistance.

The coordination of cross-border transport systems among multiple countries is carried out by the EAC and COMESA, and in the Northern Corridor the Northern Corridor Transit Transport Coordination Authority (NCTTCA) is involved. Also in the Central Corridor, a similar coordination authority is now being established with support from the African Development Bank.

Analysis of Transport Time and Cost

As with the cases in Sub-Saharan Africa, long transport time and high transport cost cause major hurdles for economic development, trade, and private finance. In order to identify the causes for long transport times and high transport costs, the transport time and cost for cargo imported from overseas was analyzed for the Northern and Central Corridors. The results of the analysis for the Northern Corridor (from Mombasa to Kampala) are set out below.



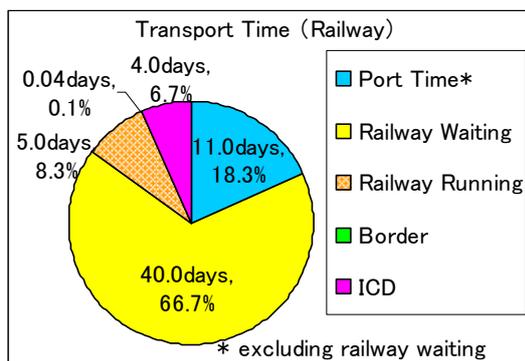
Source: Study Team

Figure 3.7 Time Analysis between Mombasa-Kampala for transit of 40Ft container

Long waiting time at port: Waiting time at port accounts for a significant proportion of the total time required for transportation along this corridor: 61% for road transport, and 85% for railway transport (including railway waiting time) (Figures 3.7–3.9). Especially for rail, cargo is sometimes detained for periods as long as 40 days due to a serious shortage of rail capacity. There are other issues such as the shortage of port infrastructure capacity including berths and yards, delays in customs clearance procedures that involve multiple institutions, and delays in document inspection and cargo acceptance by cargo recipients (e.g., distributors). Also, since cargo storage fees at ports are inexpensive, some ports are used as if they were warehouses to store cargo.

Transit time across national borders and inland container depots (ICDs):

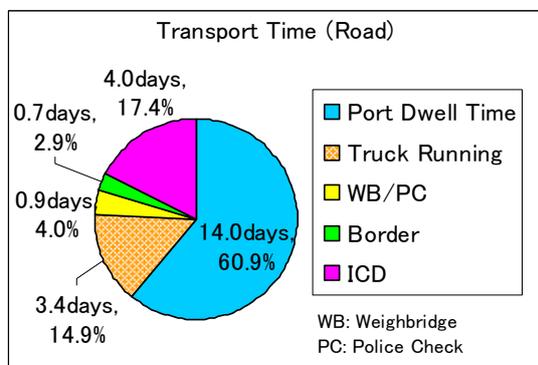
The transit time at the Malaba border crossing along the Northern Corridor is 6–8 hours by road, and only about one hour by rail (substantially reduced with the introduction of an OSBP). Therefore, transit time across national borders accounts for 2.9% of total time in the case of road transportation, and for 0.1% of that for rail transportation (Figures 3.8–3.9). The facts indicate that other factors, such as ports, are more influential than transit time across national borders. In the case of regional trade without ports, transit time across national borders accounts for about 6% of total transit time. At the other national borders in EAC, about one day is required for transit time across national borders. More importantly, a few days are required at the ICD at the destination (Kampala) to carry out clearance. In addition, accidental detentions and transportation delays occur frequently due to incomplete preparation for border crossing procedures.



Source: Study Team

Figure 3.8 Breakdown of Time and Distance between Mombasa-Kampala (railway)

Although transit across national borders is still of some importance, the impact of improvements in transit across national borders in East Africa is relatively insignificant from the view of total transport system. The total improvement of transit across national borders should be considered.



Source: Study Team

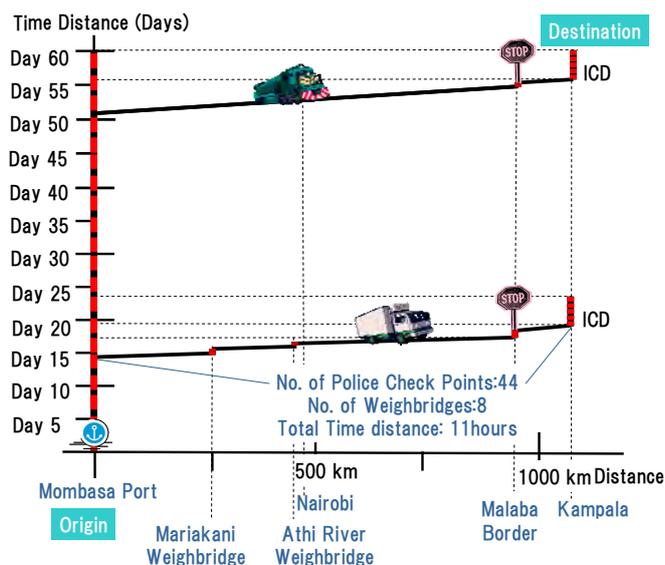
Figure 3.9 Breakdown of Time and Distance between Mombasa-Kampala (road)

Weighbridges, police checks, and police escorts:

There are many weighbridges and police checkpoints to control illegal loading/unloading and overloading in transit countries. If necessary, police escorts are also provided. Although weighbridges normally require three minutes for transit, some weighbridges may require five hours due to congestion caused by the lack of proper equipment and design problems. Also, unofficial payments have been reported, imposing a significant psychological burden on companies.

Slow travel speed: The travel speed of trucks is fast due to good pavement conditions, but normally trucks do not run at night because of security concerns. Trains cannot operate fast due to poor track maintenance; their average speed is about only 10 km per hour.

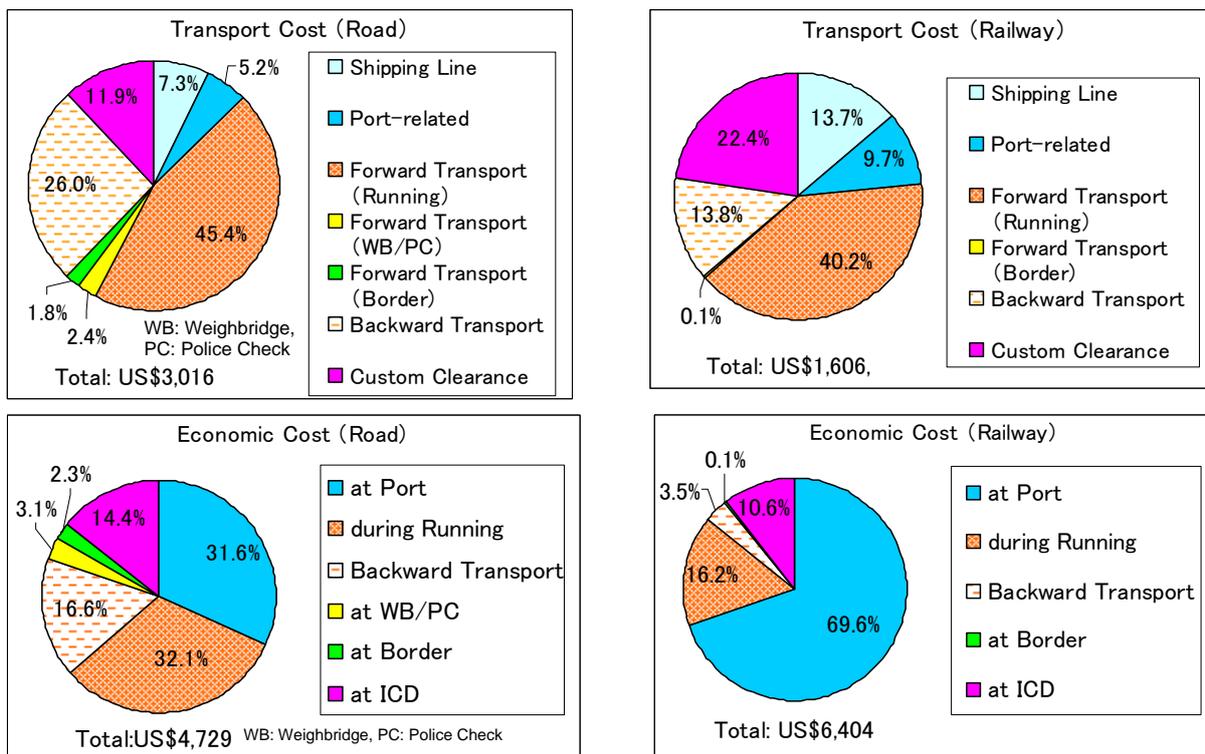
Required cost: Required costs consist of transport fees and procedural charges at ports and ICDs. A key factor is the additional costs associated with the return run. Since the cargo volume of the homeward trip (from inland to port) is overwhelmingly small compared with that of the outward trip (from port to inland), loads are typically carried one way only, and consequently the cost of the homeward trip is included in the cargo transport fee of the outward trip. Also, there is a large difference between the financial cost and the transport price (fees that are actually paid to the distributor); one of the reasons for this is said to a protective policy for distributors. On the other hand, the rates charged by trains are lower than those of trucks (Figure 3.10–3.11).



Source: Study Team

Figure 3.10 Cost Analysis between Mombasa-Kampala for Transit of 40-foot Containers

Economic cost: Economic cost is defined as the required cost plus the value of time of the cargo. Economic cost significantly affects business activities. Long port waiting time results in a significant percentage of port-related economic cost, especially with respect to railway transport. It is clear that ports are a major bottleneck in the distribution system (Figure 3.11).



Source: Study Team

Figure 3.11 Breakdown of Required and Economic Cost between Mombasa-Kampala for Transit of 40-foot Containers

4. Cross-Border Transport and Economic Development in East Africa

The linkage between industrial development and trade should be considered together with public-private initiatives and CBTA develop to strengthen industry and trade. Accordingly, in preparing a model program for CBTI development in East Africa, this study examined the economic development measures that should be implemented together with CBTI development.

CBTI Development and Industrial and Trade Promotion

To maintain sustainable economic growth in Sub-Saharan Africa, it is important to break the “negative spiral” resulting from a delay in transport infrastructure development, together with laggard regional and industrial development in this subregion (Figure 4.1). Transport demand for CBTI in Sub-Saharan Africa is certainly lower than that in the Greater Mekong Subregion (GMS) of Southeast Asia, the study area in the previous phase of this research series. Thus, implementation of strategies to stimulate traffic demand through industrial development in conjunction with CBTI development is very much needed in this subregion.

In this study, the following measures may be proposed as industrial development and trade promotion strategies in conjunction with CBTI strategies: (1) elimination of various barriers to promote market expansion within and outside the subregion, (2) development of the agro-processing industry and promotion of export of primary agricultural products, and (3) effective linkages with mineral resource development. The development of industrial human resource and employment creation should be implemented as a sub-strategy to complement these three strategies.

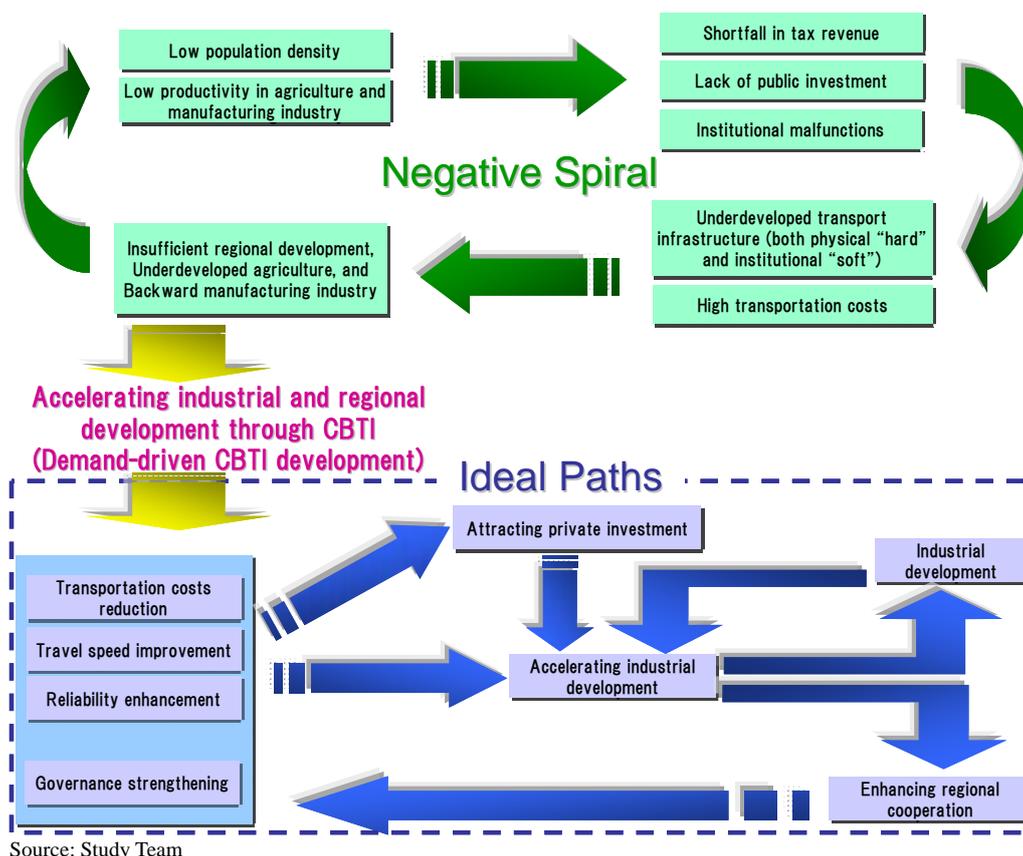


Figure 4.1 CBTI Development and Trade and Industry Promotion in Sub-Saharan Africa

Strategy 1: Reduction of physical and institutional barriers to contribute to the expansion of interregional and intraregional markets

Efforts should be made to increase the flexibility of freight rates by further promoting deregulation of the transport/distribution industry in the region and eliminating freight cartels, in order to maximize the effects of CBTI development for reducing transport costs. At the same time, it may be effective to indirectly support the ongoing market integration and currency unification in many RECs and to carry out measures to reduce trade barriers.

Strategy 2: Development of the agro-processing industry, promotion of the export of primary agricultural products, and demand stimulation

As a basic policy, it is recommended to provide comprehensive support with a view to the value chain from input, production to processing, distribution, and export, and to promote the export of strategic agricultural products through effective linkages with CBTI development (i.e., to provide support that will add value at each stage of the value chain):

1. Production phase: Provide support to enhance access to market information. In particular, develop mobile phone and information technology (IT) infrastructure (including wireless local area network or LAN facilities) in rural areas along corridors and secondary roads (taking public-private initiatives/cooperation into consideration.)
2. Processing phase: Provide support for agro-processing and packaging techniques. Enhanced processing techniques will help to keep products from deteriorating during transport and therefore resolve various problems related to quarantine issues.
3. Distribution phase: Improve distribution systems (the building of secondary roads feeding main corridors, developing a cold chain along a corridor, and fundamentally improving the distribution system by building Agro-Processing export processing zones (EPZs)/special economic zones (SEZs), taking public-private initiatives/cooperation into consideration).
4. Distribution/export phase: Support quality control/management and product tracking/traceability management.
5. Processing/distribution/export phase: Construct an EPZ/SEZ near a mode junction (port) or a border to draw agro-processing businesses, and develop it as a core of processing and distribution systems. In addition, stimulate the demand of businesses related to agriculture and service industries, with a view to including related service industries (e.g., microfinance and other finance businesses, logistics, retailing, taking public-private initiatives/cooperation into consideration).

Strategy 3: Linkage with mineral resources development

Considering the current status of mineral resources development in Sub-Saharan Africa, it is recommended to conduct the following actions to secure mineral resources in coordination with CBTI development:

1. To build access infrastructure in specific mine development projects (e.g., construction of roads to inland mines, upgrading of embarkation ports), based on cooperation with mining juniors/minors, especially in targeting rare and non-ferrous metals.
2. The targeted region is Southern Africa, which has large amounts of rare and non-ferrous metal deposits. (The region is more promising in terms of the type and scale of deposits than East Africa.)
3. Coordination of CBTI development with other commitments at the fourth Tokyo International Conference on African Development (TICAD-IV) (e.g., support for infrastructure development for electricity, water, and sewage services), for example combining the development of electric power resources with those of mines and related infrastructure.

Sub-strategy: Development and employment promotion of industrial human resources

This study proposed the development of industrial human resources and employment promotion as a complementary strategy. Targeting the logistics and transport industries addressed in Strategy 1 and the agro-processing and distribution industries addressed in Strategy 2, concrete actions are recommended as follows:

1. Development of industrial human resources for the logistics and transport industries: Support forwarders and logistic service providers in customs clearance, border crossing procedures, and the like.
2. Capacity building among customs officers: Strengthen the JICA Technical Cooperation Project (TCP) scheme.
3. Development of industrial human resources for the agro-processing and distribution industries: Transfer processing technologies, support business owners in business management techniques, and provide technical support related to distribution quality control and tracking/traceability management, among other measures.
4. Capacity building for quarantine officials: Conduct capacity building using the JICA Technical Cooperation Project (TCP) and other schemes (especially for the quarantine of agricultural products for strategic export).

Views on Public-Private Initiatives for Cross-Border Transport Development

Table 4.1 shows the directions of public-private initiatives/cooperation for CBTI development combined with industrial development and trade promotion measures. For the implementation of these measures, Other Official Flows (OOF) as well as Official Development Assistance (ODA) will be considered and incorporated.

Table 4.1 Directions of Public Private Initiatives/Cooperation for CBTI Development

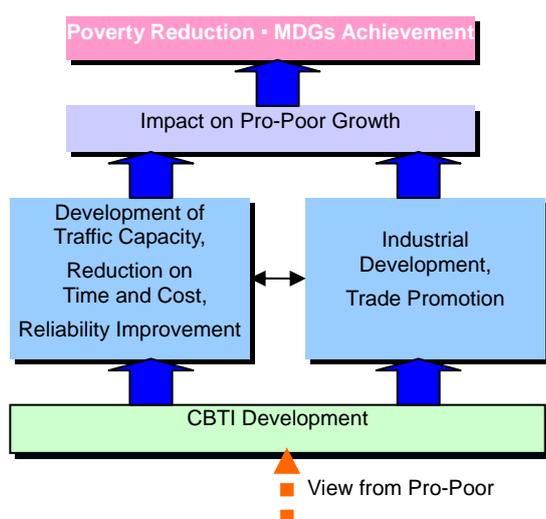
Type	Directions of Public-Private Initiatives/Cooperation for CBTI Development
Supporting Infrastructure Development	<ul style="list-style-type: none"> ✓ Develop supporting infrastructure (e.g., electricity, water, sewerage, ports, access roads and railways) for EPZ/SEZ construction at transportation nodes and national borders ✓ Develop cross-border access roads and railways for mine development ✓ Develop physical distribution infrastructure (e.g., cold chain)
Public-Private Partnerships (PPPs)	<ul style="list-style-type: none"> ✓ Apply for port operation under PPP (for Mombasa and Dar es Salaam Ports) ✓ Apply to a construction project for a cross-border bridge ✓ Apply to operation and maintenance, and service delivery of infrastructure projects ✓ Capacity building for government officials in charge of PPP projects
Policy Making and Institutional Development	<ul style="list-style-type: none"> ✓ Assist RECs in establishing customs unions, free trade zones, and monetary union. ✓ Collaborate among industry, government, and academia to implementing the above ✓ Improve food safety standard and quarantine system (responding to EUREP-GAP an internationally recognized set of standards) ✓ Assist deregulation of transport/distribution industry
Corporate Social Responsibility (CSR) and Bottom of Pyramid (BOP)	<ul style="list-style-type: none"> ✓ Support CSR activities of private companies located in EPZs/SEZs ✓ Provide projects linking One-Stop Border Post (OSBP) development and HIV prevention ✓ Assist small and medium enterprises (SME)/non-profit organization (NPO) activities for fair trade of primary agricultural products (especially of the main export products of each country) ✓ Provide market information on agriculture products (e.g., through the development of mobile phone network and wireless LAN systems.)
Public Financing	<ul style="list-style-type: none"> ✓ Risk sharing between public and private sectors in high risk projects such as mine development
Others	<ul style="list-style-type: none"> ✓ Through public-private cooperation, develop human resources in the distribution industry and assist business management of domestic distribution companies ✓ Assist private companies located in EPZ/SEZ in securing human resources (e.g., through the provision of short-term vocational training) ✓ Support NPOs/nongovernmental organizations (NGOs) involved in agriculture development / trade promotion projects

Source: Study Team (prepared from reports and papers by the Ministry of Foreign Affairs, Japan, and Keidanren, Japan Federation of Economic Organizations)

5. Strategic Directions for CBTI Development in Sub-Saharan Africa

CBTI development is essential for facilitating industrial development, trade, economic revitalization, and poverty reduction in Sub-Saharan Africa. However, complex factors are inhibiting the facilitation of cross-border transport, and it is impossible to fully improve the entire cross-border transport system by implementing individual projects. Therefore, when forming and implementing CBTI projects, it is necessary to adopt a program approach, seeking more effective measures by keeping the entire vision and strategy of CBTI development in mind, and considering the synergy with related projects currently implemented by various development partners. Thus, the Study Team proposed the following future directions of CBTI development support in Sub-Saharan Africa and a model program of CBTI development in East Africa.

Poverty Reduction and MDGs Achievement through CBTI Development



Source: Study Team

Figure 5.1 Future Goal of CBTI Development

In Sub-Saharan Africa, poverty reduction is the most important development goal. CBTI development will contribute to achievement of the Millennium Development Goals (MDGs), which is an international commitment concerning poverty reduction.

CBTI development will reinforce physical infrastructure, reduce transportation costs, and improve transport system reliability to help increase the required traffic capacity. This is expected to facilitate industrial development, trade, and economic growth contributing to poverty reduction, i.e., pro-poor growth (Figure 5.1).

In order to achieve the MDGs, it is estimated that by 2015 an annual economic growth rate of 7%² and an annual trade volume growth of 12% will be required. To provide this increase in trade volume, a 2.4-fold increase in traffic volumes is required by 2015.³ Therefore, this expansion of traffic capacity was set as the CBTI development goal by 2015.

2. African Development Indicator 2007

3. Based on a regression analysis of trade growth rate and GDP growth rate in Sub-Saharan African countries over the past five years, this is the estimated trade growth rate required for 7% GDP growth.

Comprehensive Themes and Strategic Direction for CBTI Development

The comprehensive themes that show the future direction of CBTI development in Sub-Saharan African consist of two pillars: (1) Integration of Sub-Saharan Africa and (2) Linkage between Sub-Saharan Africa and the Rest of the World. In addition, the Study Team recommended the following four items as strategic directions for implementing CBTI development in order to achieve the comprehensive themes (Figure 5.2):

Comprehensive Themes

Integration of Sub-Saharan Africa:

By providing seamless and efficient transportation services on an integrated transportation network, promote economic and social integration between and among countries in Sub-Saharan Africa.

Linkage between Sub-Saharan Africa and the rest of the world:

By providing seamless and efficient transportation services with the rest of the world, promote economic and social linkage between Sub-Saharan Africa and the global economy.

Strategic Directions

Perspective as a system: Consider all CBTI:

elements as a system, and carry out improvement after understanding mutual relations and the significance of each element.

Coordination with Regional Economic Communities (RECs):

Carry out CBTI development in coordination with “soft” infrastructure improvement activities implemented by RECs.

Effective linkage with trade and industrial development:

Carry out CBTI development linking with trade promotion and industrial development policies.

Introduction of public private initiatives/cooperation:

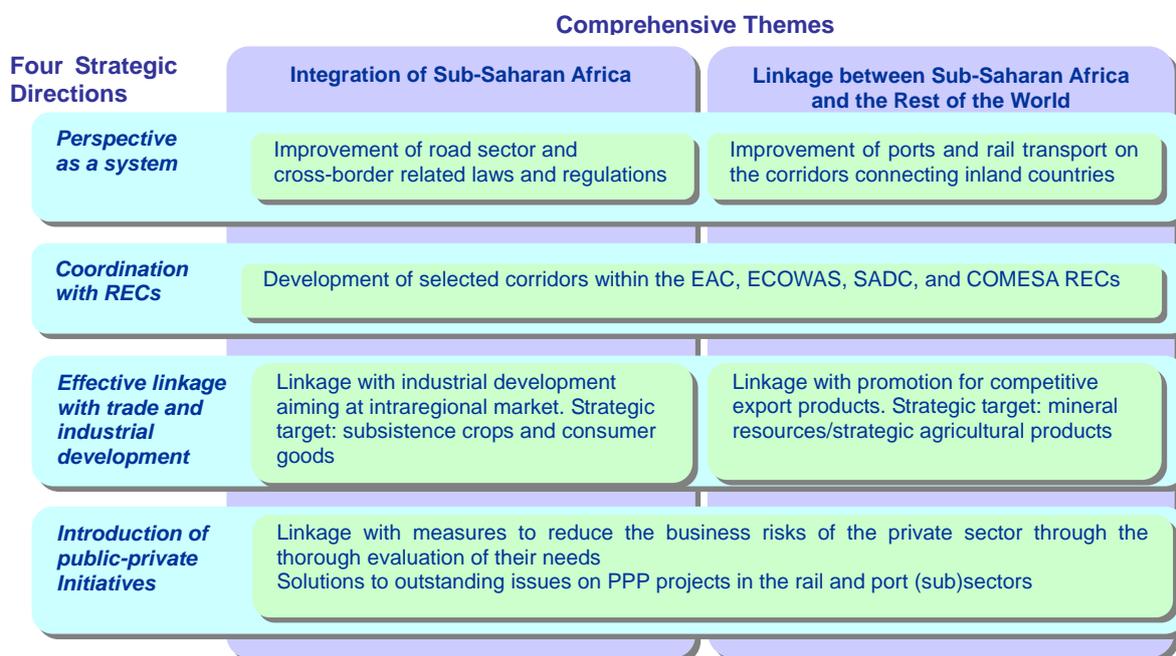
By understanding the needs of the private sector, carry out CBTI development that can reduce the business risks of the private sector.

Source: Study Team

Figure 5.2 Comprehensive Themes and Strategic Direction for CBTI Development in Sub-Saharan Africa

Priority CBTI Subsectors

Based on a program approach, the Study Team examined priority subsectors in CBTI development. Figure 5.3 summarizes the six strategies on subsectors incorporating the two comprehensive themes and four strategic directions as discussed in the previous section.



Source: Study Team

Figure 5.3 Priority Subsector in CBTI Development

Detailed Strategies by Subsectors

Based on the above matrix, the Study Team recommends the following detailed strategies by subsector:

Port Subsector: This is the highest-priority subsector. It is essential to improve cargo handling volumes at existing ports in the short term to address the shortage in the number of ports and their capacity. Both “hard” infrastructure development and “soft” infrastructure improvement will be crucial for this subsector, especially regarding specific measures for container terminal improvement.

Railway Subsector: Railways should be a focus for improving long-distance transport between ports and inland countries as well as providing access to mine resources. To address the aging infrastructure, efficient implementation of the operation system/framework (including privatization) is urgently required.

Road Subsector: Construction of missing links and development of rural roads is important from a pro-poor perspective. Also, strengthening of the operation and maintenance capacity is still needed. Cross-border transport laws/regulations are recognized as one of the bottleneck areas to be addressed through coordination by the RECs.

Civil Aviation Subsector: It is recommended to improve the air transport sector concurrently with the development of industrial products suited for air transport such as light and high-value goods.

Soft Infrastructure: This issue is important because of its critical impact on cross-border movement. RECs must implement strategic measures addressing these issues in coordination with measures to improve hard infrastructure.

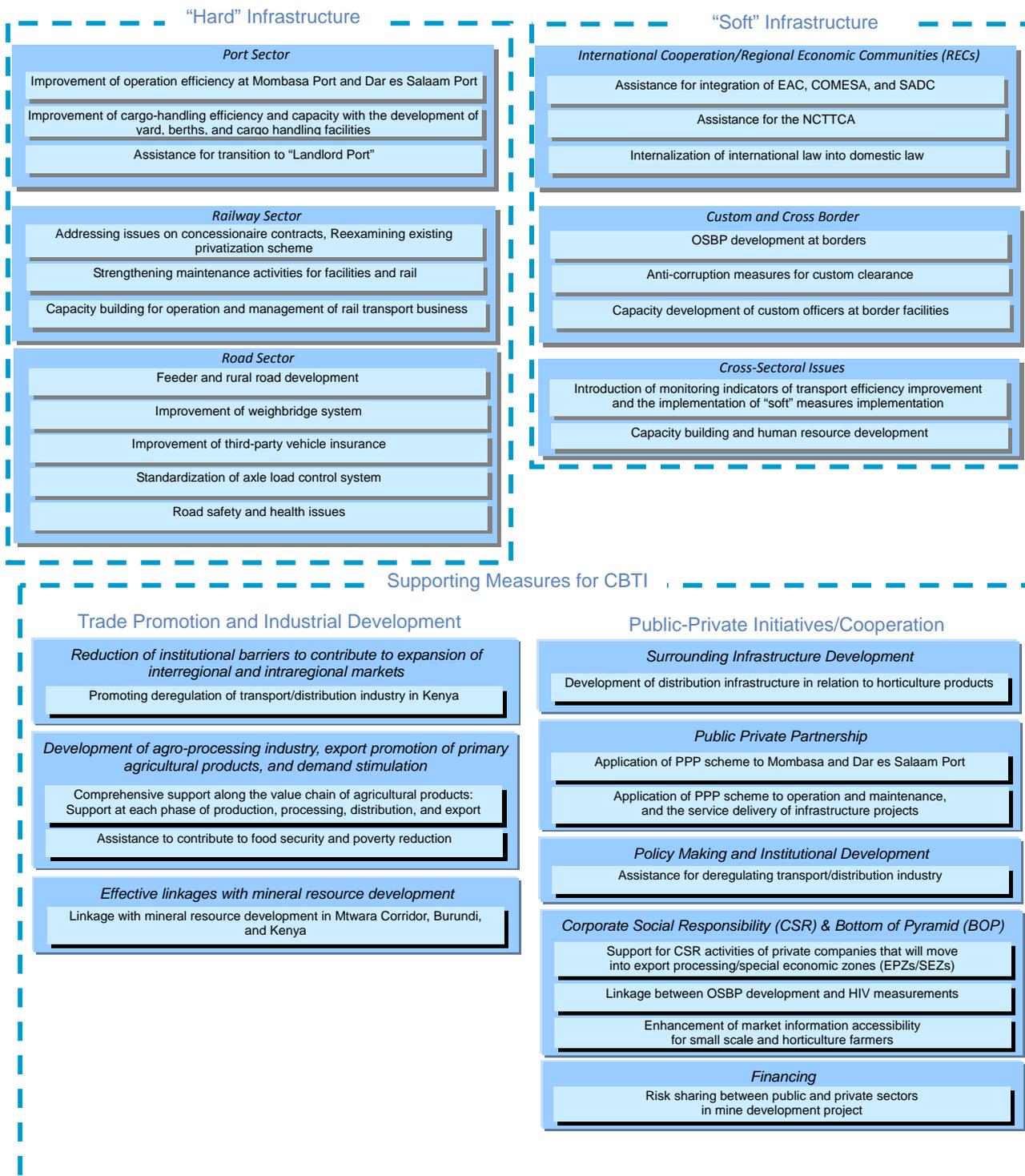
The following are supporting measures for CBTI that should be implemented in collaboration with CBTI development.

Supporting Measures for CBTI 1: Trade Promotion and Industrial Development: The agro-processing industry, which contributes to export promotion, is highlighted in the strategies of this sector. Regarding the effective linkage with mineral resources development, Southern Africa with its abundant deposits of rare and non-ferrous metals, should receive emphasis. In addition, mining development in East Africa can also be considered.

Supporting Measures for CBTI 2: Public-Private Initiatives/Cooperation: A new approach considering “to what extent the public sector can support the wide range of activities by the private sector” and “how to pull and promote private investments” is required on the public sector side. It is necessary to introduce a mechanism to substantially hedge the mining risks of the private sector.

Model CBTI Development Program in East Africa

Based on the subsector strategies mentioned above, the Study Team listed required measures and prepared the model program, classifying these measures into short-term measures that should be implemented within a few years and medium- and long-term measures. The short-term measures that should be implemented with high priority for CBTI development in East Africa are summarized in Figure 5.4.



Source: Study Team

Figure 5.4 Short-Term CBTI Measures in East Africa

Directions of Japanese Official Development Assistance (ODA) in East Africa

For the future directions of Japan's assistance to East Africa with regard to CBTI development, it is needed to consider assistance programs that focus on the comparative strengths of Japan, together with coordination with other development partners. Also, strategic views from both "hard" and "soft" infrastructure aspects are indispensable for effective aid delivery, because institutional and organizational malfunctions still remain. Among the above long list of priorities for CBTI development in East Africa, the right column shows selected areas that can fully utilize the past experience and know-how of Japan's foreign assistance.

Port Development: Along with the ongoing yen loan project for Mombasa Port development, simplification of port procedures and improvement of access to arterial roads and railways are recommended. In the case of Dar es Salaam Port, which is more congested than Mombasa Port, simplification of port procedures are also required, as well as yard expansion.

Rail Transport Improvement: Streamlining operation and management of business administration, increase in rolling stock, rail track rehabilitation.

Cross-Border System Improvement: Introduction of information technology in customs clearance procedures in coordination with OSBP development, improvement of weighbridges and police checks with utilization of a global positioning system (GPS) vehicle tracking system.

Industrial Development Support: Agro-processing industry development, mineral resource development, human resource development, construction of EPZ/SEZs at ports and at nodes of regional corridors (in coordination with CBTI development).

Issues for Future JICA Assistance

The results of this study suggest the following issues that JICA should assist for the development of CBTI in Sub-Saharan Africa in the future.

Project Formulation in East Africa: Further research is necessary to formulate concrete projects in East Africa. The Study Team recommended detailed strategies in the following subsectors: ports, railways, cross-border facilities, and industrial development, to be assisted by Japanese ODA. It is necessary to conduct research to identify project scope to facilitate the immediate implementation.

Study of Private Needs and Public-Private Risk Sharing: Trade promotion/industrial development and public-private cooperation are essential for the development of CBTI. A study of schemes and application methods for public-private risk sharing based on recognition of private needs is important. In particular, it is also essential to build a framework for decision making to adopt private demands quickly.

Response to Operational and Management Problems of Ports and Railways: It is essential to formulate a framework that can accumulate knowledge and propose measures for the operation and management problems in the port and railway subsectors, currently the most important transport subsectors. In particular, it is necessary to accumulate the knowledge for the solutions of various problems in privatization.

Study of Subsector Issues: Analysis of issues in each subsector for the implementation of CBTI and complementary policies should proceed with the research results to be fed back into the CBTI program. Related subsector studies should actively involve analyses of roles of CBTI.

Evaluation of Regional Impacts of CBTI Development: It is necessary to evaluate how much CBTI development helps reduce poverty, develop industry, and promote trade.

The Research on the Cross-Border Transport Infrastructure: Phase 3

Final Report

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List of Abbreviations

AfDB	African Development Bank
AU	African Union
BOP	Bottom of Pyramid
BRICs	Brazil, Russia, India, and China
CBTI	Cross Border Transport Infrastructure
CEMAC	Communauté économique et monétaire de l'Afrique centrale
CFAs	Clearing and Forwarding Agents
CFS	Container Freight Station
COMESA	Common Market for Eastern and Southern African States
COTIF	Convention Concerning International Carriage by Rail
CPA	Coordinated Parallel Approach
CSR	Corporate Social Responsibility
DRC	Democratic Republic of the Congo
DWT	Dead Weight Tonnage
EAC	East Africa Community
EARH	East Africa Railways and Harbors
EATTFP	East Africa Trade and Transport Facilitation Project
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EPSA	Enhanced Private Sector Assistance for Africa
EPZ	Export Processing Zone
EU	European Union
FDI	Foreign Direct Investment
F/S	Feasibility Study
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GIS	Geographic Information System
GMS	Greater Mekong Subregion
IGAD	Intergovernmental Authority of Development
ICAO	International Civil Aviation Organization
ICD	Inland Container Depot
ICT	Information and Communication Technology
IDA	International Development Association
IFC	International Financial Corporation
IFS	International Financial Statistics
ILO	International Labour Organization
IMF	International Monetary Fund
IT	Information Technology
JBIC	Japan Bank for International Cooperation
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau
LME	London Metal Exchange
LPI	Logistics Performance Index
MCC	Millennium Challenge Corporation
MDGs	Millennium Development Goals
NCTTCA	Northern Corridor Transit Transport Coordination Authority
NDF	Nordic Development Fund
NEPAD	New Partnership for Africa's Development
NES	National Export Strategy
NGO	Non Governmental Organization
NIES	Newly Industrializing Economies

NPO	Non-Profit Organization
KPA	Kenya Port Authority
KRA	Kenya Revenue Authority
KRC	Kenya Railway Corporation
KRL	Rift Valley Railways Kenya Limited
OAU	Organization of African Unity
ODA	Official Development Assistance
OOF	Other Official Flow
OSBP	One Stop Border Post
PPP	Public Private Partnership
RAHCO	Reli Assets Holding Company
RCTG	Regional Customs Transit Guarantee
RECs	Regional Economic Communities
RVR	Rift Valley Railways
SACU	Southern African Customs Union
SADC	Southern African Development Community
SAPROF	Special Assistance for Project Formulation
SDI	Spatial Development Initiative
SEZ	Special Economic Zone
SSATP	Sub-Sahara Africa Transport Policy Program
STAP	Short Term Action Plan
TA	Technical Assistance
TAH	Trans African Highway
TAZARA	Tanzania Zambia Railway
TEU	Twenty-Foot Equivalent Units
TICAD	Tokyo International Conference on African Development
TICTS	Tanzania International Container Terminal Services Ltd.
TIR	Trans-ports Internationaux Routiers
TPA	Tanzania Port Authority
TRA	Tanzania Revenue Authority
TRANROADS	Tanzania National Roads Agency
TRC	Tanzania Railway Corporation
TRL	Tanzania Railways Limited
UEMOA	Union Economique et Monetaire Ouest-Africaine
UNECA	United Nations Economic Commission for Africa
UPA	Uganda Port Authority
URA	Uganda Revenue Authority
URC	Uganda Railway Corporation
URL	Rift Valley Railways Uganda Limited
USAID	United States Agency for International Development
VOMS	Vehicle Overload Management System
WB	World Bank
WDI	World Development Indicator
YD	Yamoussoukro Decision

Introduction

Background and Objectives of the Study

Recent globalization strengthened ties of individual economies to the global economy bringing sustained economic growth in many countries, at least up until recently. This process inevitably led to an increase in traffic across borders, both people and goods. As a consequence, Cross-Border Transport Infrastructure (CBTI), which enables such movements, has become increasingly important and will remain so regardless of the consequences of current (early 2009) readjustments in the global economy. Indeed, for small developing countries with small domestic markets, CBTI is even more important under current economic conditions. With this realization, the Japan International Cooperation Agency (JICA) has carried out two research studies investigating possibilities for assisting developing countries in the field of CBTI; phase one involved basic research and phase two application of basic research, targeting the Greater Mekong Subregion (GMS) of Southeast Asia,¹ while the current (research) study has focused on Sub-Saharan Africa.

Sub-Saharan Africa is defined as all African countries except the five countries of North Africa (which are relatively well developed), and contains 34 of the world's poorest 48 countries. It is generally recognized that one reason for the laggard development of Sub-Saharan Africa is the poor state of the region's transport infrastructure and consequent high transport costs, which results in low productivity and high prices, and a low level of private investment and foreign direct investment. A special problem is that of landlocked countries, which have to transport most of their imports/exports through ports in neighboring countries and consequently face high transport costs, which slows their economic development. It is an urgent task for the Sub-Saharan Africa to upgrade its transport infrastructure, particularly CBTI, in order to promote economic development, to alleviate poverty, and to achieve the Millennium Development Goals (MDGs). Also, considering that the overall economic level in Sub-Saharan Africa is still low, industrial development must be undertaken concurrently with CBTI improvements in order for the CBTI improvements to be effective.

As the host country of the Tokyo International Conference on African Development (TICAD), Japan has demonstrated its policy of positively engaging itself to contribute to the development of Africa. In TICAD-IV in 2008, Japan declared that it would double its official development assistance (ODA) to Africa over three years, strengthened its cooperation with the African Development Bank (AfDB) by providing yen loans through Enhanced Private Sector Assistance (EPSA), and announced a plan to promote development of the private sector. To provide effective assistance for CBTI, it is necessary for Japan to conduct rigorous analyses taking the above factors into account, including the need for regional/industrial development with private sector initiative, and the specification of an effective strategy for CBTI development.

Acknowledging the foregoing, this research study seeks to identify desirable directions for Japan's strategy for official development assistance in the field of CBTA based on an analysis of the current situation and future prospects of "hard" (physical facilities) and "soft" (institutional aspects) aspects of CBTI.

The authors hope that this research study will be of use to those who are already involved or will be involved in the development of Sub-Saharan Africa.

¹ Comprising Cambodia, two provinces of the People's Republic of China, the Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam.

Organization of Study Implementation

An ad hoc advisory committee, with the JICA Economic Infrastructure Department serving the secretariat function, plus representatives of the JICA Africa Department, an academic expert, was established to discuss methodology and finding of the study. Five advisory committee meetings were held during the study. The members of the advisory committee as well of the study team are shown below:

Advisory Committee Chairperson:

Professor Tsuneaki Yoshida Professor, Graduate School of Frontier Sciences, University of Tokyo

JICA Staff/Officials:

Toshiyuki Kuroyanagi	Director General, Economic Infrastructure Department
Koichi Miyake	Executive Technical Advisor to the Director General, Economic Infrastructure Department
Ichiro Tambo	Executive Technical Advisor to the Director General, Economic Infrastructure Department
Tomiaki Ito	Deputy Director General, and Group Director for Transportation and ICT [Information and Communications Technology], Economic Infrastructure Department
Akira Nakamura	Deputy Director General, and Group Director for Urban and Regional Development, Economic Infrastructure Department
Hiroshi Takeuchi	Director, Transportation and ICT Division I, Economic Infrastructure Department
Tomoyuki Naito	Director, Transportation and ICT Division II, Economic Infrastructure Department
Naomichi Murooka	Senior Program Officer, Transportation and ICT Division II, Economic Infrastructure Department
Kenichi Konya	Senior Program Officer, Transportation and ICT Division I, Economic Infrastructure Department
Taro Okawa	Transportation and ICT Division I, Economic Infrastructure Department
Ai Wakamiya	Transportation and ICT Division I, Economic Infrastructure Department
Kazumasa Sanui	Senior Program Officer, Transportation and ICT Division II, Economic Infrastructure Department
Makoto Kanagawa	Transportation and ICT Division II, Economic Infrastructure Department
Masaya Omae	In-house Consultant for Transportation, Economic Infrastructure Department
Mayumi Syoji	Special Advisor, Africa Department

Study Team:

Yuichiro Motomura	Team Leader/Transport Infrastructure/Facility Planning (PADECO Co., Ltd.)
Bruce Winston	Cross-Border Transport Network Planning (PADECO Co., Ltd.)
Hajime Onishi	Industry Development/Trade Promotion Planning (Mitsubishi UFJ Research and Consulting Co., Ltd.)
Satoshi Ogita	Transport Planner I (PADECO Co., Ltd.)
Masako Hatta	Transport Planner II (PADECO Co., Ltd.)

Implementation Schedule of the Study

Through a comprehensive literature review, interview surveys, a one-month field assignment, other forms of information collection, and data analyses, this study developed future CBTI development goals, a CBTI development strategy, and a preliminary CBTI development program. During its home-office assignment, the study team presented the study findings to five advisory committee meetings. The knowledge of JICA staff and a leading academic expert helped the study team refine its output. In addition, JICA sponsored a seminar on CBTI in Sub-Saharan Africa with many participants from the public, private, and academic sectors; the results of the panel discussion during the seminar were incorporated in the study.

The schedule of the study was as shown below:

Date(s)	Event	Outline
21 August 2008	1 st committee meeting	Presentation and discussion of study methodology
2 September 2008	2 nd committee meeting	Presentation and discussion of progress of the study and field trip plan
1–28 October 2008	Field trip	Interviews with transport and customs related officials, international agencies, JICA offices, local private firms, and site visits to major ports, roads, and border checkpoints in Kenya, Uganda, and Tanzania
27 November 2008	3 rd committee meeting	Presentation and discussion of field trip findings and study progress
24 December 2008	4 th committee meeting	Presentation and discussion of CBTI development goals and development strategies
29 January 2009	Seminar	Presentation of study findings and panel discussion on public-private partnership (PPP) initiatives in Sub-Saharan Africa
20 February 2009	5 th committee meeting	Presentation and discussion of CBTI development goals and development strategies

Outline of Seminar

The outline of the seminar held on 29 January 2009 is as shown below:

Purpose: (i) to present the result of the study for experts and private firms, (ii) to discuss issues and future on CBTI in Africa, (iii) to report the on-going assistance on CBTI in Africa sponsored by JICA, and (iv) to incorporate opinions of experts and private firms in the study based on the panel discussion and questionnaire surveys for participants.

Date and Time: 13:30 – 17:00, 29 January 2009

Venue: JICA Research Institute, Tokyo, Japan

Number of Participants: 158 (excluding JICA staff, the study team, and panelists)

Major Participants: JICA, development consultants, constructors, trading companies, manufacturer, government agencies, education institutions, and NGOs.

Agenda:

Opening Remarks

Eiji Hashimoto Vice President, JICA

Session 1: Lecture on Issues and JICA Assistance on CBTI in Africa

Direction of JICA Assistance in Africa

Kae Yanagisawa Executive Advisor to the Director General, Africa Department, JICA

Direction of JICA Assistance for CBTI in Africa

Akira Nakamura Deputy Director General, Economic Infrastructure Department, JICA

Present Situations, Issues and Development Strategy on CBTI in Africa

Yuichiro Motomura Study Team Leader, President, PADECO Co., Ltd.

Q & A

Session 2: Panel Discussion on CBTI development and PPP in Africa

Moderator

Mitsuya Araki President, The International Development Journal Co., Ltd.

Panelists

Prof. Tsuneaki Yoshida Professor, Graduate School of Frontier Sciences, University of Tokyo

Masaki Miyaji Visiting Senior Advisor, Africa Department, JICA

Katsumi Hirano Director General, Area Studies Center, Institute of Developing Economies

Yuji Okazaki Senior Special Advisor, JICA

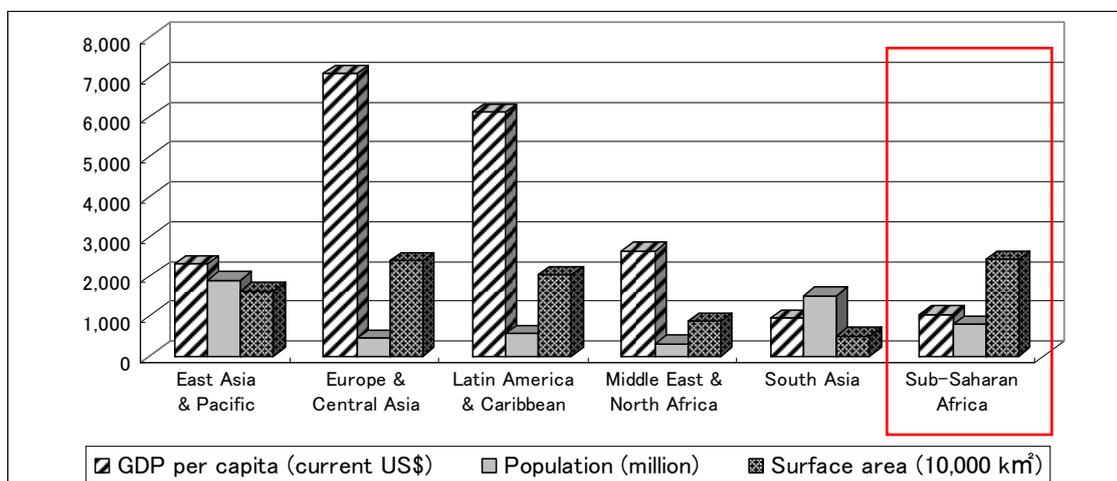
Yuichiro Motomura Study Team Leader, President, PADECO Co., Ltd.

Chapter 1 Conditions and Development Issues in Africa

1.1 Economy

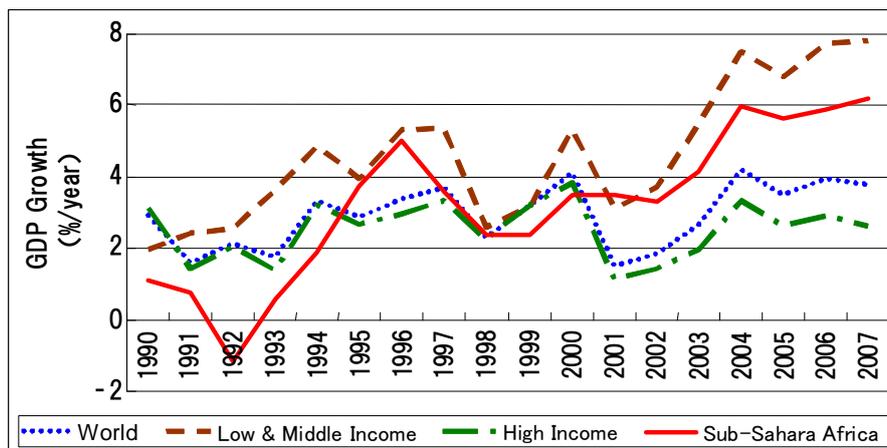
Sub-Saharan Africa encompasses 48 countries, including all African countries except the five moderately developed North African countries. Sub-Saharan Africa covers an area of 24.27 million km² equivalent to 18% of the total world land area, and has a population of 799.8 million (i.e., about 12% of the world’s population); it has a total gross domestic product of US\$840 billion (in 2007 prices), amounting to 2% of the world’s GDP, of which South Africa accounts for 33%. The GDP per capita of Sub-Saharan Africa amounts to US\$1,053, which is generally lower than found in other middle-to-low income regions (Figure 1.1.1). Moreover, GDP per capita of the 47 Sub-Saharan African countries excluding South Africa is only US\$752. About half of the region’s population, about 400 million people, may be classified as poor, i.e., they live on US\$1.25 per day or less. A total of 34 of the poorest 48 countries in the world are in Sub-Saharan Africa (statistical data are from World Bank Statistics, 2007).

While poverty stricken, Sub-Saharan Africa has registered a stable economic growth above the world average since 2001. It has achieved a remarkable GDP growth of 6% per annum (see Figure 1.1.2), with a stable GDP per capita growth rate of 3–4% since 2004. This strong growth is attributable to an upsurge of primary resource prices, which has led to foreign investors’ direct investment in basic African resources. The World Bank (John Page, 2008) cites a favorable impact on African economic growth due to improvements in economic policy, the increased strength of African currencies, improved institutions and governance, and decreased conflicts, along with further improvements in the investment environment, infrastructural improvements, technological innovations, and institutional strengthening as factors for maintaining this growth trend.



Source: Compiled from the World Bank, World Development Indicator Database

Figure 1.1.1 Major Indicators of the World’s Middle-to-Low Income Regions – Population, Surface Area, and GDP per Capita (2007)

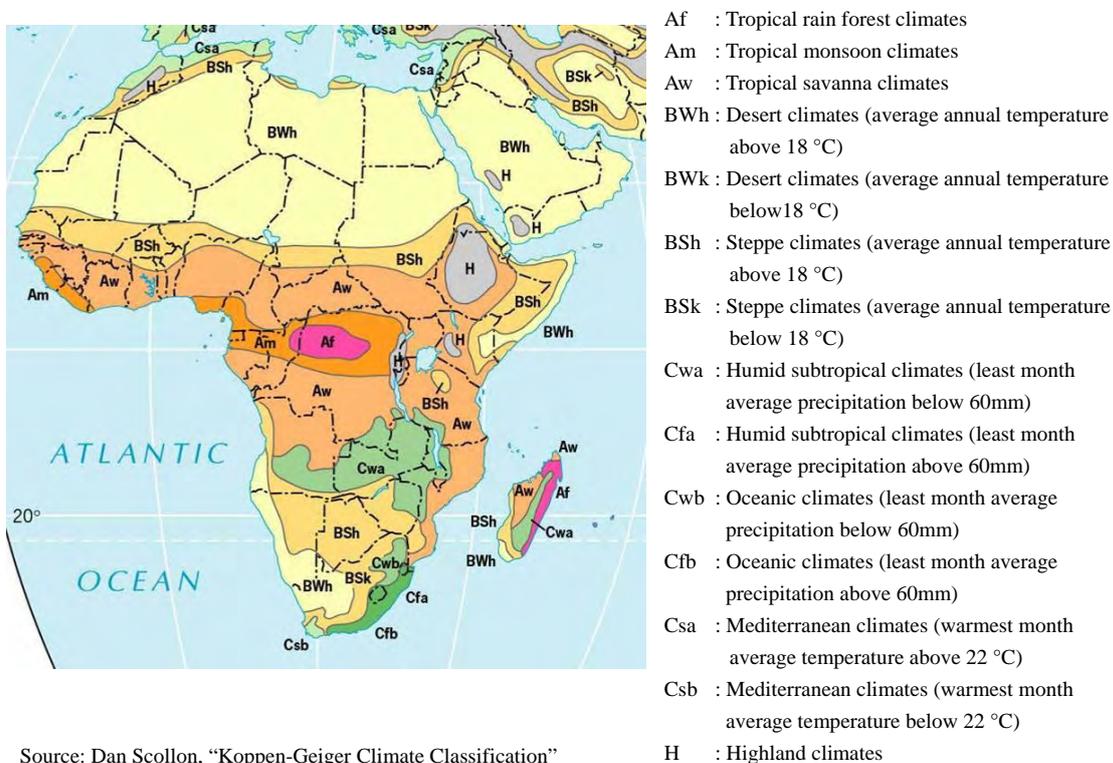


Source: Compiled from “World Development Indicator Database”, World Bank

Figure 1.1.2 The World’s GDP Growth Rate (1990–2007)

1.2 Natural Conditions

Sub-Saharan Africa has a diverse climate, including desert (e.g., the Sahara, the world’s largest), tropical rainforest, Savannah, highlands, and temperate zones with very cold winters (e.g., in South Africa); Figure 1.2.1 presents a classification of African climates. Most of the countries in the region are endowed with a temperate climate suitable for agriculture. The region is rich in such tourism resources as forest, wildlife, and natural parks, which attract international visitors. The region also includes mineral-rich countries, with natural resources such as crude oil, gold, copper, and diamonds; also, rare metals, yet to be tapped, have recently attracted the attention of foreign investors.



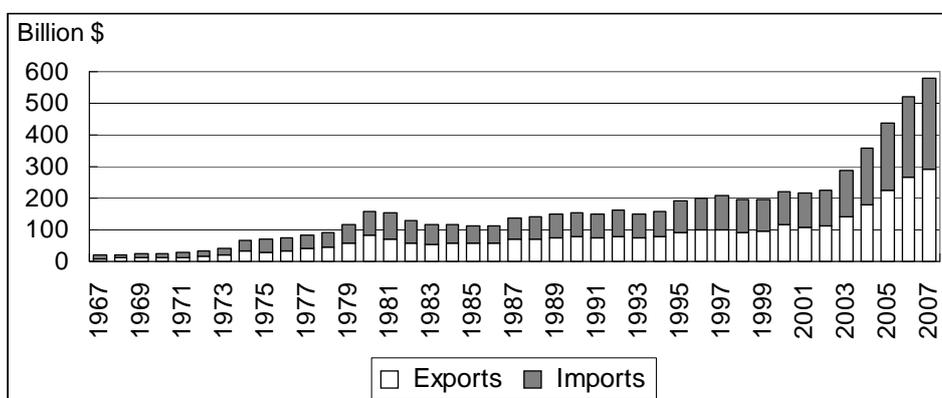
Source: Dan Scollon, “Koppen-Geiger Climate Classification”

Figure 1.2.1 African Climate Classification

1.3 Trade Structure

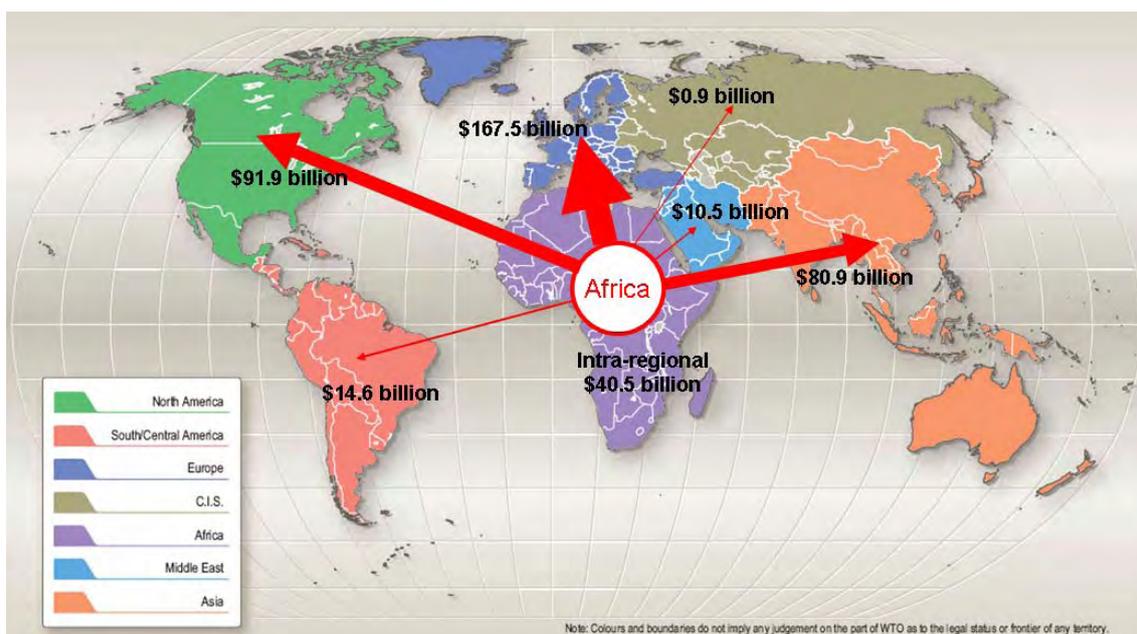
The trade structure of Sub-Saharan Africa is characterized by exports of primary commodities (e.g., oil) and imports of industrial goods. Major export destination countries traditionally have included European Union (EU) countries (e.g., France, Germany) and other industrialized countries (e.g., the United States, Japan), but recently trade volume with China, India, and other Asian countries, as well as with the Middle East, has increased substantially.

During the 1990s, the region’s trade volume growth was rather moderate compared with that of the other regions of the world, but the first decade of the 21st century has seen a remarkable per annum growth of 15% in trade (i.e., the equivalent annual average rate of increase from 2000 to 2007 according to World Bank data). Still, as of 2007, Sub-Saharan Africa’s share represented a mere 2.2% of world trade volume. Figures 1.3.1–1.3.5 summarize these trends.



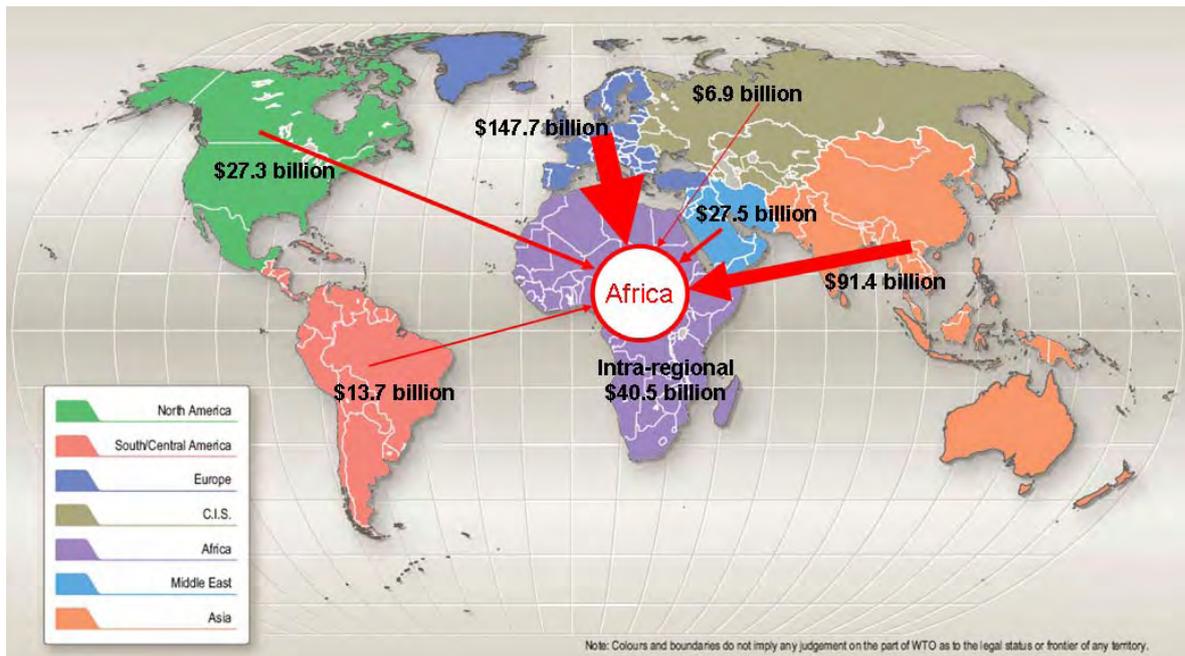
Source: Compiled the statistics from “World Development Indicator Database”, World Bank

Figure 1.3.1 Trend of Annual Trade Volume of Sub-Saharan African Countries (1967–2007)



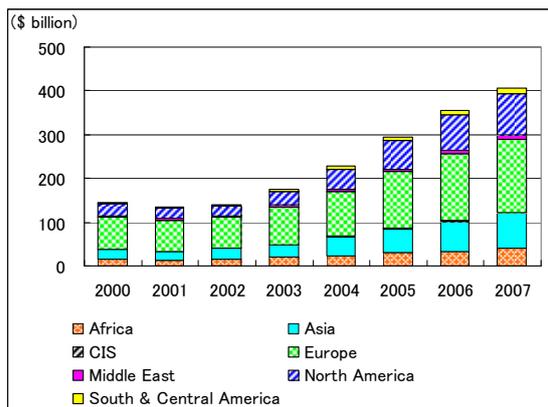
Source: Compiled data and maps from International Trade Statistics, 2008, World Trade Organization (WTO)

Figure 1.3.2 African Exports Bound for Other Regions of the World (2007)



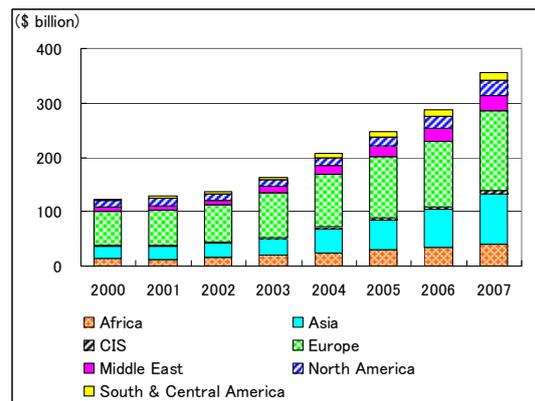
Source: Compiled data and maps from International Trade Statistics, 2008, WTO

Figure 1.3.3 African Imports Originating from Other Regions of the World (2007)



Source: Compiled from WTO Database

**Figure 1.3.4
Trend of African Exports to the Other
Regions of the World (2000–2007)**



Source: Compiled from WTO Database

**Figure 1.3.5
Trend of African Imports from Other
Regions of the World (2000–2007)**

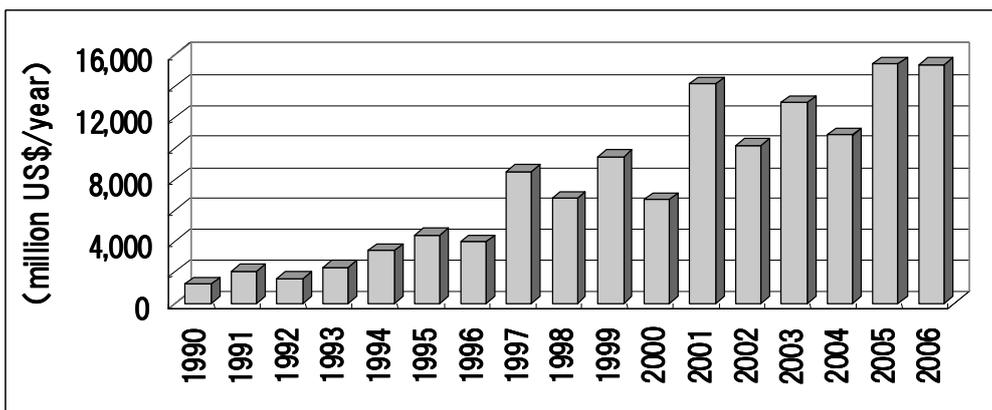
1.4 Investment

To date, Foreign Direct Investment (FDI) has not been active in Sub-Saharan Africa compared with other developing countries and other regions (see Figure 1.4.1 for the data for Sub-Saharan Africa). However, recently, FDI has increased in the mineral resources sector (see Figure 1.4.2), with surging demand worldwide, in particular on the part of newly industrializing countries such as China and India. Increased in the prices of primary resources since late 2003 have made resource investments feasible in areas where previously returns were deemed marginal. In particular, aggressive investments have been made by major Western resources companies and smaller enterprises targeting African resources including in inland countries.

In addition, since 2000 political regimes in Africa have stabilized, which has invigorated resource investments in African economies, which has also lead to investments into such sectors

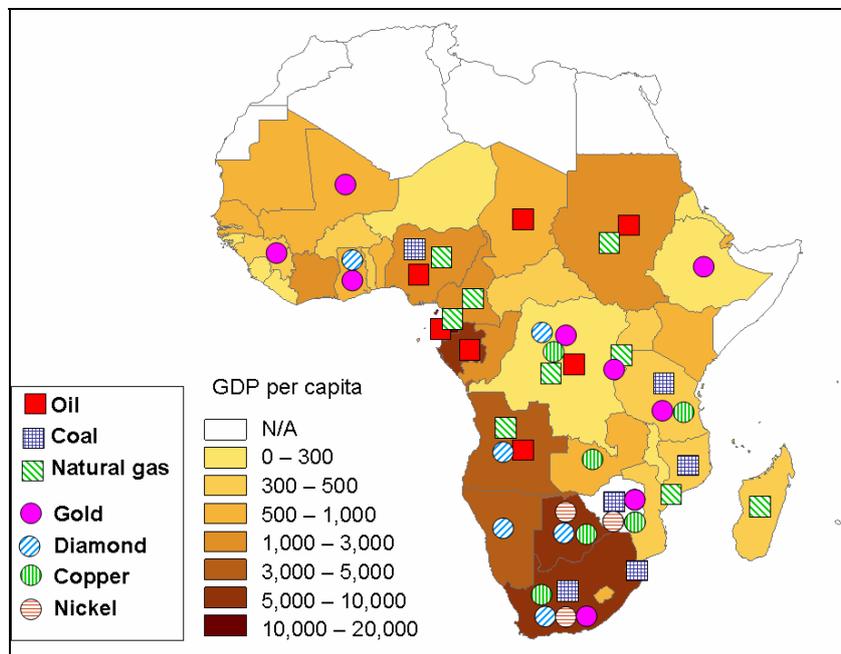
as finance, communications, and retail enterprises. As exemplified by the huge investments by Western telecommunications giants into the African mobile communications market, Sub-Saharan Africa has also been seen as a new consumer economy with a population of 800 million.

On the other hand, speculative withdrawals of funds due to the financial crisis commencing in late 2008 has shrunk demand and triggered a collapse in the prices of mineral resources, which has adversely affected investments in Sub-Saharan resources. However, over the long term, the economy of Sub-Saharan Africa is likely to turn around, due partially to the steady demand for resources by newly industrializing countries.



Source: Compiled data from “World Development Indicator Database”, the World Bank

Figure 1.4.1 FDI Inflows into Sub-Saharan Africa (1990–2006)



Source: Compiled data from DOE, USGS, and the World Bank

Figure 1.4.2 GDP per Capita and Major Natural Resources in Each Country (2006)

1.5 Issues in Industrial Development and Transport

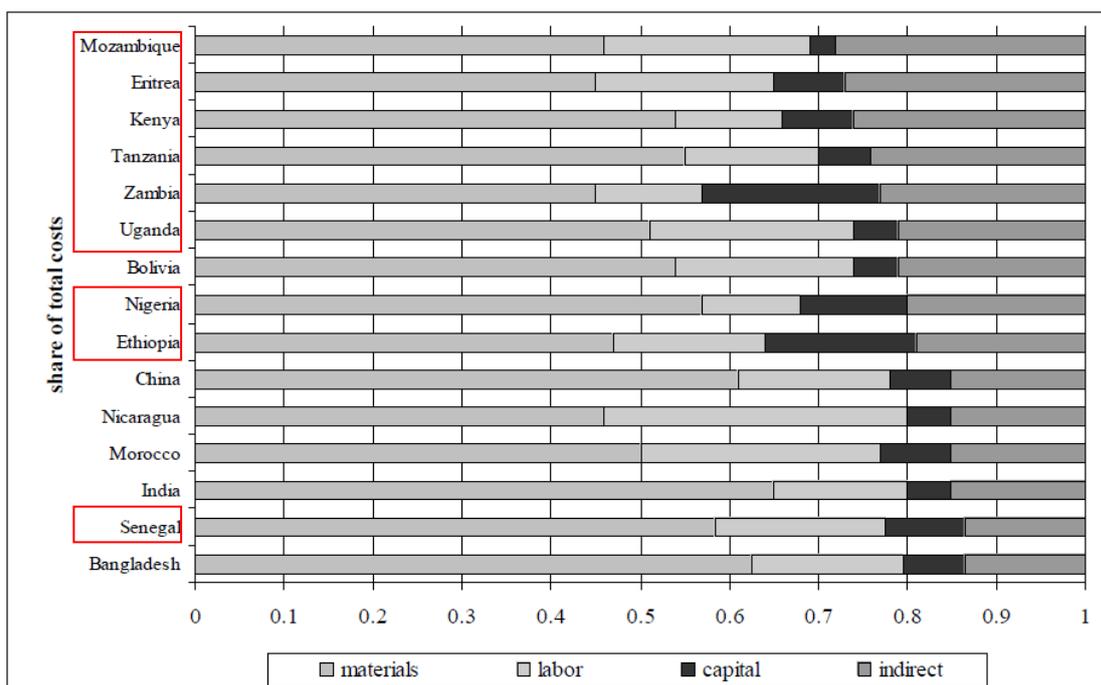
Figures 1.5.1 to 1.5.5 present an overview of issues in industrial development in Sub-Saharan Africa.

The shares of various industrial sectors in Sub-Saharan Africa have been about 20% agro-forestry-fishery, 35% for mining and manufacturing, and 45% for the services sector. These shares have been basically unchanged over the past 40 years.

Major industrial development constraints for the region are deemed to be: (i) high indirect costs (e.g., for transport, energy, land, communications, security); (ii) lower agricultural productivity; and (iii) higher labor cost. Among indirect costs, a higher transport cost structure (Eifert, Gelb and Ramachandran, 2005), compared with Asia and Latin America, is seen to be a major bottleneck for industrial development and economic growth (see Figure 1.5.1 and 1.5.4).

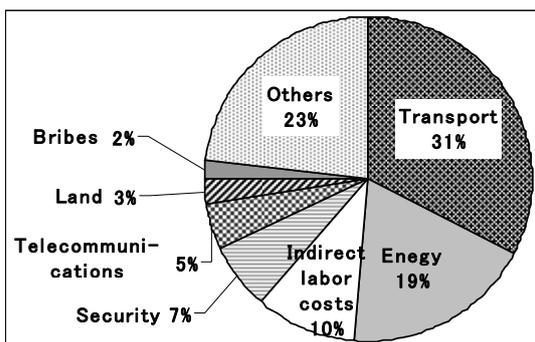
In the agriculture sector, which employs 60-70% of the working population, productivity is very poor, due to high fertilizer prices attributable to high transport costs, coupled with a higher number of small-scale farmers. This poor productivity is reflected in low average harvest yields per hectare of 1.3 tons (2005) for Africa, compared with the Asian average of 3.7 tons.

A higher urban wage rate, attributed to higher food prices and preferential provisions for urban dwellers, also hinders development. All these constraints have resulted in the capital-intensive subsectors (e.g., mining) rather than the labor-intensive subsectors being at the core of the secondary industry sector.



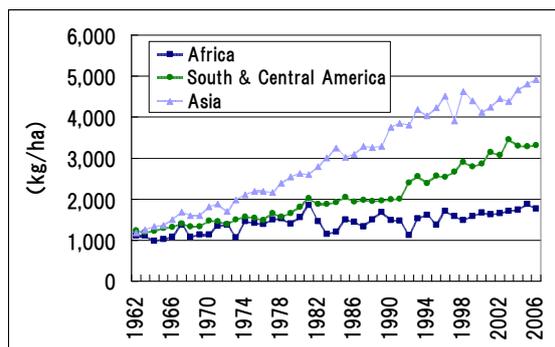
Source: Extracted from Eifert, Gelb and Ramachandran, 2005

Figure 1.5.1 Cost Structure of the Private Enterprises in Sub-Saharan Africa



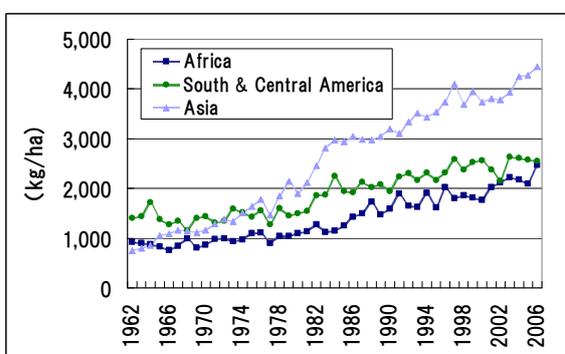
Source: Compiled data from Eifert, Gelb and Ramachandran, 2005

Figure 1.5.2
Indirect Costs of the Private Enterprises in the Sub-Saharan Africa (Kenya)



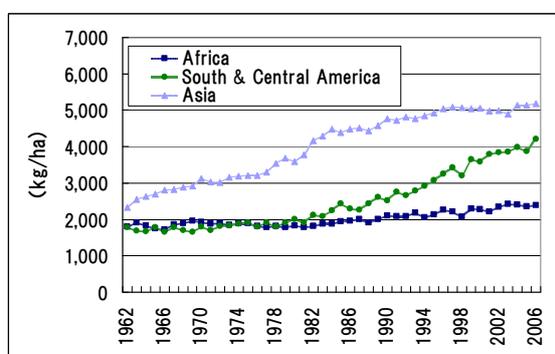
Source: Statistics compiled by the Food and Agricultural Organization (FAO)

Figure 1.5.3
Comparison of Maize Hectare Yield



Source: Statistics compiled by FAO

Figure 1.5.4
Comparison of Wheat Hectare Yield



Source: Statistics compiled by FAO

Figure 1.5.5
Comparison of Rice Hectare Yield

Figures 1.5.6 to 1.5.11 present an overview of issues in transport development in Sub-Saharan Africa.

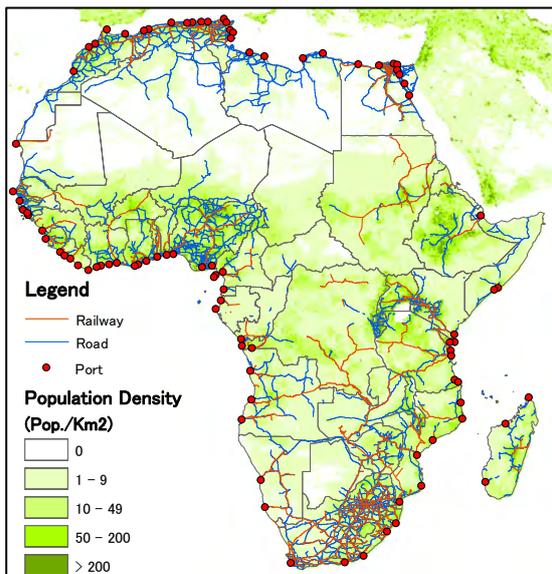
Most Sub-Saharan logistics infrastructure (e.g., ports, railways, trunk roads) was constructed during the colonial period. Densely populated inland agglomerations are networked by Cross-Border Transport Infrastructure (CBTI) to service the trade of landlocked countries via ports (see Figure 1.5.10). However, due to the limited availability of navigable inland waterways and the lack of sufficient navigable depth for ports, there are few large-scale container terminals.

Moreover, after independence the limited capacity to maintain roads, railways, and ports has led to deteriorated physical distribution infrastructure. Trunk roads are not well paved, and paved roads are frequently degraded. With respect to railways, rehabilitation and rolling stock repair are well overdue, with capacity decreasing every year. The lack of capacity and operation inefficiency of ports are often cited as freight and cargo shipments converge to the few well-served ports.

As mentioned, higher transport costs pose a huge bottleneck to industrial growth in the region, a consequence of insufficient services and the provision of poor physical distribution infrastructure, along with poor institutional and operational arrangements. Poor logistics

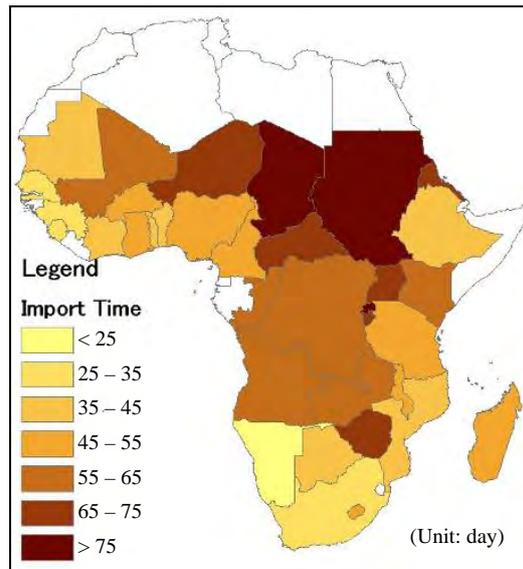
distribution infrastructure, in terms of physical as well as “soft” aspects, leads to long transport times, which increases economic costs.

The significant economic cost of lost time incurred around the ports and associated service facilities is largely a result of limited port and railway capacity. Other elements of high transport costs in the region include high road transport costs due to poor road conditions and transport cost increases due to railway capacity constraints and reduced cost competitiveness. These high costs are more prevalent inland, resulting in intraregional economic disparities (Figures 1.5.7, 1.5.8, and 1.5.10).



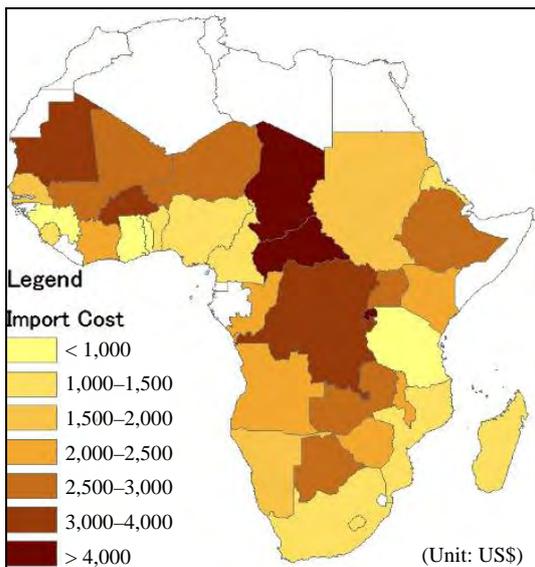
Source: Compiled from various sources

Figure 1.5.6 African Trunk Roads and Railway Network – Distribution of Ports and Populations



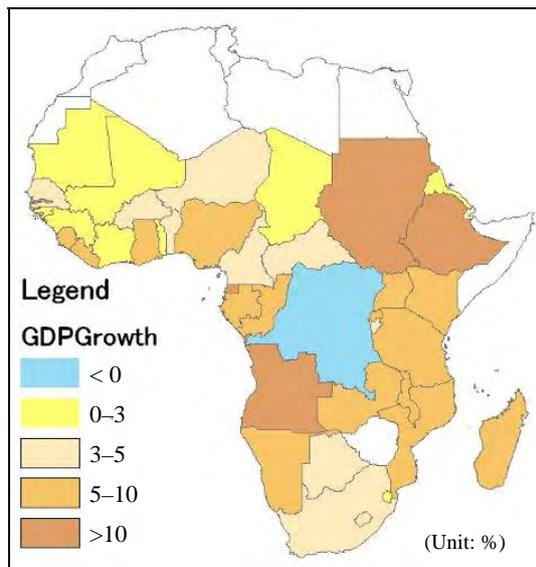
Source: Compiled from World Development Indicators, the World Bank

Figure 1.5.7 Import Time in Average Days from the Port of Unloading (20-ft Container)



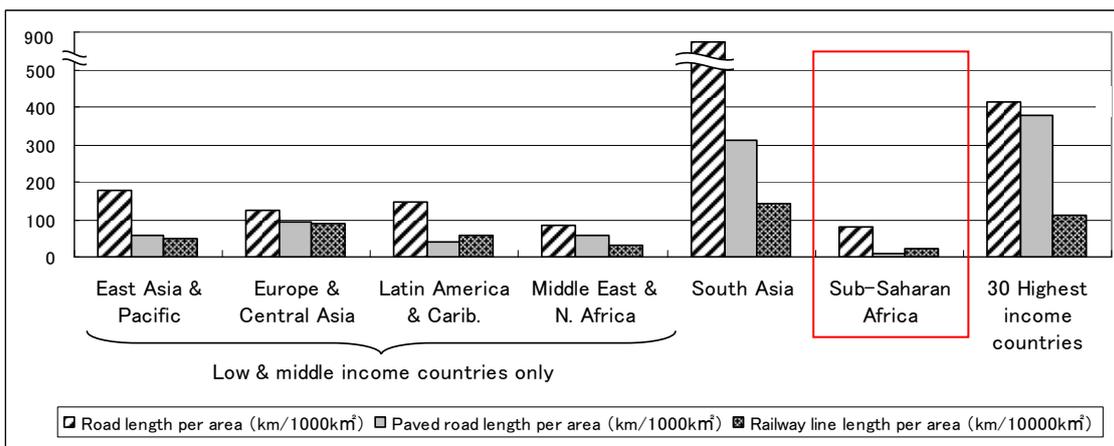
Source: Compiled from World Development Indicators, the World Bank

Figure 1.5.8 Average Transport Cost from the Port of Unloading (20-ft Container)



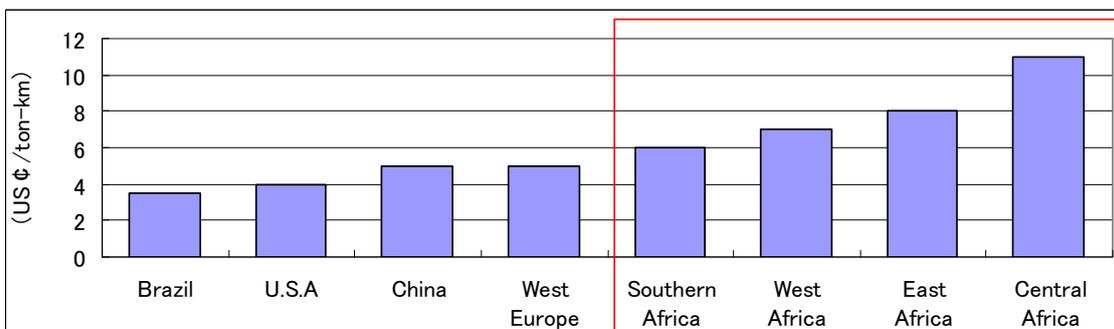
Source: Compiled from World Development Indicators, the World Bank

Figure 1.5.9 Average GDP Growth Rate (2007)



Source: Compiled from World Development Indicators 2006, the World Bank

Figure 1.5.10 Transport Infrastructure Provision in Various Regions



Source: Compiled from Teravaninthorn and Raballand, Transport Prices and Costs in Africa, 2008

Figure 1.5.11 Comparison of Average Transport Cost

1.6 Regional Integration

Regional integration through regional cooperation has been a long-standing issue for Sub-Saharan Africa, which today consists of a collection of countries with small-sized economies and small-to-medium populations, transected by arbitrarily drawn national boundaries due to the colonial era policies. Movement toward regional integration has produced many regional economic communities (RECs) in Sub-Saharan Africa, as shown in Table 1.6.1 and Figure 1.6.1. These RECs aim at economic integration with neighboring countries, e.g., through establishment of customs unions, introduction of a common currency, promotion of cross-border trade, and establishment of common markets. With respect to transport policy, RECs undertake studies on region-wide corridors, coordination with concerned countries on corridor development and provision, and promotion of agreements to facilitate the cross-border movement of goods and people.

Recently, the profile of RECs has increased as they have become recipients of assistance from international development partners. On the other hand, there are many issues affecting REC effectiveness such as determining REC partner country contributions and the lack of enforcement power vis-à-vis participating countries.

The African Union (AU), which is by far the largest regional community, includes all 52 states on the African continent except for Morocco. Roles of AU are shown in the next section.

Table 1.6.1 Major Regional Economic Communities of Sub-Saharan Africa

Name	Participating States
IGAD: Intergovernmental Authority of Development	Somalia, Djibouti, Sudan, Eritrea, Ethiopia, Kenya, Uganda
COMESA: Common Market for Eastern and Southern African States	Egypt, Libya, Djibouti, Sudan, Eritrea, Ethiopia, Kenya, Uganda, Burundi, Rwanda, Congo, Angola, Zambia, Zimbabwe, Malawi, Mauritius, Madagascar, Swaziland, Seychelles, Comoros
EAC: East African Community	Kenya, Uganda, Tanzania, Rwanda, Burundi
SADC: Southern African Development Community	Tanzania, Mozambique, Congo, Angola, Zambia, Zimbabwe, Malawi, Mauritius, Madagascar, Swaziland, Botswana, South Africa, Lesotho, Namibia
SACU: Southern African Customs Union	Swaziland, Botswana, South Africa, Lesotho, Namibia
ECCAS: Economic Community of Central African States	Central Africa, Chad, Gabon, Cameroon, the Congo, Equatorial Guinea, Sao Tome and Principe, Rwanda, Burundi, Congo (Democratic), Angola
CEMAC: Communauté économique et monétaire de l'Afrique centrale	Central Africa, Chad, Gabon, Cameroon, the Congo, Equatorial Guinea
ECOWAS: Economic Community of West African States	Nigeria, Gambia, Burkina Faso, Senegal, Benin, Mali, Niger, Togo, Côte d'Ivoire, Guinea-Bissau, Ghana, Guinea, Liberia, Sierra Leone, Cape Verde
UEMOA: Union économique et monétaire Ouest-africaine	Burkina Faso, Senegal, Benin, Mali, Niger, Togo, Côte d'Ivoire, Guinea-Bissau

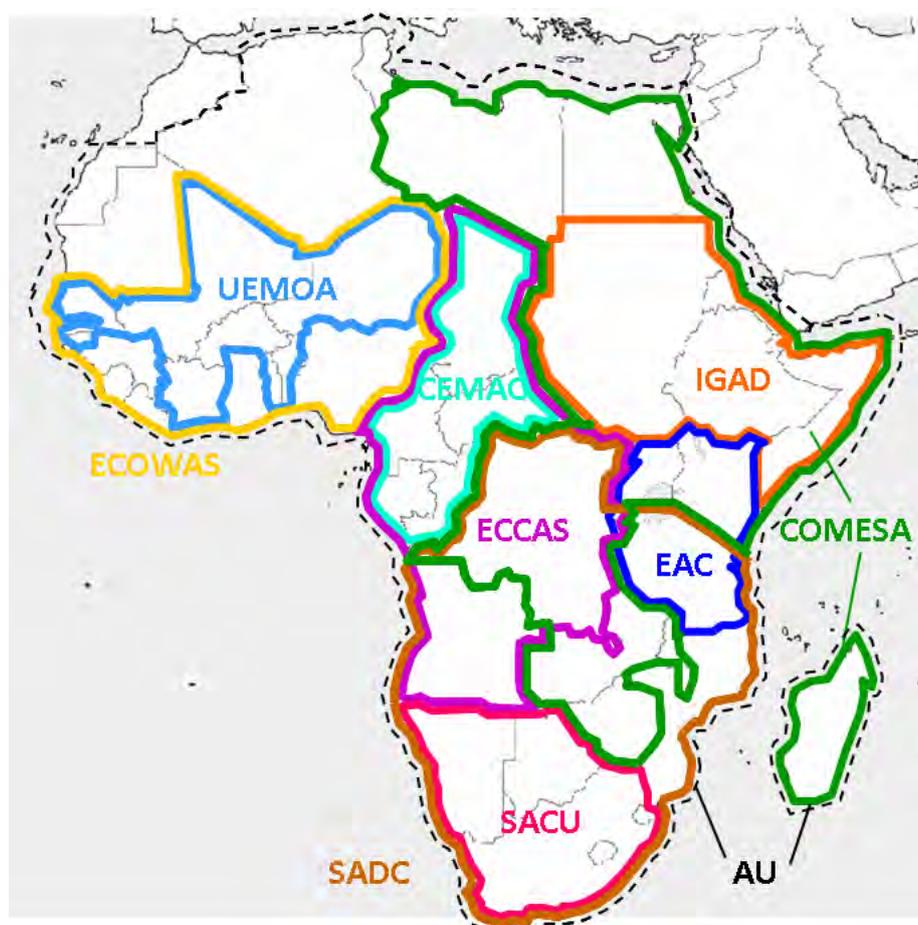


Figure 1.6.1 Geographical Position of Major Regional Communities in Africa

1.7 Trends in Foreign Assistance

1.7.1 Global Trends

With the adoption of the Millennium Development Goals (MDGs) in 2000, donors have doubled their Official Development Assistance (ODA) budget and have focused their assistance on lower-income countries of Sub-Saharan Africa. With this impetus, ODA funds inflow to Sub-Saharan Africa has rapidly increased, as has the grant component, which is now 72.8% of total aid to the region.

In addition, the Organization of African Unity (OAU) adopted in 2001 an initiative, titled New Partnership for Africa's Development (NEPAD), to promote African development through partnerships with industrialized countries, with infrastructure development as one of its targets along with industrial and human resources development. In 2002 with a move of the OAU to the African Union (AU), it was decided that the AU would serve as the executing organ of NEPAD. The international development community has expressed support for the NEPAD initiative and has proceeded with assistance under the banner of this new partnership.

1.7.2 Official Development Assistance (ODA) by Development Assistance Committee (DAC) Countries

(1) Japan

Japan has increased its share of bilateral assistance to the African Region since 2000. Japan has hosted the Tokyo International Conference on African Development (TICAD) four times since 1993, and has formulated its African development assistance strategy based on consultations at these TICAD conferences held once every five years. Japan also aggressively assists the NEPAD initiative. Japan's assistance has centered on grant assistance as the African Region has a concentration of heavily indebted states; among grant assistance, technical assistance has especially been active.

At the TICAD IV held in May 2008, Prime Minister Takeo Fukuda announced an assistance program, including a US\$400 million equivalent in yen loans over the coming five years and measures to promote Japanese enterprises' investments in Africa. Under the TICAD IV initiative, Japan is expected to extend more aggressive assistance to Sub-Saharan Africa with an all-out effort by the Ministry of Foreign Affairs and JICA.

(2) The World Bank

The World Bank has renewed recognition of the critical importance of infrastructural development since 2000, considering it an essential element in Sub-Saharan African development. At the Group of Eight (G8) summit in 2005, three priority tiers of assistance to the African Region were expressed: (i) good governance and human resources development, (ii) economic growth, and (iii) poverty reduction. The World Bank has aggressively been addressing these objectives in collaboration with NEPAD, providing assistance through its Sub-Saharan Africa Transport Policy Program (SSATP).

(3) African Development Bank (AfDB)

AfDB is a development finance institution that was established in 1964 to assist African economic development. With the adoption in 2001 of NEPAD by OAU, the AfDB is recognized as a leading institution in promoting African infrastructural development. AfDB has implemented many projects listed in the Short Term Action Plan (STAP) formulated by NEPAD in 2002. Their priority sectors include: (i) Agriculture and the Regional Development; (ii) Social Development; (iii) Transport; (iv) Rural Water Supply and Sanitation; (v) Private Sector Development; (vi) Governance; (vii) Regional Economic Cooperation and Integration; (viii) Environment; and (ix) Capacity Improvement of Assistance Recipient Institutions. More AfDB loans have been extended to the infrastructure sector, of which more than 30% are allocated to the transport sector.

(4) United States

Since the terrorist attacks in the United States on 11 September 2001, the country has been strategically strengthening its assistance to Africa, under the premise that poverty provides breeding grounds for terrorism. The previous (Bush) administration put forth objectives of African assistance, including: (i) establishment of peace and security; (ii) health (HIV/AIDS), hunger alleviation, and education; and (iii) free economy promotion through "aid and trade".

(5) European Union (EU)

At the Africa-Europe Ministerial Conference held in Brussels in October 2001, the EU declared eight priority sectors for African assistance: (i) conflict prevention and resolution; (ii) regional cooperation and integration; (iii) the environment; (iv) HIV/AIDS and communicable diseases;

(v) food security; (vi) human rights and democracy; (vii) the return of cultural items that were stolen; and (viii) assistance with Africa's external debt as well as support of NEPAD. The EU has established consultations with respective Communities in Africa; for example, the EU has regularly held Ministerial dialogues with the SADC since 1994 and with ECOWAS since 2000. In the area of infrastructural development, the EU participates in NEPAD's coordination committee, the Infrastructure Short-Term Action Plan (STAP), and it supports the Sub-Saharan African Transport Program (SSATP).

(6) United Kingdom

The United Kingdom makes it a policy to prioritize assistance for poverty reduction in low-income African countries. In particular, it targets 16 countries, with an emphasis on former British colonial states. Its poverty reduction assistance includes a diverse set of programs, but emphasis is put on: (i) basic areas of primary education, food provision, financial assistance, water supply, and HIV/AIDS; and (ii) governance and capacity building including institutional building, human resources development, and performance evaluation. The United Kingdom has also extended bilateral assistance in Africa through international collaboration with NEPAD. Moreover, in accordance with the basic principle of NEPAD, it is providing financial and technical assistance through program implementation toward promoting intra-African trade as a means of poverty reduction.

(7) France

France puts a high priority on African development. It assumes a central and leading role in establishing aid structures among both industrialized countries and African countries. It puts emphasis on the Francophone countries of Western Africa, and on South Africa, Mozambique, Angola, Ethiopia, and Kenya.

France has also been aggressive in assisting NEPAD regarding: (i) institutions and governance; (ii) economic growth and sustainability; (iii) infrastructural development assistance; and (iv) agriculture. With respect to transport infrastructure, France is engaged in the Western African Road Corridor Project. It is also examining the potential of assisting the railways sector in Mali and Senegal.

(8) China

China has recently become aggressive in assisting Africa. China's assistance now covers almost all African countries with the number increasing over the years. Its assistance mainly includes: (i) construction assistance; (ii) materials grants-in-aid and food supply; and (iii) technical assistance. In particular, construction assistance accounts for more than 80%. Such construction assistance is extended to sectors such as: (i) manufacturing; (ii) agriculture; (iii) traffic and transportation; (iv) hydropower generation; and (v) energy. China's engagement in NEPAD includes the agricultural and mining sectors, in particular.

Chapter 2 Analysis of Cross-Border Transport Infrastructure in Sub-Saharan Africa

2.1 Definition of Cross-Border Transport Infrastructure (CBTI)

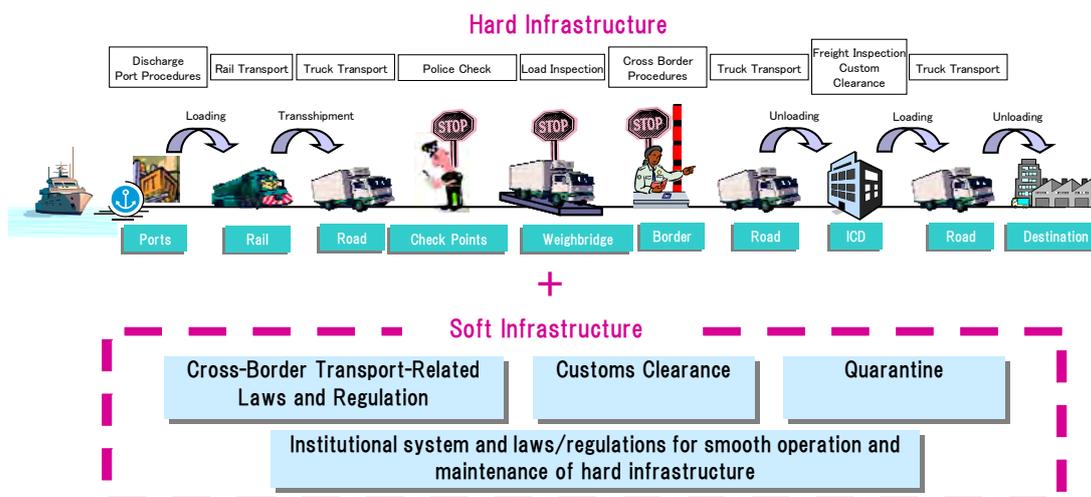
In this study, Cross-Border Transport Infrastructure (CBTI) is defined as the infrastructure necessary for traffic crossing borders between countries, including not only “hard” infrastructure consisting of international transport corridors and including ports/harbors, railways, airports, roads, transshipment facilities, border facilities, weighbridges, and inland container depots (ICDs), but also supporting “soft” infrastructure, including maintenance management, financial measures, organizations/institutions, operational schemes, cross-border traffic regulations, and human resources. Soft CBTI includes regional economic communities (RECs) and international agreements, border crossing facilitation measures (e.g., regarding customs clearance and quarantine procedures) to support the entire CBTI system. Table 2.1.1 and Figure 2.1.1 show the various components of CBTI.

The cross-border traffic to be covered in the study are not only those between Sub-Saharan African countries but also those between Sub-Saharan Africa and other parts of the world. Therefore international ports/harbors and international airports are also among those to be addressed. Since cross-border transport in Sub-Saharan Africa at present is mainly cargo traffic (logistics), which is essential for promoting the economic growth and industrial development, this study basically focuses on cargo traffic movement.

Table 2.1.1 Components of CBTI

Type	Major Components
Hard Infrastructure	Major infrastructure: ports, railways, airports, and road infrastructure facilities (plus freight transit facilities, border facilities, weighbridges, and ICDs)
Soft Infrastructure Supporting Hard Infrastructure	Maintenance, financial measures, organizations, operation schemes, cross-border regulations (e.g., regarding police checks), and capacity development
Soft Infrastructure for CBTI System	RECs, international agreements, custom and quarantine measures, bonding systems, etc.

Source: The Study Team



Source: The Study Team

Figure 2.1.1 CBTI Components

2.2 Review of Issues Relating to CBTI in Sub-Saharan Africa

2.2.1 Historical Review of CBTI Development in Africa¹

(1) From the Colonial Period to the 1980s

Historically, the typical colonial transport system in Africa consisted of penetration lines or transport corridors (mainly railways based) linking export ports with their hinterlands. For example, the origin of the modern railway system in Kenya was the port of Mombasa and the railway line built in the 1890s and the first years of the 20th century, linking the port to Nairobi and Kisumu with a ferry connection to Port Bell near Kampala and Jinja in Uganda, and on to Mwanza, Bukoba, and Musoma in Tanzania. During the first three decades of the 20th century, the railway was extended with a number of branch lines.²

While there was an increase in transport investments for a short period of time in many Sub-Saharan African countries in the 1960s at about the time of independence (with many new ports, railways, and roads built before or after independence), from the 1960s to the mid-1980s transport was accorded a low priority in Africa. During this period, there was a shift from centralized to decentralized and local economic development in the industrialized countries, as well as a shift from an export orientation to an import orientation with a focus on self-reliance and local rural development in many Sub-Saharan African countries.³ Transport was downgraded in national plans; while provision was sometimes made for rural roads, few new trunk roads were built and maintenance was neglected. By the mid-1980s transport infrastructure in Africa was generally worse than it was in the late 1960s.

While the deterioration in African transport systems between the 1960s and the 1980s was due in part to underinvestment in transport infrastructure, the economic institutions developed as part of the import-substitution industrialization policies implemented by most African countries after independence also played a role. These policies generally included the following elements: (i) development of an industrial sector on the basis of the existing small concentrated home market for industrial goods and the import of machinery and often the necessary production inputs; (ii) high customs barriers to protect infant industries and secure government revenue; (iii) an overvalued currency, which reduced the costs of imported machinery and production inputs; (iv) agricultural policies focusing on export crops to finance the imports necessary for the industrialization process, and stable food production to guarantee food security⁴; and (v) the

¹ This section draws extensively from: (i) Patrick O. Alila, Meleckidzedek Khayesi, Walter Odhiambo, and Poul Ove Pedersen, *Development of African Freight Transport – The Case of Kenya*, DIIS [Danish Institute for International Studies] Working Paper No. 2005/6, 2005; (ii) Poul Ove Pedersen, *The Logistical Revolution and the Changing Structure of Agriculturally Based Commodity Chains in Africa*, CDR [Centre for Development Change] Working Paper 2.12, October 2002; (iii) Poul Ove Pedersen, *The Tanga-Moshi-Arusha Corridor: Decline or Restructuring of an African Transport Corridor*, CDR Working Paper 01.6, October 2001; (iv) Poul Ove Pedersen, *The Role of Freight Transport in Economic Development: An Analysis of the Interaction between Global Value Chains and Their Associated Transport Chains*, DIIS Working Paper No. 2007/12, 2007; (v) Poul Ove Pedersen, *The Changing Structure of Transport under Trade Liberalisation and Globalization and its Impact on African Development*, CDR Working Paper 00.1, January 2000; and (vi) Poul Ove Pedersen, *Zimbabwe's Freight Transport and Logistical System*, CDR Working Paper 02.4, February 2002.

² Patrick O. Alila, Meleckidzedek Khayesi, Walter Odhiambo, and Poul Ove Pedersen, *Development of African Freight Transport – The Case of Kenya*, DIIS [Danish Institute for International Studies] Working Paper No. 2005/6, 2005, p. 9.

³ Around 1970 there was change in development thinking from modernization theory to dependency theory and basic needs strategies; while modernization theory saw transport infrastructure as a main precondition for development, the basic needs strategy shifted the focus to rural development. However, in the 1990s a new economic geography introduced by Paul Krugman and other economists focused attention again on transport and location issues, which led to increased donor support for transport investments.

⁴ During this period, in most Sub-Saharan African countries production and marketing of major agricultural crops

development of social services, mainly education and health, in both rural and urban areas. Import substitution policies led to sellers' markets in which almost anything that could be produced could be sold, often at the factory gate. There was little or no incentive to develop an effective marketing and distribution system.

As foreign currency became scarcer in the 1970s, truck fleets stagnated or contracted in most Sub-Saharan African countries. Import permits were generally reserved for parastatals and other large enterprises, and it became more difficult for individuals to own vehicles. Trucks were concentrated in the capital cities and large regional cities where the parastatals were headquartered. Rural transport, which had before independence been undertaken mainly by private rural traders, was taken over by marketing boards, which either invested in the own truck fleets or outsourced transport to state transport companies or sometimes to private trucking enterprises.⁵ The resulting centralization of transport was expected to result in greater efficiency, but in fact transport became less efficient. At the same time, demand for transport increased because, as a consequence of various factors (e.g., improved extension services, subsidized farm inputs), the production of the main crops moved out to peripheral areas located farther from the market and where the infrastructure was poor. The efficiency of rural transport is generally low, due to the seasonal demand for transport, which results in few return trips, but traditional rural traders, who bought a range of crops and distributed consumer goods and farm inputs, had a greater chance of obtaining return loads than the specialized crop parastatals. As a result, the costs of the marketing boards increased and they had increasing difficulty of adequately serving the farmers. Also, a strong focus on monocropping tended to increase seasonality and this reduce transport efficiency.

When the parastatals found it increasingly difficult to maintain their crop purchasing monopoly in rural areas during the 1970s, their transport monopoly supported by restrictive licensing practices became a means to maintain their trade monopoly. Licenses and import allocations were generally not given to vehicles stationed in rural areas because such trade was seen as undesirable. The centralization of rural transport capacity in the crop parastatals meant that small entrepreneurs and farmers could not easily find transport for alternative products and other products, which contributed in part to the lack of diversification of products and markets.

Transport policy continued to favor railways during this period from the late 1960s to the 1980s, e.g., by controlling development of roads parallel to railway lines⁶, by refusing licenses to parallel trucking routes, by requiring parastatals to use the railways as much as possible. However, investment in track maintenance and new rolling stock was insufficient and railways also began to decline; most African railways were built for strategic reasons and have historically operated with deficits, although that of Zimbabwe has been reported as an exception.⁷ Also, railways were not equipped to serve specialized markets; consider, for

were controlled by crop-specific parastatal marketing boards, which were responsible for the post-harvest trade, collection, and processing of controlled crops.

⁵ The situation of rural transport in Kenya has generally been less severe than elsewhere in Africa because parastatal monopolies were maintained less strictly there than elsewhere, and because of the establishment of a dense network of minibuses (*matatus*) all over Kenya beginning in 1973. Patrick O. Alila, Meleckidzedek Khayesi, Walter Odhiambo, and Poul Ove Pedersen, *Development of African Freight Transport – The Case of Kenya*, DIIS [Danish Institute for International Studies] Working Paper No. 2005/6, 2005, p. 6.

⁶ E.g., the last links in the main roads parallel to railway lines in Tanzania and Ghana were not built until the late 1950s, on the eve of independence. Patrick O. Alila, Meleckidzedek Khayesi, Walter Odhiambo, and Poul Ove Pedersen, *Development of African Freight Transport – The Case of Kenya*, DIIS [Danish Institute for International Studies] Working Paper No. 2005/6, 2005, p. 6.

⁷ Zimbabwe inherited a railway (and road) network that at independence in 1980 was probably the best in Sub-Saharan Africa (other than that of South Africa), but it only served the urban and white settler areas. Poul Ove Pedersen, *The Role of Freight Transport in Economic Development: An Analysis of the Interaction between Global*

example, one study found that in Tanzania it often took more than a month to ship goods by rail from western Tanzania to Dar es Salaam; another study found that in Ghana in 2000 the railway was still unable to carry containers.⁸

(2) The Effect of the “Logistical Revolution” on Africa: From the 1990s to Present

The “logistical revolution” and containerization developed rapidly from the late 1960s in the industrialized and industrializing countries, but did not have significant impact on African transport until the late 1980s or early 1990s. While African imports were containerized to some extent, since European importers wanted to protect their goods, African transport infrastructure was not ready to export the containers. But during the 1990s, trade liberalization and structural adjustment policies triggered a process of change that was invigorated by increased competition from South Africa following the end of the embargo on South Africa in 1994. Transport has no longer been viewed as an isolated activity, but has become closely integrated with trade and production in complex logistic systems in which travel time and timing are at least as important as transport costs.

Major changes begun during this period and continuing to the present include the following:

- (i) Rapid containerization has reduced the cost of transshipment and made door-to-door transport possible. Containerization of high-value goods has increased the security of transport, while containerization of bulk goods has increased the flexibility of transport since a container can be shipped when full without waiting for collection of an entire shipload. Containerization has also allowed for greater market segmentation and product differentiation, a rapid rationalization of liner shipping, and integrated door-to-door transport organized and controlled by a rapidly growing sector of international freight forwarders.⁹
- (ii) Containerization has also increased the size of transport vehicles, which has increased maintenance problems and created demand for new larger-capacity infrastructure, and led to serious bottlenecks in all modes of transport; particularly in the case of road transport, increases in vehicle size and an inability to control excess vehicle loads has led to rapid road deterioration.¹⁰
- (iii) Institutional and organizational factors in transport have become increasingly important, since (a) transport costs are quite sensitive to the efficient utilization of transport capacity (which depends very much on the ability to obtain return freight and vehicle turnaround time), and (b) transport speed and reliability have become more important as a result of globalization and just-in-time production, which requires goods to be delivered in very narrow time windows, which in turn requires greater frequency of service on the various modes of transport. Again, the focus has increasingly shifted to multimodal, door-to-door transport, which has led to changes in the transport sector to which large state organizations have found it difficult to respond.
- (iv) Sub-Saharan African shipping companies, airlines, ports, and railways have been slowly commercialized or privatized. Parastatals and large private enterprises that previously

Value Chains and Their Associated Transport Chains, DIIS Working Paper No. 2007/12, 2007, p. 11.

⁸ Poul Ove Pedersen, *The Logistical Revolution and the Changing Structure of Agriculturally Based Commodity Chains in Africa*, CDR [Centre for Development Change] Working Paper 2.12, October 2002, p. 7.

⁹ However, many containers are still emptied or loaded at or near the port, for a number of reasons, e.g., many containers hold consolidated shipments with goods to several consignees, the cost of loading/unloading containers is low due to low labor costs, and trucks can carry more goods without the container; few potential recipients of containers have the forklifts or cranes necessary to handle the containers.

¹⁰ Roads with a design life of 20–25 years have deteriorated significantly in 5–10 years; consider, for example, that when axle load is doubled, road deterioration increases by about 30 times.

operated their own truck fleet have increasingly outsourced their transport requirements to transport firms to reduce costs and compete with foreign investing in Sub-Saharan Africa.¹¹ Therefore, the trucking industry in Sub-Saharan Africa has been growing. However, ports remain major bottlenecks in the Sub-Saharan African transport system, including in East Africa.¹²

- (v) Sub-Saharan African transport networks have become increasingly hierarchical, leaving most of the region in a relatively peripheral position.¹³ This development is most apparent in air transport, with the international route network increasingly focused on a few hub airports (e.g., Nairobi and Addis Ababa in East Africa, Johannesburg in Southern Africa, Abidjan and Dakar in West Africa). Regarding sea transport, there is strong competition among ports to achieve hub status, with sea transport becoming increasingly hub and spoke oriented with the increase in containerization, although to some extent such concentration of traffic has been limited by the poor state of cross-border land transport.
- (vi) Although infrastructure networks remain important, new efficient forms of supply management and information systems, which coordinate transport and storage with production and marketing, are more important than previously. These new forms of logistic organization are more difficult to develop with donor funding, but are necessary to link with the global economy.¹⁴

2.2.2 Road Sector

(1) Overview

Road transport is the most important mode of transport in Sub-Saharan Africa. Road network development in the region, however, has lagged far behind that in other parts of the world. According to the World Bank's World Development Indicator, the total length of highways in Sub-Saharan Africa is 1.66 million km, with a highway density of 104km/1,000km².¹⁵ Only 9% of the total length has been paved and even arterial highways are largely left unpaved (Figure

¹¹ Licensing of trucks for hire was administered less strictly beginning in the 1990s. For example, in Kenya by 2002 fees on licenses for trucks for hire (and on buses) were abolished and licenses are now issued on request; today anyone with a truck can transport goods for others. Patrick O. Alila, Meleckidzedek Khayesi, Walter Odhiambo, and Poul Ove Pedersen, *Development of African Freight Transport – The Case of Kenya*, DIIS [Danish Institute for International Studies] Working Paper No. 2005/6, 2005, pp. 18, 46. Also, the number of small trucks per hire increased in the cotton-growing areas of Zimbabwe in the late 1990s and in the coffee-growing area of Moshi, Tanzania a taxi-like system of pickups developed. Poul Ove Pedersen, *The Logistical Revolution and the Changing Structure of Agriculturally Based Commodity Chains in Africa*, CDR [Centre for Development Change] Working Paper 2.12, October 2002, p. 14.

¹² As ships became larger, inefficiency in freight handling leads to longer waiting times for ships, while the costs of waiting increase. While there has been increasing pressure from the shipping industry to increase port efficiency, ports have been major revenue earners for the governments and for politically powerful groups that benefit from inefficient and corrupt practices at the port. Attempts to reorganize the region's ports have met with great resistance, although progress has been achieved in recent years.

¹³ Maersk became a dominant shipping line in Africa in the 1990s when it established a hub-and-spoke system based on a round-the-world route linking the east coast of North America–the Mediterranean Sea–Singapore–Hong Kong–the west coast of North America. Similar, less successful attempts have been made to create hub-and-spoke networks within Africa (e.g., Durban, Abidjan, and Dakar have to a limited extent served as hub ports). However, many of the ports that aspire to hub status have serious capacity problems that constrain their development as hubs. Poul Ove Pedersen, *The Logistical Revolution and the Changing Structure of Agriculturally Based Commodity Chains in Africa*, CDR [Centre for Development Change] Working Paper 2.12, October 2002, p. 13; and Poul Ove Pedersen, *The Changing Structure of Transport under Trade Liberalisation and Globalization and its Impact on African Development*, CDR Working Paper 00.1, January 2000, p. 7.

¹⁴ While the development of such new logistic systems in the industrialized countries were driven by increasing wages and cost considerations, they are more expensive than traditional systems of transport organization in low-income countries, reducing the incentive for change.

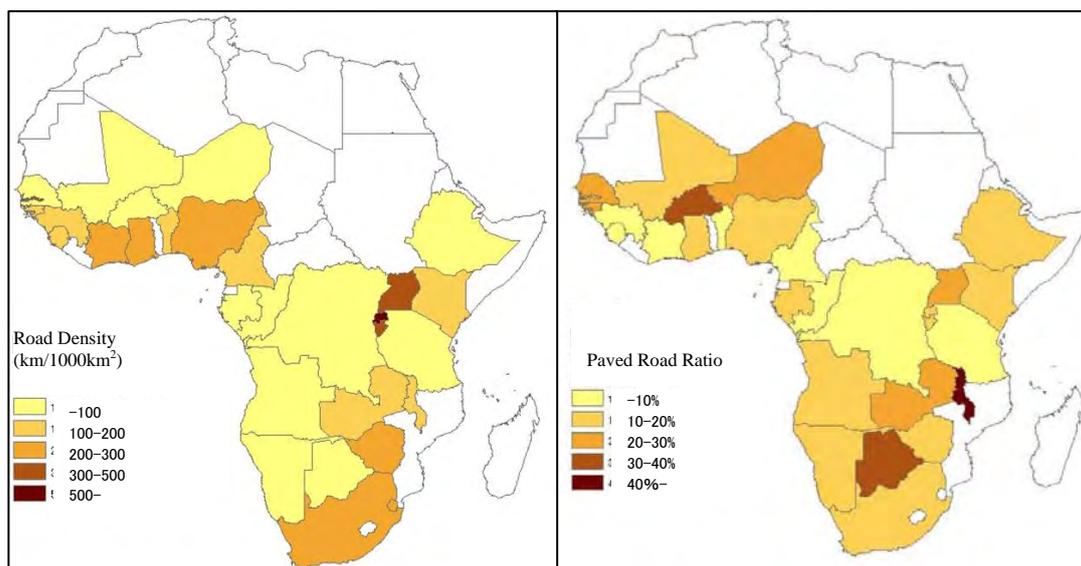
¹⁵ Values of road density compared for reference: 3,160 for Japan, 1,600 for the UK, 1,030 for India, 700 for the United States, 190 for Indonesia, and 110 (km/1,000km²) for Thailand. Source: World Road Statistics, 2005 from the Japan Road Association

2.2.1). Regarding road density, while South Africa and Nigeria have a high-density network of roads, in other Sub-Saharan countries, the density is very low. Such scarce road infrastructure is considered a major cause of high transport costs in the region (see Chapter 1).

Moreover, there are many problems regarding maintenance management. Due to the chronic shortage of maintenance and rehabilitation budgets, operation by overloaded trucks, and the lack of capacity by contractors to effectively maintain and rehabilitate roads, even already paved road sections are deteriorated rapidly in the region. These factors are also a major cause for high transport costs.

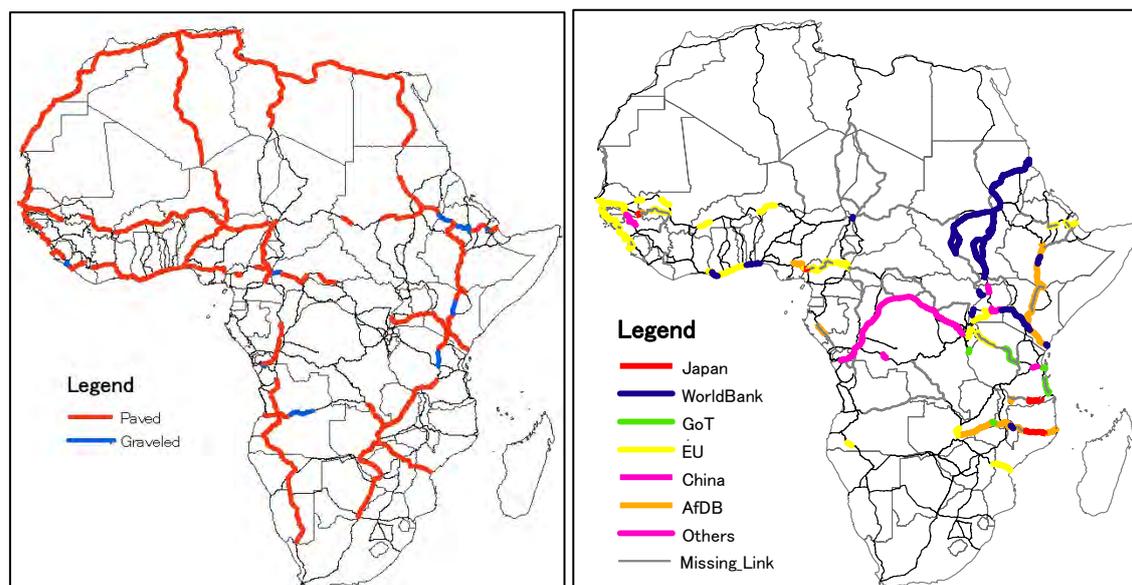
Considering this situation, various international development partners are actively supporting road improvement. Trunk roads along each international transport corridor (mentioned below) in particular have received support from many development partners, including from Japan, the World Bank, the European Union (EU), and the African Development Bank (AfDB). Development partners are providing active support for roads in East Africa and West Africa as shown in Figure 2.2.2. In addition, recognizing that securing financial resources for road maintenance is an important task, a Road Funds has been established, a World Bank-led special fund to establish an institutional scheme for suitable road maintenance.

In addition, there are many other problems with the legal system for road transport. Integration of regulations of cross-border transport including traffic regulations is underway in the region, but harmonization issues remain. Legal and institutional aspects of these issues are detailed in Chapter 4 mainly for the case of East Africa.



Source: The Study Team (based on the World Development Indicator Database)

Figure 2.2.1 Road Density and Paved Road Ratio



Source: The Study Team prepared with JICA Corridor Map

Figure 2.2.2 Pavement and Donor Assurances on Major Road Network

(2) International Traffic Corridor

As the necessity to develop CBTI in Africa has been recognized since at least the 1970s, several development partners prepared international corridor strategies. Regarding road sector in particular, AfDB and the World Bank have developed Sub-Saharan Africa-wide international corridor networks, and have assisted projects to improve them. Major international corridor plans are summarized below. (Although the Sub-Saharan Africa Transport Policy Program, SSATP, covers not only roads but also ports and railways, it is included in this section for convenience.)

(i) Trans-African Highway (TAH)

The Trans-African Highway (TAH), the first comprehensive regional transport network in Sub-Saharan Africa, was proposed in 1971. This corridor plan covers only road development as suggested by its name; it does not include railways or ports. However, due to funding shortages, the concept failed to receive approval by many Sub-Saharan African countries and even now is largely undeveloped. On the other hand, in 2003, the United Nations Economic Commission for Africa (UNECA) reviewed progress of TAH development, and called, together with AfDB, for development and maintenance of nine TAH routes, with funding to be provided by the countries traversed by the route. Table 2.2.1 and Figure 2.2.3 summarize the TAH route.

Table 2.2.1 Route of the Trans-African Highway

	Section	Length (Km)
TAH1	CAIRO–DAKAR	8,640
TAH2	ALGIERS–LAGOS	4,500
TAH3	TRIPOLI–WINDHOEK	9,610
TAH4	CAIRO–GABORONE	8,860
TAH5	DAKAR–N'DJAMENA	5,220
TAH6	N'DJAMENA–DJIBOUTI	4,500
TAH7	DAKAR–LAGOS	4,010
TAH8	LAGOS–MOMBASA	6,260
TAH9	BEIRA–LOBITO	3,520
Total		54,120
	(Duplicated Route	1,670)
	Total Net Length	52,450

Note: JICA, Research on Assistance for Transport Infrastructure in Africa, 2008



Source: Review of the Implementation Status of the Trans-African highways and the Missing Links, Volume 1: Main Report, 2003

Figure 2.2.3 Trans Africa Highway

(ii) SSATP Regional Economic Corridors

The SSATP (Sub-Sahara Africa Transport Policy Program) corridors include major international corridors in Sub-Saharan Africa under the SSATP established in 1987 by the World Bank and UNECA. The SSATP now encompasses 35 Sub-Saharan African countries, with funding from 11 development partners, led by the World Bank, and operated in cooperation with eight Sub-Saharan African economic communities and five international organizations (Table 2.2.2). The SSATP emphasizes development of transport corridors from each inland nation to large-scale international ports to promote trade in Sub-Saharan Africa and focuses on development of eight regional economic corridors. Meanwhile, the SSATP itself is mainly engaged in strategy formulation/research studies, policy deployment, human resources/capability development, workshops, and seminars for comprehensive improvement of transport infrastructure in the region (with an annual budget of about US\$6 million from 2004 through 2011). Each development partner including the World Bank prepares its infrastructure investment program based on SSATP strategies. Table 2.2.3 summarizes major achievements of the SSATP, and Figure 2.2.4 shows the SSATP corridor network.

Table 2.2.2 SSATP Development Partners and Participating Countries

Donors (11)	World Bank (Host), Europe Committee, UNECA, AfDB, Denmark, France, Ireland, Norway, Sweden, United Kingdom, and Islamic Development Bank
Member Countries (35)	Angola, Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Cote d'Ivoire, Congo, Democratic Rep. of Congo, Ethiopia, Gabon, Gambia, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe
RECs in Sub-Saharan Africa (8)	Communaute Economique et Monetaire de l'Afrique Centrale (CEMAC), Common Market of Eastern and Southern Africa (COMESA), East African Community (EAC), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), InterGovernmental Authority on Development (IGAD), Southern African Development Community (SADC), and Union Economique et Monetaire Ouest Africaine (UEMOA)
International Agencies (5)	United Nations Economic Commission for Africa (UNECA), African Union (AU) Committee/New Economic Partnership for Africa (NEPAD), African Development Bank (AfDB), International Labour Organisation (ILO), and the United States Agency for International Development (USAID)

Source: World Bank Sub-Sahara Africa Transport Policy Program Website

Table 2.2.3 Major Achievements of the SSATP

Fields	Achievements
Road Maintenance and Operations	<ul style="list-style-type: none"> • Establishment of road funds in 27 countries to secure budget for road maintenance. • Establishment of road agencies/authorities in 18 countries in Sub-Saharan Africa • Capacity building of road agencies/authorities for road management and finance • Reduction in the average time for payment to contractors to 32 days from 9-12 months before
Strategy for Transport Services	<ul style="list-style-type: none"> • Assistance for development of regional transport policies and strategies in Malawi and Ethiopia • Studies of urban transport systems in Dakar (Senegal), Douala (Cameroon), Nairobi (Kenya), and Kampala (Uganda), focusing on institutions, finance, and regulation
Trade Promotion	<ul style="list-style-type: none"> • Establishment of a one-stop border post at Malaba between Kenya and Uganda (Northern Corridor) • Reduction in truck turnaround times between Mombasa and Kampala from 10 days in 1995 to 6.25 days in 2005 (Northern Corridor) • Monitoring at Beit Bridge to identify the causes for delays; sensitization process formulated through Beit Bridge action plan committee (North-South Corridor) • Establishment of one-stop border posts at Chirundu, Zambia, and development of Beit Bridge (North-South Corridor) • Establishment of corridor management group (North–South Corridor) • Completion of Dar es Salaam port security audit (North–South Corridor) • Carrying out a workshop organized by Comité International du Bassin du Congo Oubangui–Sangha (CICOS)/SSATP in October 2006, identifying for the first time many issues regarding traffic flow impediments in the Congo basin (Central African Corridor) • Establishment of a one-stop border post at Cinkansé (between Burkina and Ghana), which is under construction, and a border post at Paga (Burkina and Ghana), which has been initiated (Western Corridor) • Adoption by member states of an agreement/memorandum of understanding on the establishment of corridor management committees/groups in Western Africa (Western Corridor) • Action taken by government of Ghana to reduce the number of authorized checkpoints between the port of Tema and the border of Burkina Faso to four checkpoints (Western Corridor)
Cross-Cutting Issues	<ul style="list-style-type: none"> • Studies of cross-cutting issues such as gender, road safety, and job development, related to corridor development
Dissemination	<ul style="list-style-type: none"> • Development and provision of guidelines and tools in various sectors • Preparation of a video to promote transport policy

Source: SSATP (2007), Second Development Plan 2008–2011



Source: SSATP Working Paper No. 86 (2007), Institutional Arrangements for Transport Corridor Management in Sub-Saharan Africa

Figure 2.2.4 SSATP Corridor Network

(iii) Regional Spatial Development Initiative (SDI)

SDI is a concept that was put forward in 1996 in accordance with the industrial development strategy of South Africa. This concept is based on SADC’s Development Corridor initiative and at first their targets were mainly within the SADC subregion, but later with NEPAD’s intervention the coverage of SDI has been expanded and now includes not only traffic corridors (e.g., roads, railways, bridges, ports, inland waterways) but also other infrastructure (e.g., electric power facilities).

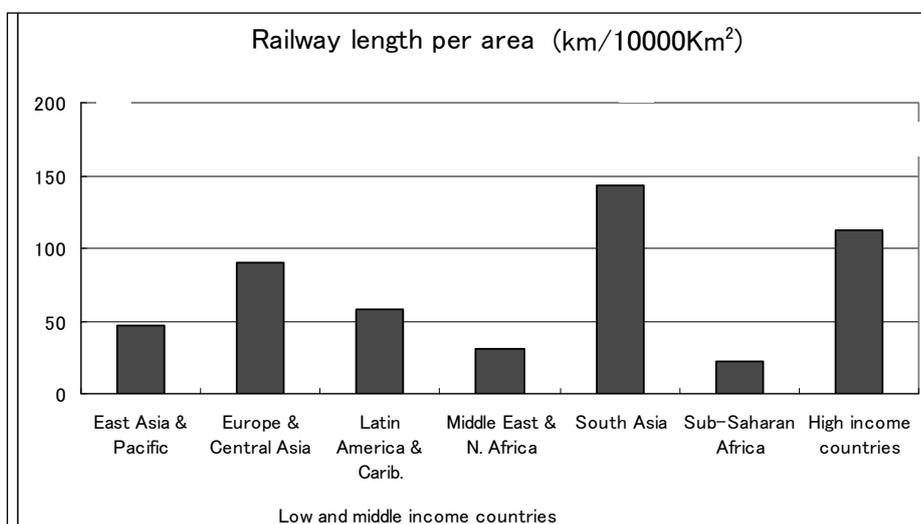
2.2.3 Railway Sector

As mentioned in the historical background, Sub-Saharan African railways were mostly developed in the colonial era to transport export goods mainly along the routes linking ports with inland areas. Total railway network length in the region is about 54,000 km, 20,000 km of

which is in South Africa. As for operations, 100,000 ton-km of the total 130,000 ton-km cargo handling are within South Africa, indicating the relative development of this sector in that country(see Table 2.2.4). Railway network density in the region is lower than elsewhere in the world, as shown in Figures 2.2.5–2.2.6.

It is generally expected that railway transport can be used such as for goods headed to inland countries or the transport of mineral resources (i.e. coal or iron ore) other than rare metals since it is economically more advantageous for longer-distance and heavier-cargo carriage than motor transport.

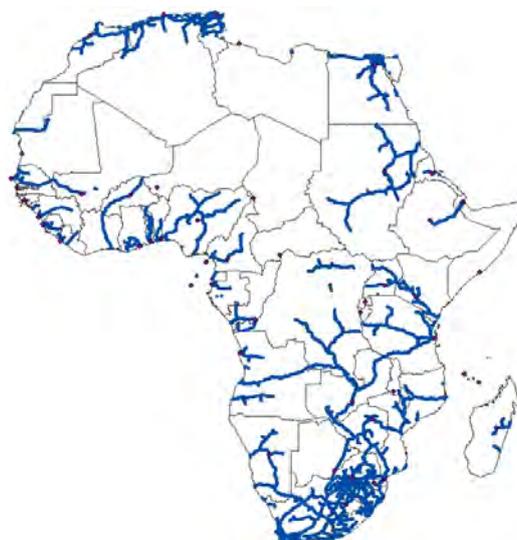
In recent years, the World Bank has promoted railway privatization in many countries in the region.¹⁶ Concession schemes are in force in Tanzania, Kenya/Uganda, Cameroon, Gabon, Zambia, Zimbabwe, Mozambique, and Senegal/Mali. Railways in Djibouti/Ethiopia and the Democratic Republic of Congo are also undertaking concessions.



Source: Adapted by the Study Team from the World Bank Railway Database

Figure 2.2.5 Railway Density in the World

¹⁶ Sub-Saharan Africa Review of Selected Railway Concessions, World Bank, 2006



Source: The Study Team based on the JICA Corridor Map Database

Figure 2.2.6 Railway Network in Africa

Table 2.2.4 Railway Routes in Sub-Saharan Africa

Country	Data Year	Gauge (mm)	Total Route km	Total Locomotives	MU Passenger Fleet	Passenger Coaches	Freight Wagons	Passenger-km (000,000)	Freight Ton-km (000,000)
Cameroun	1998	1,000	1,006						
Congo	2005	1,067	795	29		52	1,070	135	231
Cote D'Ivoire	1995	1,000	639	55	8	92	1,910	181	312
Ethiopia	1991	1,000	781	22		31	590	157	50
Gabon	2004	1,435	731	28	1	54	788	92	1,949
Ghana	2004	1,067	977	61		157		85	242
Kenya	2002	1,000	2,634	152		228	5,154	288	1,538
Malawi	1999	1,067	710					19	56
Mali	2000	1,000	734	23	1	44	501	204	279
Namibia	1995	1,067	2,382	50	0	113	1,627	49	1,082
Nigeria	2000	1,067	3,557			494	2,744	363	105
Senegal	2000	1,000	906	29	3	129	755	138	371
South Africa	2005	1,067	20,247	2,646	1,150	3,251	94,210	991	109,721
Sudan	2005	1,067	5,478	115		176	4,651	40	766
Tanzania	2006	1,000	2,722	86		134	1,828	433	1,970
TAZARA (Tanzania)	2000	1,067	1,860	75		128	2,235	518	780
Uganda	2004	1,000	259	43			1,431		218
DRC	2005	1,067	3,641	136			3,876	140	444
Zambia	1999	1,067	1,273	62		74	5,758	186	554
Zimbabwe	1997	1,067	2,759	169		282	11,385	583	4,871
Total			54,091	3,781	1,163	5,439	140,513	4,602	125,539

Source: World Bank Railway Database

Issues with the African railway network include the following:

- Many railways face serious deterioration of rolling stock and facilities, which has led to a decline in cargo traffic volume and operating speeds. As a result, existing railways have failed to serve demand.

- Although privatization initiatives (e.g., concessions) have been carried out, some problems with public-private agreements and risk sharing as well as with private operating companies' management to secure profits have resulted in the rolling stock/facility deterioration mentioned above, and have hampered smooth operations. The concession issue is detailed in Chapter 4.
- Railway gauge differs between and among regions. It is 1,067mm in the Southern African region while in East Africa, 1,000mm is used; 1,067mm, 1,000mm, and 1,435mm are all found in West Africa, strongly preventing interconnection and expansion of the railway network. In response, there is an initiative to standardize railway gauges in the region (at 1,435mm), but the feasibility of this initiative is open to question.

2.2.4 Port Sector

The number of international ports in Sub-Saharan Africa is small considering the geographic expanse of the region. This is partly due to natural limitations since most African coastal areas are not suitable for ports/harbors. Cargo handling volumes at major ports are shown in Figure 2.2.7 and Table 2.2.5. Annual container handling volumes are relatively large at 2.30 million TEUs at Durban, South Africa, followed by Cape Town, South Africa, with 760,000 TEUs. Ports in the 300,000–500,000 TEU class in Sub-Saharan Africa include Port Sudan, Mombasa, Dar es Salaam, Luanda, Lagos, Accra, Abidjan d'Ivoire, and Dakar. Bulk handling volumes are also relatively large at ports in South Africa, due to heavy cargo such as iron ore and coal, which are major exports of South Africa. In addition to South Africa, Nairobi and Abidjan handle large volumes of bulk freight.

The maximum depth for container vessels at ports other than South Africa is generally less than 10m. At present, Nacala in Mozambique is the only port that can accommodate “over-Panamax” ships¹⁷ with more than 4,000 TEU capacity used for the long route between Asia and Europe. Container ports that accommodate Panamax¹⁸ ships (2,000 TEUs) with more than 12m depth are Port Sudan, Djibouti, Beira, Durban, Cape Town, Port Elizabeth, and Lome. The international container transport network has developed a hub-and-feeder system and at present Port Salalah of Oman, Dubai of the United Arab Emirates serve as hubs for East Africa and Durban of South Africa serves as a hub for all of entire Africa. In addition, container liners with medium-sized container ships directly connect several ports in Africa with the rest of the world through liner service.¹⁹

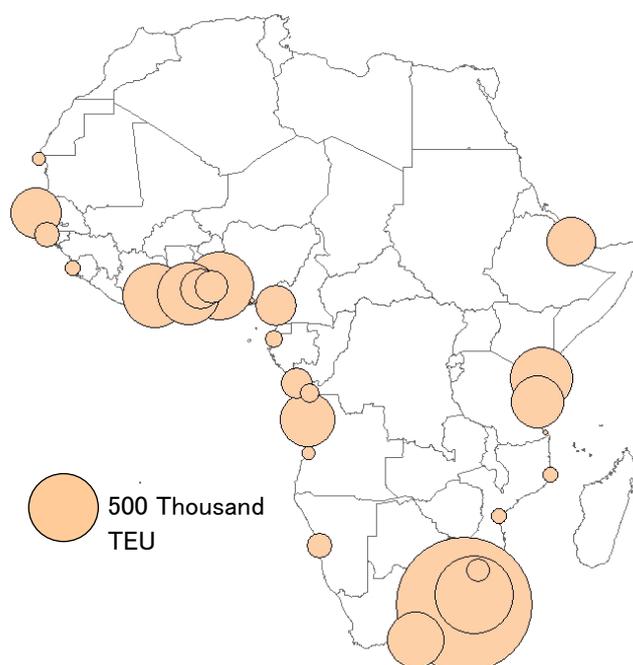
Due to the scarcity of ports, recent rapid containerization, and Africa's economic growth, many ports are flooded with cargo in volumes beyond their handling capacity, leading to long waiting times. The handling capacity of Durban Port has already reached 90% of its capacity.²⁰ Scarcity of port handling capacity necessarily adds to the time required for transport to the destination, leading to increased transport costs. In addition, while the size of container ships is growing, most ports in Sub-Saharan Africa cannot accommodate Panamax ships due to water depth constraints. Therefore, transshipment is required to accessing most ports in the region, which adds to transport time and costs. Port development initiatives can reduce time and cost, but it is necessary to expand cargo handling capacity and develop facilities to accommodate larger container ships.

¹⁷ The possibility to accommodate over-Panamax ships does not depend on only depth but also many other constraints such as berth length, approach, and crane capacity. Moreover, it is commercially difficult to make a port call if the port does not generate sufficient cargo demand.

¹⁸ Based on the maximum dimensions that will fit through the locks of the Panama Canal.

¹⁹ For example, there are liners between Japan and Mombasa, and between China and Ghana, Togo, and Nigeria.

²⁰ SADC Port Authorities



World Bank: The Study Team prepared with Various Sources

Figure 2.2.7 Container Volumes of African Ports

Table 2.2.5 Cargo Volumes, Number of Berths, and Depth of Major Sub-Saharan Africa Ports

Name of Port	Country	Container Volume (TEU)	Year	Tons of Cargo (1000t)	Year	No. of Berths	No. of Container Berths	Maximum Depth for Container Vessels
Port Sudan	Sudan	326,701	2006	N/A		19	4	14
Massawa	Eritrea	24,280	2001	N/A		N/A	N/A	N/A
Djibouti	Djibouti	294,902	2007	7,502	2007	15	2	12
Mombasa	Kenya	479,355	2006	12,920	2004	18	5	10
Dar Es Salaam	Tanzania	352,548	2006	7,643	2006	11	3	11.5
Mtwara	Tanzania	5,000	2007	69	2007	N/A	N/A	9.8
Nacala	Mozambique	26,709	2001	743	2001	5	2	15
Beira	Mozambique	46,775	2004	1,367	2004	12	3	12
Maputo	Mozambique	62,516	2006	4,002	2001	14	4	10
Durban	South Africa	2,334,999	2006	29,459	2002	57	6	12.8
Cape Town	South Africa	764,753	2006	13,667	2006	34	7	14
Port Elizabeth	South Africa	407,278	2006	8,123	2006	10	1	12.2
Saldanha Bay ¹	South Africa	N/A		36,664	2005	N/A	0	(23)
Richard Bay ²	South Africa	N/A		89,256	2006	26	0	(19)
Walvis Bay	Nambia	83,263	2006	2,419	2002	8	2	12.8
Lobito	Angola	24,000	2002	600	2002	2	N/A	10
Luanda	Angola	377,206	2006	3,000	2003	3	1	9.5
Pointe Noire	Congo,Rep.	122,600	2006	N/A		9	N/A	9.5
Libreville	Gabon	39,000		N/A		N/A	N/A	3
Douala	Cameroon	200,251	2006	N/A		13	3	9.5
Port Harcourt	Nigeria	5,000	2006	N/A		N/A	N/A	
Lagos	Nigeria	587,600	2006	N/A		34	6	10.5
Cotonou	Benin	140,500	2006	N/A		8	1	11
Lomé	Togo	215,800	2006	N/A		6	2	12
Tema & Takoradi	Ghana	476,451	2006	6,183	2000	14 7	N/A	9.6 10
Abidjan	Côte d'Ivoire	507,119	2006	15,506	2003	34	5	10.6

Name of Port	Country	Container Volume (TEU)	Year	Tons of Cargo (1000t)	Year	No. of Berths	No. of Container Berths	Maximum Depth for Container Vessels
Freetown	Sierra Leone	31,700	2006	N/A		7	2	9.9
Conakry	Guinea	85,300	2006	N/A		12	1	10.5
Banjul	Gambia	44,152		N/A		4	3	10
Dakar	Senegal	331,191		9,000	2002	47	16	10
Nouadhibou	Mauritania	21,000		N/A		N/A	N/A	8
Matadi	DRC	46,000		N/A		10	2	8.9

Source: Based on: <http://www.ports.co.za/>; Basic Design Study Report on the Project for Reinforcement of the Dredging Capabilities for Beira Port in the Republic of Mozambique. JICA, 2004; The Study on Urgent Rehabilitation Program of Ports in the Republic of Angola, JICA, 2006; The Development Study of Ghana Seaports in the Republic of Ghana, JICA, 2002; Research on Assistance for Transport Infrastructure in Africa, JICA, Tanzania Port Master Plan, Tanzania Ports Authority, 2008; and Guide to Port Entry, Maryland Nautical, 2008

Notes: 1.Export port for iron ore 2.Export port mainly for coal

A world trend of port management privatization in the form of public-private partnerships (PPPs) is also active in Sub-Saharan Africa and it is summarized in Table 2.2.6, which shows that privatized ports are handling cargoes more efficiently than are publicly operated ports.

Table 2.2.6 Port Efficiency and PPP in Sub-Saharan Africa

Port	Average Container Output (Moves/hour)	Operator	Equipment
Abidjan	20	PPP	gantries
Dar es Salaam	20	PPP	gantries
Douala	20	PPP	gantries
Toamasina	18	PPP	mobile crane
Djibouti	17	PPP	gantries
Durban	15	Public	gantries
Tema	14	PPP	gantries
Elizabeth	13	Public	gantries
Apapa (Lagos)	12	Recent PPP	gantries
Capetown	12	Public	gantries
Mombasa	10	Public	gantries
Dakar	10	Recent PPP	mobile crane
Maputo	10	PPP	gantries
Beira	9	PPP	gantries
Port Sudan	8	Public	gantries
Walvis Bay	8	Public	ship's gear
East London	8	Public	ship's gear
Luanda	8	Recent PPP	ship's gear
Matadi	7	Public	ship's gear
Pointe Noire	7	Public	ship's gear

Source: Ocean Shipping Consultants - AICD

Since the East African subregion has many lakes, lake transport is also frequently used to carry cargoes from an inland country to a coastal country. In areas where arterial roads are unimproved, ferries can be as effective to carry cargo from a lakeside port to a road transport terminal along a paved arterial road or a railway terminal on the other side of the lake. For example, on Lake Victoria, several railway ferry routes linking Tanzania/Kenya with Uganda were operated but the operation is now on a nonscheduled basis.

2.2.5 Civil Aviation Sector

Air transport is mainly used to export/import lightweight cargo. In Sub-Saharan Africa, it is used to export horticultural products and fresh food such as fish or carry very expensive mineral resources such as gold and diamonds. There is a case where a mining company constructed its own airport at one of its mines.

Civil aviation networks within the Sub-Saharan Africa region have been gradually become more hierarchical and, particularly, international air transport routes tend to concentrate on international hub airports such as Nairobi, Addis Ababa, Johannesburg, and Abidjan. Cargo handling volumes at Johannesburg and Nairobi are particularly large. In addition to the above-mentioned international hub airports, Accra and Entebbe handle a relatively large volume of cargo (Table 2.2.7).

Table 2.2.7 Cargo Volumes of Major Airports in Sub-Saharan Africa

Airport	Total Cargo (tons)
Nairobi	140,643
Accra	46,842
Addis Ababa	26,570
Entebbe	26,372
Abidjan	21,615
Dar Es Salaam	16,287
Durban	14,972
Douala	13,185
Lusaka	13,177
Port Elizabeth	9,757
Maputo	8,807
Lome	5,595
Bamako	5,282
Kigali	5,074
Lilongwe	4,358
Cotonou	4,283

Source: The Aviation & Aerospace Almanac, 2002

Note: It is considered that Johannesburg Airport serves about 300,000t of cargo volume. However, the above source as well as other documents do not include Johannesburg Airport.

2.3 Future Goals for CBTI Development toward Pro-Poor Growth

This section examines future goals for CBTI development from the viewpoint of pro-poor growth required for Sub-Saharan Africa.

2.3.1 CBTI Development and Poverty Alleviation/MDGs

In general, CBTI development increases the capacity and efficiency of transport infrastructure, thereby bringing direct benefits such as shorter transport times, increased transport reliability with less unpredictable incidents (e.g., delays at international borders), and lower transport costs. These direct benefits in turn lead to economic development along transport corridors and higher income for local residents, and thus CBTI contribute to the solution of various development problems, e.g., through poverty reduction.

Based on such benefits from CBTI development, contributions to the internationally committed achievement of MDGs (Millennium Development Goals) were targeted for Sub-Saharan Africa

up to 2015. Table 2.3.1 shows targeted MDG indexes. The contribution of CBTI development to achieving MDGs is summarized in Table 2.3.2. As shown, it is expected that CBTI improvement will decrease transport costs as well as stimulate industrial and trade development, and as a result will contribute to poverty alleviation.

However, infrastructure development and economic growth may sometimes exacerbate income gaps and regional differences and have limited effect on poverty reduction. Therefore, it is essential to introduce the pro-poor concept in seeking to alleviate poverty in Sub-Saharan Africa—CBTI development should aim for pro-poor growth, i.e., economic growth that effectively alleviates poverty.

Table 2.3.1 Baselines and Targets for MDGs

MDGs	Baselines (Year)	Latest Data (Year)	Goal (Year)
Goal 1. Eradicate poverty			
▪ Population below the poverty line (%)	44 (1990)	46.4 (2005)	38 (2015)
Goal 2. Achieve universal primary education			
▪ Primary completion rate (% of relevant age group)	43 (1990)	58 (2004)	100 (2015)
Goal 3. Promote gender equality			
▪ Ratio of girls to boys in primary and secondary school	78.4 (1991)	86.5 (2004)	100 (2015)
Goal 4. Reduce child mortality			
▪ Under five mortality rate (# per 1000)	161 (1990)	149 (2004)	54 (2015)
Goal 5. Improve maternal health			
▪ Maternal mortality rate (# per 100,000)	870 (1990)	826 (2005)	218 (2015)
Goal 6. Halt and begin to reverse the incidence of HIV/AIDS and malaria			
▪ HIV prevalence among adults age 15–49 (%)	0.5 (1990)	6 (2005)	-
▪ Annual malaria mortality (out of 100,000)	-	199 (2000)	-
Goal 7. Ensure environmental sustainability			
▪ Proportion of people with access to safe water (%)	53(1990)	65 (2004)	76 (2015)
▪ Proportion of people with access to sanitation (%)	29.8(1990)	37 (2004)	66 (2015)
Goal 8. Develop a global partnership for development			
▪ Debt service (% of exports)	13.5 (1990)	7.9 (2004)	-

Source: World Bank, Accelerating Development Outcomes in Africa Progress and Change in the Africa Action Plan, 2007

Table 2.3.2 Contribution of CBTI Development to Achievement of MDGs

Eight Goals for MDGs	Contribution of CBTI
(1) Strengthen the African Private Sector	<ul style="list-style-type: none"> • Reduction in transport time for imports • Increase in efficiency and private investment through reduction of transport costs
(2) Increase the Economic Empowerment of Women	<ul style="list-style-type: none"> • Increase in job opportunities in non-agricultural sectors through infrastructure development
(3) Build Skills for Competitiveness in a Global Economy	<ul style="list-style-type: none"> • Reduction of transport costs , promotion of industry/trade, and increase in local benefits → Increase in opportunities for learning, investment, industrial and development • Technology transfer through increase of foreign private investment
(4) Raise Agricultural Productivity	<ul style="list-style-type: none"> • Reduction in transport costs, promotion of industry/trade, and increase in local benefits → Increase in investment opportunities for agriculture
(5) Improve Access to and Reliability of Clean Energy	<ul style="list-style-type: none"> • Reduction in transport costs, increase in investment in energy sector, and generating capacity through private investment

Eight Goals for MDGs	Contribution of CBTI
(6) Expand and Upgrade Road Networks and Transit Corridors	<ul style="list-style-type: none"> • Direct contribution of CBTI development
(7) Increase Access to Safe Water and Sanitation	<ul style="list-style-type: none"> • Reduction in transport costs, promotion of industry/trade, and increase in local area benefits → Investment for water supply and sanitation • Expansion of access by regional road development

Source: The Study Team (with reference to World Bank, Accelerating Development Outcomes in Africa Progress and Change in the Africa Action Plan, 2007)

2.3.2 Future Goals for CBTI Development

It is estimated that the achievement of MDGs will require an annual economic growth rate of 7% up to 2015.²¹ (Of course, this economic growth should be pro-poor.) Accordingly, the increase in trade volume to support this annual economic growth rate of 7% was estimated from a regression analysis of GDP and trade volume growth rates over the past five years for Sub-Saharan African countries; the result was that an annual trade volume growth rate of 12% to be required to support this economic growth rate,²² which means that 2.4 times the 2008 level of trade volume will be required in 2015.

Since it is generally supposed that increases in trade volume are roughly proportional to the cargo traffic volume increase, it is likely necessary to increase the present CBTI transport capacity by 2.4 by 2015. Accordingly, it will be necessary to have CBTI that furthers an increase in trade volume by not only physically expanding infrastructure but also reducing transport costs, which include not only monetary costs but also time costs and transport reliability. For example, a 10% decrease in transport costs will lead to a 25% increase in trade volume based on recent analyses.²³ It is expected that capacity expansion of hard infrastructure as well as efficiency improvement of soft infrastructure can contribute to the achievement of such cost reductions.

Based on the foregoing, this study has set the future goal for CBTI development by 2015 to target pro-poor growth for achieving MDGs through expanding necessary transport capacity and reducing transport costs to realize a trade volume that will be 2.4 times as large as the present level.

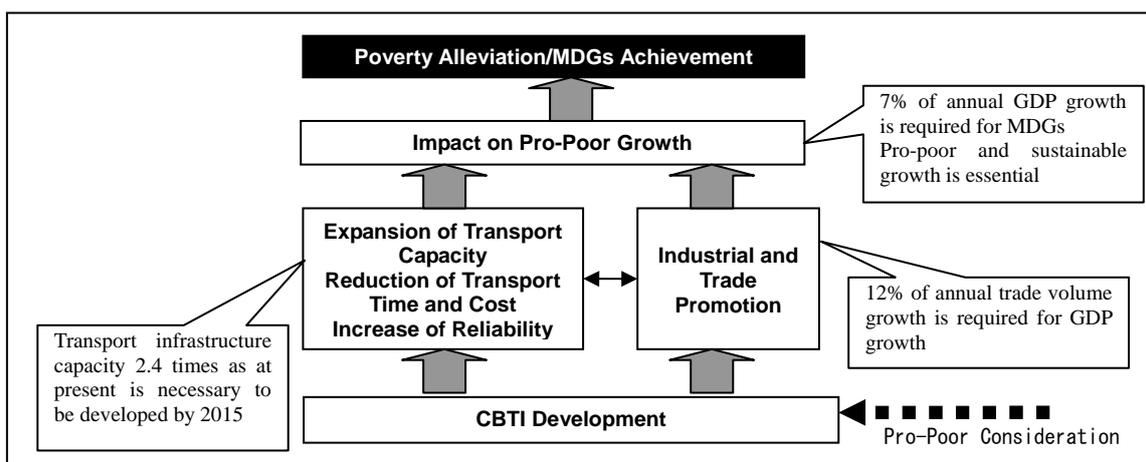
Of course, it is impossible to achieve the required economic growth or pro-poor growth only with CBTI development. It is essential that CBTI development in coordination with development in other sectors such as industrial development and trade promotion, and that CBTI be developed in way that will benefit the poor. Also, it is necessary to consider importance of CBTI development separately in each country and region because CBTI development will may bring different benefits depending on the stage of economic growth in each country.

Figure 2.3.1 summarizes the findings of this section.

²¹ African Development Indicators

²² Based on a regression analysis of trade growth rate and GDP growth rate in Sub-Saharan African countries over the past five years, this is the estimated trade growth rate required for 7% GDP growth.

²³ Gael Raballand and Patricia Macchi, *Transport Prices and Costs: The Need to Revisit Donors' Policies in Transport in Africa*, 2008.



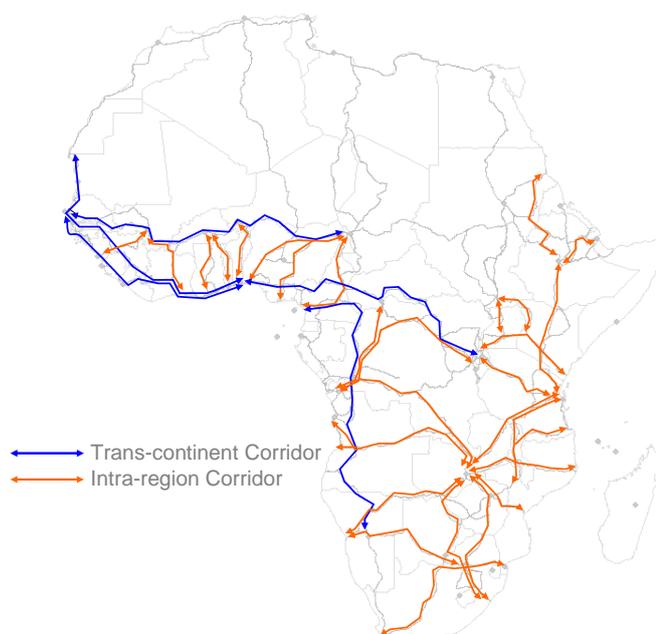
Source: The Study Team

Figure 2.3.1 CBTi Development in Sub-Saharan Africa

2.4 Analysis of International Transport Corridor Potential

2.4.1 Calculation of Trade Potential

Potential corridor trade volumes were analyzed to examine international transport corridor sections that should be considered for improvement. As mentioned, in Sub-Saharan Africa there are many existing/planned international corridors including TAH and SSATP regional economic corridors. To exhaustively analyze corridors such as these, this study defined target corridors, using the list of corridors given in JICA Studies of How to Support Transport Infrastructure in Africa (Project Studies), 2008. Figure 2.4.1 shows these target corridors.



Source: The Study Team

Figure 2.4.1 Target Corridors for Trade Potential Analysis

An estimation approach to analyze the potential of trade volumes would ideally involve the use of origin-destination (OD) data for the volume of trade between Sub-Saharan African countries

or between a country and a port (or ports), but since such data is difficult or impossible to obtain, two potentials were analyzed: (i) the potential of trade within the Sub-Saharan African region and (ii) the potential of interregional trade between Sub-Saharan Africa and the rest of the world; gross domestic product (GDP) was assumed as the trade volume potential to derive substitute indicators. The method of calculation adopted is more specifically described below. The methodology analyzed the relative corridor trade potential rather than absolute magnitudes. Another caveat is that the analysis did not take into consideration the actual situations of roads, railways, and ports, or of border-crossing costs/time. The relative comparison of potential among corridors can, however, provide a broad assessment of the priority sections for future improvement.

(i) Trade Potential within the Sub-Saharan African region

The GDP of each country was assumed as the level of its trade volume potential. The gravity model²⁴ was adapted to prepare ODs of trade potentials between each country pair, and to distribute them to the corridor network by the shortest path search method, and analyze potentials by corridor. The equation used to estimate such potentials was as follows:

$$P_{Intra_{ij}} = \frac{GDP_i \times GDP_j}{d_{ij}^{2.1}}$$

Where:

- $P_{Intra_{ij}}$ Potential of trade within the Sub-Saharan African region between country i and Country j
 GDP_n GDP of Country n
 d_{ij} Distance between Country i and Country j (between capital cities)

Sudan and DRC were each divided into two parts for the calculation²⁵ since both are so large that simple calculation of the distance between capital cities would have produced significant errors.

(ii) Potential of Interregional Trade between Sub-Saharan Africa and the Rest of the World

The GDP of each country and the container handling volume of each port were assumed as the country's level of trade potential and the port's level of trade potential, respectively, to estimate the interregional trade potential between the country and the port by the following equation:

$$P_{Inter_{ij}} = \frac{GDP_i \times Port_j}{d_{ij}^{2.1}}$$

where:

- $P_{Inter_{ij}}$ Potential of interregional trade between Country i and Port j
 GDP_n GDP of Country n
 d_{ij} Distance between Country i (capital city) and Port j

Here, since P_{Inter} is determined, using a virtual value of port capacity, the relative GDP scale of each country has become inconsistent with the level of its trade potential. That is, any country

²⁴ A factor of 2.1 was applied to the distance multiplier, as was used in the gravity model estimated in World Bank, Road Network Upgrading and Overland Trade Expansion in Sub-Saharan Africa, 2006. The multiplier of GDP should also be estimated such as by regression analysis but 1.0 was used here for the sake of simplicity.

²⁵ In proportion to regional population, the allocation was defined as 30% to the southern and 70% to the northern Sudan and 40% to the eastern and 60% to the western DRC.

near a large-capacity port may show an increasing trade volume regardless of its GDP scale. Therefore, the total of each country’s interregional potentials was corrected, using the country’s GDP. The correction approach used is presented below:

$$P_{Inter_{ij}}' = P_{Inter} \times \frac{GDP_i}{\sum_j P_{Inter_{ij}}}$$

where:

$P_{Inter_{ij}}'$ Corrected potential of interregional trade between Country i and Port j

Two cases were supposed to determine port capacity levels as follows: use of existing container handling volume (in TEUs) or hypothetically assigning 1 million TEUs to each port whose capacity was deemed unlimited. Interregional trade potentials were analyzed by corridor for the case where ports had no limitation.

As in the case of intraregional trade, Sudan and DRC were separated into two parts since their land area is so large that simple calculation of the distance between capital cities would have produced significant errors.

2.4.2 Analytical Results of Trade Potential

(i) Potential of Trade within Sub-Saharan Africa

Figure 2.4.2 sets out the results of the analysis. It was found that corridors around South Africa and Nigeria each had a large potential – these are marked in red. There was an area of medium potential along the long corridor linking South Africa/Central Africa with East Africa. Regional potentials, although relatively small, were also observed in the East African region.

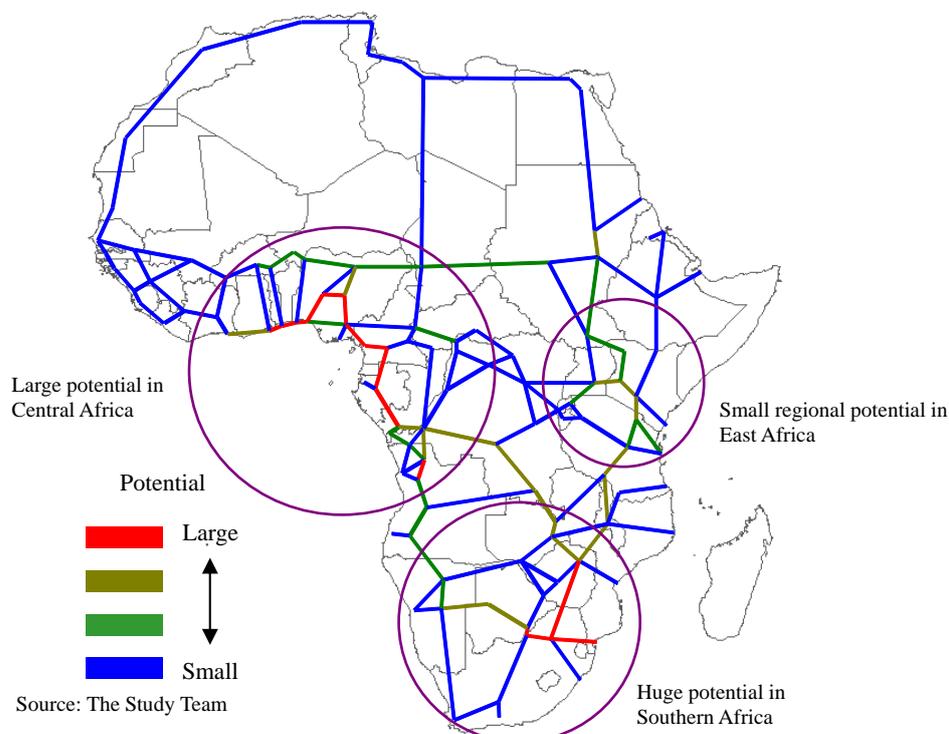
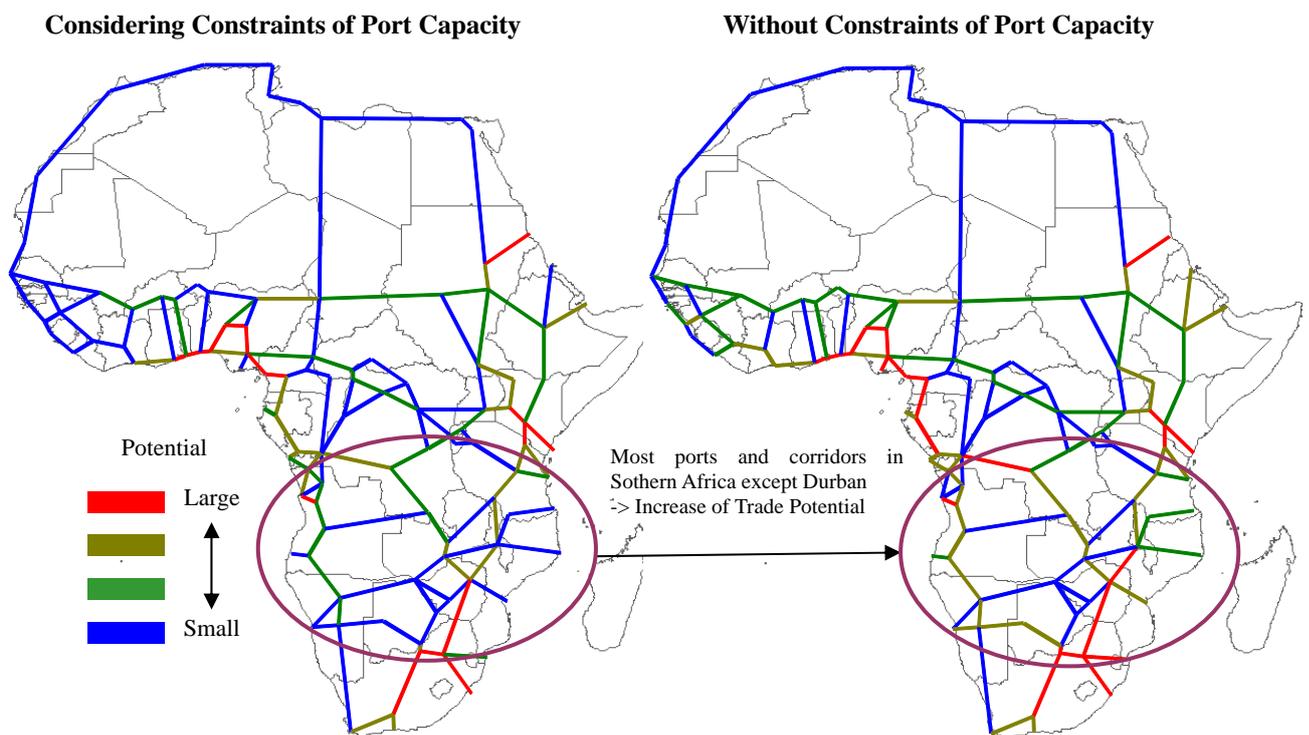


Figure 2.4.2 Potential of Intra Sub-Saharan African Trade

(ii) Interregional Trade Potential between Sub-Saharan Africa and the Rest of the World

Figure 2.4.3 shows the analytical results of interregional trade potential between the subject region and the rest of the world. The interregional trade potential analysis used two cases: one with the existing port capacity constraints and the other without these constraints (but assuming all ports have a sufficiently large handling capacity). The comparison of these two cases found that all over Sub-Saharan Africa, there are ports/corridors where trade volume is likely to increase if the scarce port capacity problem is resolved, i.e., if ports/harbors are further improved in the future. Particularly, ports in Eastern and Southern Africa such as Mtwara, Maputo, Nacala, and Beira, were found to have higher throughputs. Meanwhile, presently thriving ports (such as Durban and Mombasa) were found to have smaller relative increases in trade volumes.

These results indicate that port improvement will realize more a desirable pattern freight movement, i.e., one that will utilize ports nearer to destination, avoiding use of distant ports due to limited port capacity, and mitigate the congestion of existing ports, thereby possibly reducing transport costs. The observed increase in trade volume along inland corridors also indicated the possibility that port improvement may change freight movement patterns across the region.



Source: The Study Team

Figure 2.4.3 Potential of Trade between Sub-Saharan Africa and the Rest of the World

Chapter 3 An Analysis of Cross-Border Transport Systems in East Africa

As mentioned in the Chapter 2, CBTI consists of various sub-sectors including both physical (hard infrastructure) and non-physical (soft infrastructure) development aspects. Therefore, it is critical for CBTI development to adopt not a project-based approach but rather a program approach that considers development from a comprehensive viewpoint. Accordingly, this study prepared a model program for CBTI development focusing on East Africa¹.

This chapter presents the results of a survey of present status and issues of Cross-Border Transport Infrastructure (CBTI) development. Addressed are such issues as: (i) present status of assistance by development partners and infrastructure developed, and (ii) the respective governments' infrastructure development programs and plans under a national and/or regional development framework. Non-physical (soft infrastructure) development aspects of CBTI development are dealt with in detail in Chapter 4.

3.1 Current Systems and Improvement Projects, Ongoing and Planned

With Sub-Saharan Africa, the East African (sub)region, has a relatively higher level of trunk road provision. Two major international corridors—the Northern Corridor and the Central Corridor—traverse the subregion, forming a CBTI network, each linking seaports with landlocked countries (Figure 3.1.1). Each of the international corridors consists of two modes—road and railway. Of the two transport modes, the condition of the road corridor is mostly good or fair except for several sections, which are either under development or under rehabilitation, while the railway corridor suffers from reduced capacity attributable to a lack of investment and maintenance in track and rolling stock. Because of the competitive prices for railway freight transport relative to those of road transport, railway transport volumes exceed carrying capacity, resulting in as long as two months in waiting time for shipments on particular lines. Also to be addressed is an urgent solution for the severe congestion at ports of Mombasa and Dar es Salaam—the two key nodes of the above-mentioned international corridors—due to the subregion's rapid economic and trade growth. Moreover, facilities and systems for transit cargo such as border posts tend to require excessive transit time due to insufficiency in hard infrastructure together with underdeveloped institutions and regulations (soft infrastructure). All these elements of underdeveloped “CBTI Systems” lead to higher freight costs relative to the level of road services provided, which in turn poses bottlenecks to trade and economic activities.

Regarding assistance from international development partners, the World Bank, the European Union (EU), and the African Development Bank (AfDB) are seen to be actively engaged in providing assistance in the CBTI Sector. An indicative activity is the East Africa Trade Transport Facilitation Project (EATTFP) assisted by the World Bank and AfDB.² The EATTFP represents a multifaceted approach in effecting systems improvements through networking all key elements of railways, roads, ports, customs, border posts, and weighbridges along the two most important corridors across four East African countries.

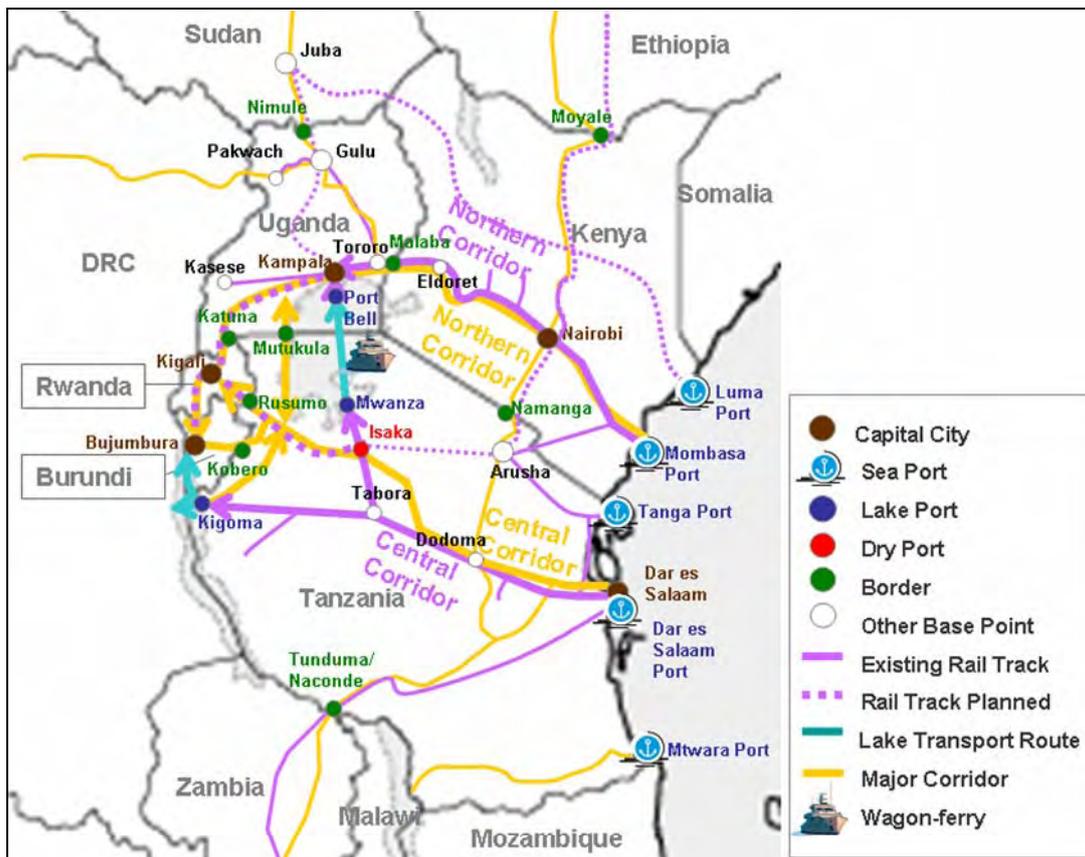
¹ The survey defines East Africa as geographical territories of the five Eastern African Community (EAC) member (“partner”) countries, consisting of Kenya, Uganda, Tanzania, Burundi, and Rwanda. The findings here focus on CBTI status and issues on the countries surveyed: Kenya, Uganda, and Tanzania, but subregion-wide perspectives (involving Burundi and/or Rwanda) are also addressed.

² EATTFP targets the four countries of Kenya, Uganda, Tanzania and Rwanda.

On the other hand, the European Union (EU) is providing country-specific assistance. While the EU Ugandan Office provides comprehensive road sector assistance—Northern Corridor rehabilitation and the assistance to the country’s Road Department and Road Fund, the EU’s Tanzania Office concentrates on trade promotion assistance with a focus on “soft” issues.

The United States Agency for International Development (USAID) is also an important actor—it pioneered assistance for One-Stop Border Posts (OSBPs) in East Africa even before the World Bank, although the magnitude of its assistance for CBTI has been moderate. USAID assisted a feasibility study of developing OSBPs at major border posts. It also contributed to establishing an OSBP at a railway border crossing, the first such one in East Africa. Ongoing assistance by USAID is centered on supporting the “soft” aspects of East African subregion-wide CBTI development, including a project to demonstrate the commercial viability of a Common Market for Eastern and Southern Africa (COMESA) Regional Customs Transit Guarantee (RCTG).

JICA has so far provided assistance in the cross-border transport sector, including projects for Mombasa port expansion, cross-border trunk road development with co-financing by AfDB, and support for improvement of border post operating procedures.



Source: The Study Team

Figure 3.1.1 Major Corridors in East Africa

Focusing on the two major transport corridors mentioned above, the current status of the transport sub-sector and development partner assistance are set out below.

3.1.1 Roads

(1) Current Systems

Overview: As in other Sub-Saharan African subregions, the majority of the trunk roads in the Eastern African subregion were developed during the colonial era. Accordingly, most sections of major road corridors are paved, but road conditions in many cases have worsened due to the lack of appropriate maintenance and management since independence, which have led significant pavement deterioration in some sections, thereby increasing vehicle operating costs (see Photo 3.1.1). However, of late, most sections of the Northern and Central Corridors across Kenya, Uganda, and Tanzania have been rehabilitated or reconstructed with assistance from the World Bank, the EU, AfDB, and other development partners. As a consequence of this assistance, current road condition along most of the two corridors is good or fair.

On the other hand, more work will be undertaken for the development of other trunk roads, since development of the Northern and Central Corridors is in the final stage. These other trunk road corridors include: (i) Biharamulo–Mwanza–Musoma–Sirari–Lodwar–Lokichogia; (ii) Tunduma–Iringa–Dodoma–Arusha–Namanga–Moyale, and (iii) Port of Mombasa–Lunga Lunga/Horohoro Border–Central Corridor. Figures 3.1.2 shows EAC corridor plan and Figure 3.1.3 illustrates present status of trunk corridor developments in East Africa.

With a view to sustainable road maintenance in the respective countries after road development, road funds and road authorities are being established with capacity strengthening with the assistance of international development partners.



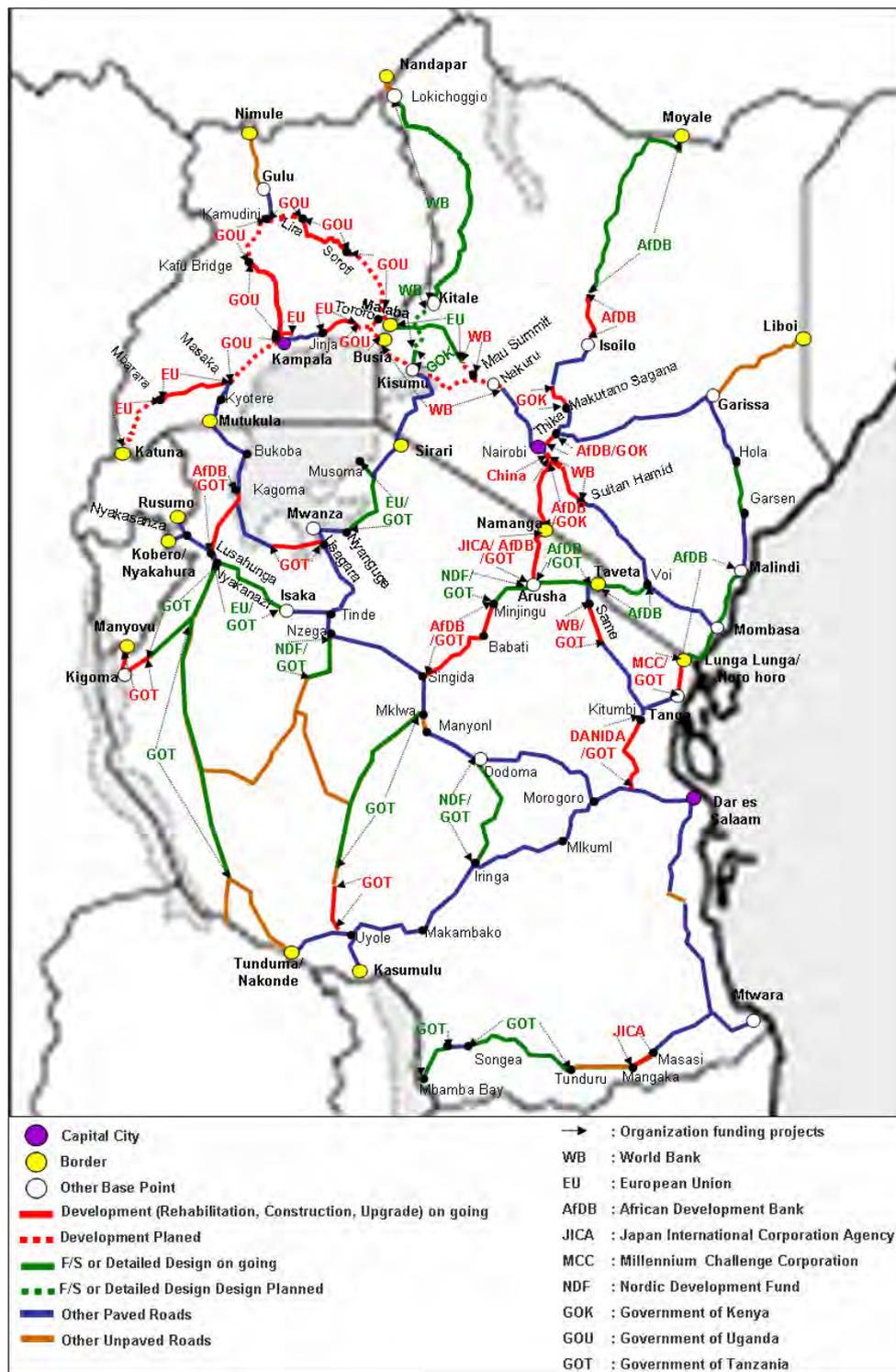
Note: Asphalt pavement was removed.
Source: The Study Team

**Photo 3.1.1 Example of a Deteriorated Road
(Jinja–Bugiri Section, Northern Corridor)**



Source: JICA and EAC, Scoping Study on Identification of the Missing Links and Bottlenecks Affecting the Performance of the East African Community Central Corridor, Draft Final Report, 2008

Figure 3.1.2 EAC Road Corridor Plan



Source: The Study Team

Figure 3.1.3 Present Status of Trunk Road Developments in Kenya, Tanzania, and Uganda

The Northern Corridor: The Northern Corridor links originates from Mombasa Port and serves traffic transiting to/through Nairobi and Kampala, and on to Rwanda and Burundi. It also carries a major portion of cargo volume outbound from Uganda and Rwanda and serves as a transit route for freight bound for Ethiopia and the southern Sudan, originating from Mombasa Port. In particular, due to recent rapid economic growth in Uganda, freight traffic is heavy on the Mombasa Port–Nairobi–Kampala route, most of which transits the Malaba border crossing, although some is diverted through the border crossing at Busia. With respect to pipeline transport, the existing pipeline serves only the Mombasa–Eldoret section, with further inland transport of fuels undertaken along the Northern Corridor. The road section between Mombasa and Kampala is in relatively better condition than other sections, except for the section undergoing rehabilitation/reconstruction with assistance from the World Bank and the EU.

As it passes through the urbanized areas of Mombasa, Nairobi, and Kampala, traffic congestion poses a bottleneck for smooth transit of passengers and freight (see Photo 3.1.2). In response to this situation, EU-assisted bypass development is underway in northern Kampala. Also, the World Bank will assist bypass development in the Nairobi and Mombasa areas, with a feasibility study underway.



Source: The Study Team

Photo 3.1.2 Congestion at Kampala Urban Periphery along the Northern Corridor

The Central Corridor: The Central Corridor originates from the Port of Dar es Salaam and provides access to/from the landlocked countries of Burundi, Rwanda, and Uganda. Although rehabilitation/reconstruction of the Central Corridor roads was commenced a little later than in the Northern Corridor, road conditions in the Tanzanian section are relatively better than before. This section carries a majority of outbound freight from Burundi. While it serves inland-bound imported freight from Tanzanian ports, it also serves seaport-bound export freight (largely coffee and tea) originating from Rwanda and Burundi, and export of cotton produced in western Tanzania. All this freight transits the Dar es Salaam central business district, but does not cause major traffic congestion problems as the roads serving the Dar es Salaam urbanized area are sufficiently wide.

(2) Improvement Projects by International Development Partners

The Northern Corridor: Most of the road sections in Uganda and Kenya have been developed with the assistance of EU. With respect to road development in Uganda, the Kampala–Masaka, and Malaba–Bugiri sections, originally to be undertaken with EU assistance will now be implemented by the Government of Uganda (GoU). However, the new strategic directive of self-development by GoU (independent of development partners) has significantly reduced the section length to be assisted by the EU. On the other hand, the EU has provided assistance to the GoU for institutional strengthening for establishing a Uganda National Roads Authority (July 2008) and Uganda Road Fund (2009).

World Bank assistance to Kenya for developing a 373 km section is ongoing, through the Northern Corridor Transport Improvement Project, which was commenced in 2004. While the World Bank does not provide assistance for new road construction or rehabilitation in Uganda, it has been providing financial assistance for road maintenance in northern Uganda. Table 3.1.1 summarizes recent development partner assistance in the Northern Corridor.

Table 3.1.1 Development Partner Assistance for the Northern Corridor in Recent Years

Country	Section	Length (km)	Donor	Start ³	Completion ⁴
Kenya	Mtito Andei-Sultan Hamud	131	EU	2003	2006
Kenya	Sultan Hamud-Machakos Off-JKIA	84	IDA	2004	2009
Kenya	JKIA-Uhuru Highway	12	China	-	2009
Kenya	Maai Mahiu-Naivasha-Lanet	97	EU	2005	2007
Kenya	Lanet-Mau Summt-Timboroa	83	IDA	2004	2009
Kenya	Timboroa-Eldoret-Malaba	193	EU	2009	-
Kenya	Mau Summt-Kisumu	145	IDA	Negotiation Stage	
Kenya	Kisumu-Busia	139	IDA		
Uganda	Bugiri-Jinja	73	EU	2006	2008
Uganda	Kampala Northern Bypass	21	EU	2006	2009
Uganda	Masaka-Mbarara	155	EU	2008	2010
Uganda	Mbarara – Ntungamo – Katuna	164	EU	2010	2013

Source: The Study Team

The Central Corridor: The Danish International Development Agency (DANIDA), the EU, and AfDB are the major development partners active in the Central Corridor. Although Japan has not directly assisted the trunk road along the Central Corridor, Japan is assisting The Project for Widening of Kilwa Road aimed at alleviating traffic congestion in the city center of Dar es Salaam, one of the endpoints of the Central Corridor; accordingly, the project is contributing to traffic improvement along the Central Corridor. In addition, Tanzania has been strengthening its road authority (TANROADS) and road fund with the assistance of development partners. Further, JICA has long dispatched Japanese road transport experts to the TANROADS. Table 3.1.2 presents the status of Central Corridor development in recent years.

³ Planned start dates are given to projects that have not yet been implemented.

⁴ Scheduled completion dates are given to projects that are already ongoing.

Table 3.1.2 Recent Projects along the Central Corridor Supported by the Government of Tanzania (GOT) and Development Partners

Country	Section	Length (km)	Financier	Start	End
Tanzania	Dar es Salaam-Mlandizi	55	DANIDA	-	2001
Tanzania	Chalinze-Morogoro-Melea	140	DANIDA	-	2004
Tanzania	Morogoro-Dodoma	265	EU	2004	2006
Tanzania	Dodoma-Manyoni	127	GOT	2003	2008
Tanzania	Manyoni-Singida	118	GOT	2007	2008
Tanzania	Singida-Shelui	110	IDA/GOT	2005	2007
Tanzania	Shelui-Nzega	112	AfDB/GOT	2005	2007
Tanzania	Nzega-Isaka-Tinde	73	EU	2003	2006
Tanzania	Tinde-Ilula	96	EU	2003	2007
Tanzania	Isaka-Lusahunga	245	EU	2008	-
Tanzania	Lusahunga-Kagoma	154	AfDB/GOT	2006	-
Tanzania	Kagoma-Muhutwe	24	OPEC/GOT	-	2004
Tanzania	Muhutwe-Mutukula	112	AfDB/GOT	-	2004
Uganda	Mutukula-Kyotera	80	AfDB	2000	2003

Source: Compiled from JICA and EAC sources, 2008

The Other Corridors: While the World Bank and the EU have focused assistance on the Northern and Central Corridors with a view to strengthening the link of seaport hubs with inland and landlocked countries, AfDB has targeted its development efforts on strengthening the parts of transcontinental trunk roads through the East African countries, including those from north to south, based on the concept of the “Trans African Highway”. Of particular notes is AfDB’s assistance for development of the Tunduma–Iringa–Dodoma–Arusha–Namanga–Moyale Corridor.

(3) Country/Regional Community Development Strategy

Kenya: Kenya has been shifting its development priority to the North (Sudan and Ethiopia), and the South (Tanzania), as substantial development has already occurred along the Northern Corridor. Its Kenya Vision 2030 envisaged development of a new transport corridor to southern Sudan and Ethiopia, and connecting Kenyan major cities and towns with the Northern Corridor.

Uganda: Uganda has drastically changed its policy on infrastructure development with a view to facilitating economic growth through infrastructural development, replacing the previous social-development strategic policy focus (e.g., on education). It considers investing in infrastructure as vital for economic development, and has announced as an annual US\$200 million for this purpose over the next three years. With a goal to making Kampala, the national capital, a transport hub serving access to neighboring landlocked countries, it has expressed its intention to strengthen the country’s international corridors. The Ministry of Infrastructure has called for development of priority corridor linking Gulu with Juba in southern Sudan. In addition, the Ministry has indicated its aim of providing the entire section of the Northern Corridor with a two-laned carriageway in each direction. The Ministry has also indicated that it will build road infrastructure with its own funds, i.e., without the assistance of international development partners. The provision of a two-laned carriageway along the Northern Corridor, is considered difficult to realize in view of anticipated traffic demand and the budget required.

Tanzania: With a relatively larger budget line allocable from general budget support from development partners, Tanzania has undertaken more trunk road development projects with its own funds compared to Kenya and Uganda. The road sector development plan targeting 2017 envisages strengthening the country’s four international corridors: (i) the Central Corridor,

which links Uganda, Rwanda, Burundi, and the Democratic Republic of Congo (DRC) with the port of Dar es Salaam; (ii) the Tazara Corridor, which serves transit traffic to/from Zambia; (iii) the Mtwara Corridor, which links Mtwara port to Mozambique (which includes some sections that are unpaved); and (iv) the Tanga Corridor, which links Tanga port with Musoma on Lake Victoria (although this corridor includes sections that are currently not trunk roads). TANROADS has prioritized the Tazara Corridor to be developed with the utmost urgency, as traffic demand along this corridor is high.

EAC: The EAC has coordinated its efforts with the five participating member (“partner”) states to define six prioritized corridors in East Africa (see Figure 3.1.2). However, since EAC is mainly a coordinator but lacks budget for infrastructure development, the responsibility for corridor development rests with respective countries.

3.1.2 Railways

(1) Current Systems

Overview: The railway network had been administered by four statutory national enterprises, i.e., the Kenya Railway Corporation (KRC), the Uganda Railway Corporation (URC), the Tanzania Railway Corporation (TRC), and Tanzania Zambia Railways (TAZARA). Its service length was 7,363 km with an operating track length of 6,334 km.

Historically, East Africa Railways and Harbors (EARH) had owned the tracks, laid during 1890s through 1950s, which were separately owned by the respective statutory bodies (i.e., KRC, URC, and TRC) since EARH’s dissolution after independence. The existing lines constitute an integrated network connecting East Africa’s landlocked countries with the region’s hub ports of Mombasa and Dar es Salaam.

On the other hand, TAZARA is owned by the two governments of Tanzania and Zambia, It administers the railway section of the Tazara Corridor, connecting the Zambian Railway at the Tonduma–Nakonde border, hence providing an indirect link with the railways of Zimbabwe and South Africa. The TAZARA line was constructed with the assistance of the Chinese Government from 1970 to 1975 and commenced service in 1976. One of the reasons for construction of the TAZARA line is that southern African countries had sought a railway line to provide access to seaports without transiting South Africa, which was still practicing apartheid. At present, the TAZARA line carries mineral resources produced in Zambia and DRC, with more than 70% of copper ore of Zambia shipped to the Dar es Salaam port via TAZARA.

All East African Railways are single track. Although KRC, URC, and TRC have adopted unified gauge standards, its track gauge of 1,000 mm⁵ is narrower compared with that of standard gauge (1,435 mm)⁶; however, TAZARA adopts the Central and the southern African gauge system of 1,067 mm⁷, which has made line interoperability impossible at the port of Dar es Salaam, preventing through-running between adjacent lines. As the TAZARA railway system was constructed relatively recently, compared with the lines of KRC, URC, and TRC, which were constructed more than a century ago, the TAZARA system is superior with respect to operating speed and axle load capacity.

⁵ I.e., meter gauge, adopted in Southeast Asia, Europe, Africa, and part of South America.

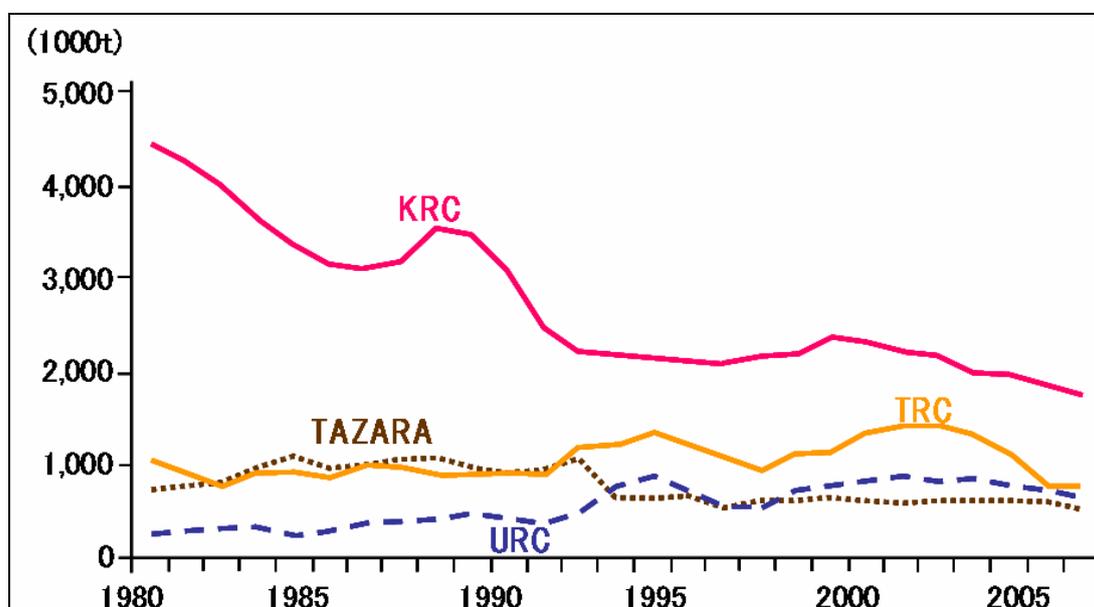
⁶ Standard Gauge: adopted widely as the railway standard track width in Europe and North America, it is the design standard for more than 60% of the world’s railway track.

⁷ Cape gauge: adopted by Central and South America, Taiwan, Philippines, Indonesia, and New Zealand. Also, many Japanese railways have adopted this standard.

East African railways generally have low transport productivity per service length (see Figure 3.1.5). Due to the region’s railway traffic demand, which has recently increased with economic growth, the lower railway transport productivity has become a more critical issue. One of the elements of under-capacity is an insufficient supply of rolling stock. In addition, existing rolling stock tends to be old and insufficiently maintained, which put constraints on locomotives the available axle loads of freight wagons. Moreover, the poor track structure and maintenance observed along the older lines of KRC, URC, and TRC reduces operating speeds and hence results in lower transport capacity. For example, steel sleepers (ties in American English), adopted for most of the lines of KRC, URC, and TRC, show considerable attrition, while most of sleepers on the TAZARA line are made of pre-stressed concrete and are in relatively good condition. In addition, for all railway sleepers inclusive of those of TAZARA, wooden sleepers are used at the bridge sections, which show further deterioration. Many reduced-speed sections are observed, where necessary controls are imposed, e.g., to protect against bridges structurally not robust enough to sustain the axle loads carried, which reduces average service speed.⁸

Poor rolling stock and track condition are largely a consequence of insufficient maintenance and capital investment. Relatively low freight traffic volumes have led to high freight rates relative to those of the other regions (see Figure 3.1.4–3.1.6), and this must be addressed to (regain competitiveness).⁹

In order to improve and strengthen railway assets and railway management, KRC, URC and TRC underwent privatization in 2006–07. KRC is now an entity that holds ownership of railway infrastructure and rolling stock, supervises and monitors private operating enterprises, and develops new lines designed with higher railway standards. Accordingly, most of its former employees and laborers were transferred to a new private operating company. URC is undergoing a similar process of structural reform. Similar to the KRC reforms, the restructuring of TRC has produced a new entity, the Reli Assets Holding Company (RAHCO).

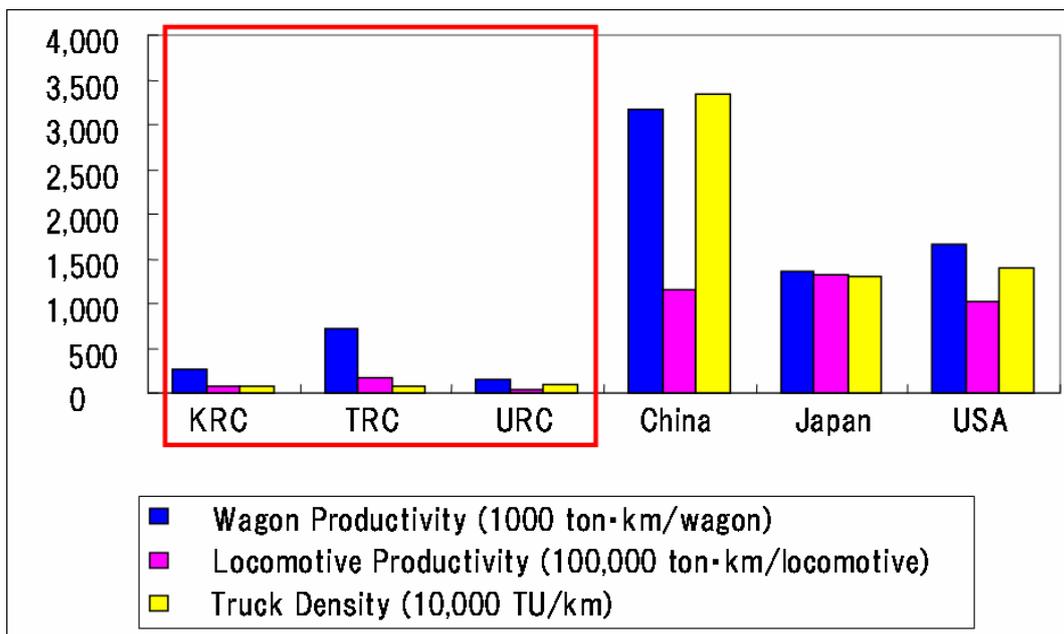


Source: EAC, East African Railways Master Plan Study, Draft Final Report, 2008

Figure 3.1.4 Trends in East African Freight Traffic Volume, 1980–2007

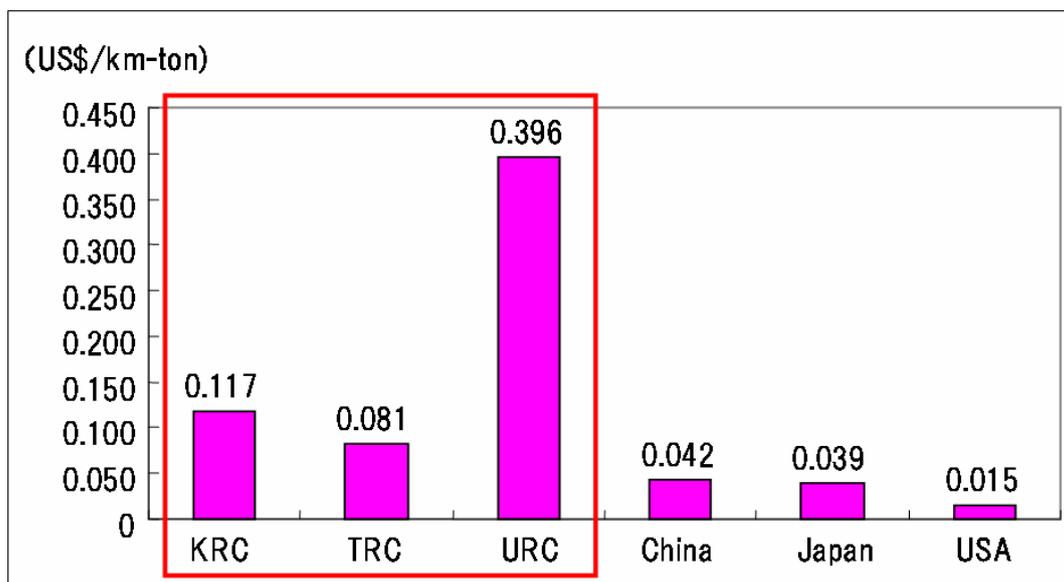
⁸ Refer to EAC, East African Railways Master Plan Study, Draft Final Report, 2008.

⁹ The transport cost of export goods, hauled from inland to the ports, is half of that of imports, hauled from ports to the inland, since export traffic volume is much less than import traffic volume.



Source: Data extracted from The World Bank, Railway Database 1999, 2001, 2007

Figure 3.1.5 Comparison of Freight Traffic Volume (per Track Length) or (per Unit of Rolling Stock)



Source: Data extracted from The World Bank, Railway Database 1999, 2001, 2007

Figure 3.1.6 Comparison of Freight Traffic Revenue per km-ton

The Northern Corridor (Kenya–Uganda Railway): At present, the line connecting Mombasa Port–Malaba Border–Kampala establishes the trunk line of the corridor. There is also an alternative route, consisting of: (i) the railway from Mombasa Port to Kisumu via Nairobi and Nakuru; (ii) the ferry service between Kisumu and Port Bell; and (iii) the railway from Port Bell to Kampala. Administratively, Kenyan domestic lines have been controlled and managed by KRC, and Ugandan domestic lines have been controlled and managed by URC. There is a plan for extension of the service, connecting Kampala, Kigali, and Bujumbura.

The main issues of the Northern Railway Corridor include: (i) insufficient rolling stock capacity, (ii) poorly maintained track (see Table 3.1.3), and (iii) lower service speeds, which have led to extreme under capacity in relation to increasing railway traffic demand. At present, the dwell time for inland-bound freight is sometimes as long as two months.

The operations of Kenyan Railways and Uganda Railways were privatized in November 2006, with assistance from the World Bank. On this occasion, with a capital injection by Rift Valley Railways, funded by a South African entity, the operation of the KRC and URC lines were handed over, respectively, to the Rift Valley Railways Kenya Limited (KRL) and the Rift Valley Railways Uganda Limited (URL). Both KRL and URL are undergoing a massive labor layoff and pursuing operational efficiency. Further, both KRL and URL are subject to various contractual obligations to be observed during the initial five years, e.g., an investment of a US\$30 million, management goals, and improvements on rail tracks and rolling stock. As it happens, a World Bank loan of US\$32 million is programmed. However, after a due diligence survey of rolling stock and railway infrastructure handed over to them,¹⁰ the Rift Valley management has asked for demands a sum of US\$190 million, which they assessed as being necessary to achieve the imposed goals.

At the moment, operation of the two lines, an extension of the Northern Railway Corridor, has been suspended (a 332 km section linking Kampala–Kasese, and a 501 km section linking Tororo–Gulu–Pakwach). An insufficient number of locomotives and freight wagons, and strategic deployment of available rolling stock to the high-demand line linking of Malaba–Kampala are cited as reasons for the suspended operation.¹¹

Table 3.1.3 Track Condition of the Northern Railway Corridor

Section	Length (km)	Track Condition	Proposed Intervention
Mombasa-Nairobi	530	Good/Fair (95 lb/yard)	Spot rehabilitation/ replacement of rails and slippers
Nairobi-Malaba	550	Good/Fair (80 lb/yard)	Replacement of rails and slippers/ reconstruction of culverts
Nakuru-Kisumu	217	Fair/Poor (60 km: 80 lb/yard; 160 km: 60 lb/yard)	Improvement of track of 160km/ Reconstruction of culverts and viaducts
Malaba-Kampala	250	Fair/Poor	Rehabilitation of the line including bridges
Port Bell-Kampala	10	Good	
Kampala-Kasese	332	Poor	Rehabilitation

Source: Northern Corridor Transit Transport Coordination Authority (NCTCA)

The Central Corridor (Tanzania Railways-inland waterways transport on Lake Victoria):

At Tabora, the Central Railway Corridor branches into the Isaka line and the Kigoma line (see Figure 3.1.1). The Uganda route passes through Tabora, Isaka, up to Mwanza via railway, where it is connected with a ferry service for Port Bell, and then is served overland by Uganda Railways to Kampala. Freight bound for Burundi and Rwanda via Isaka is transshipped to trucks at Isaka Inland Container Depot (ICD), and then transported by road to the final destination. The major routes to each inland country via Kigoma are: (i) the ferry over the Lake Tanganyika to reach Bujunbura; (ii) truck overland from Kigoma to Rwanda; and (iii) the ferry to the eastern part of the DRC. Since the transport cost by a combination of railway and ferry transport is more competitive than trucks, the demand is relatively high, especially for

¹⁰ Details of railway privatization issues are elaborated further in Chapter 4 and Appendix 4.

¹¹ Earlier, the security issue due to labor dispute was cited as a reason for suspended operation.

long-distance transport. In addition, wagon ferries¹² have been operated on some routes along the lake, which requires less loading time from/to the railway.

Tanzania Railways, which carries much of railway traffic along the Central Railway Corridor, also suffers from insufficient rolling stock and poor track conditions, leading to a severe under capacity in relation to traffic demand. During the five years from bidding to commencement of privatization, the condition of track and rolling stock became severely deteriorated, due to a lack of adequate maintenance and investment. In particular, the available number of rolling stock decreased markedly, resulting in a massive decline in freight transport volume. Consequently, Tanzania Railways Limited (TRL), a private operator, has been obliged to manage an excessive volume of rolling stock, which was not commensurate with the bidding price. Currently, the annual freight traffic volume hauled by TRL is only about 600,000 tons, a figure far below the target of 2 million tons by 2011 stipulated in the privatization contract. TRC is requesting an operating subsidy from the Government of Tanzania and amendments to the terms of its concession contract.

Railway entities bear the role of managing and operating ferries and ports on Lake Victoria, which constitutes an essential link of the corridor. There is considerable demand for the Central Corridor route connecting Mwanza with Port Bell on Lake Victoria. Out of the five wagon-ferries operated on the Lake Victoria in 2003 (see Table 3.1.4), three were owned by URC and one was owned by Marine Services of Tanzania Ltd. served traffic between Port Bell and Mwanza, while one owned by KRC served traffic to and from Uganda and Tanzania from the base port at Kisumu. During the peak period, around a half volume of railway freight traffic to and from Uganda used the inland lake route (see Table 3.1.6). However, the wagon-ferry stopped operation due in 2004, and in May 2005 there was a collision of two cargo ferries, with one sinking and the damaged.¹³ To date, URC operated wagon-ferries have not resumed service¹⁴ (see Table 3.1.5). Recently, GoU has strongly expressed its intent to secure and recover the Central Corridor's railway freight traffic, and therefore plans to rehabilitate a defunct wagon-ferry and to purchase a new one. The World Bank is also committed to rehabilitating the other (damaged) ferry through the EATTFP. However, it is likely to take some time before the dispute can be settled between GoU and URL. KRL has also suspended its wagon-ferry operation, but it has been commissioned as part of its contractual obligations with KRC.

¹² Ferries to load railway wagons.

¹³ The two failed wagon-ferries were built in 1984, while one that sunk was built in 1981.

¹⁴ Marine Service of Tanzania monopolizes the service between Mwanza and the Port Bell, and increased the freight rate per ton to US\$33.75 from US\$20.



Source: The Study Team

Photo 3.1.3 A Defunct Wagon-Ferry Operated by URC, Harbored at Port Bell

Table 3.1.4 Ferry Operations at Port Bell (prior to 2003)

The Name of Ferries	Capacity	Operator	Modality of Operation ¹⁵
MV Kabalega	22 wagons/ 1 million ℓ	URC	Regular
MV Pamba	22 wagons/ 1 million ℓ	URC	Regular
MV Kawa	22 wagons/ 1 million ℓ	URC	Regular
MV Umoja	22 wagons/ 1 million ℓ	Marine Services of Tanzania Ltd.	Regular
MV Uhura	22 wagons/ 1 million ℓ	KRC	Regular
MV THO	297 thousand ℓ	Kamanga Ferries Ltd.	Occasional
MV Orion	400 thousand ℓ	Kamanga Ferries Ltd.	Occasional
MV Allez	400 thousand ℓ	MOIL Ferries	Occasional
MT Harambe	N/A	MOIL Ferries	Occasional

Source: Ministry of Works and Transport, Uganda, Development of the Central Corridor to the Sea

Table 3.1.5 Ferry Service Operation (as of 2008)

Name of the Ferry	Capacity	Operator	Modality of Operation
MV Umoja	22 wagons/ 1 million ℓ	Marine Services of Tanzania Ltd.	Regular
MV THO	297 thousand ℓ	Kamanga Ferries Ltd.	Occasional
MV Orion	400 thousand ℓ	Kamanga Ferries Ltd.	Occasional
MV Allez	400 thousand ℓ	MOIL Ferries	Occasional
MT Harambe	N/A	MOIL Ferries	Occasional

Source: Ministry of Works and Transport, Uganda, Development of the Central Corridor to the Sea

¹⁵ “Regular” means regular scheduled services from the Port Bell. “Occasional” means regular services from Port Bell delivered only at a designated period.

Table 3.1.6 Railway Freight Traffic Volume via Port Bell when the URC Ferry was in Operation (1997–2003)

Year	Annual Freight Traffic Volume by URC (tons)	Annual Freight Traffic Volume by URC, through the Port Bell (tons)	Freight Volume Share via Port Bell (%)
1997	549,497	131,363	23.9%
1998	600,237	222,232	37.0%
1999	752,381	387,234	51.5%
2000	799,222	323,498	40.5%
2001	856,337	476,726	55.7%
2002	903,662	478,115	52.9%
2003	854,229	402,426	47.1%

Source: Port Bell Office, URL

(2) Projects Sponsored by Development Partners

The Northern Corridor (Kenya–Uganda Railways): The World Bank has provided a grant of US\$60 million through the EATTFP for privatizing Kenyan Railways and Uganda Railways, in particular to assist their employment reduction compensation guarantee programs, and provide resettlement assistance for the illegal occupants along the railway’s right-of-way. The World Bank has also pledged a loan of US\$32 million (through the International Finance Corporation, IFC) over the first five years since privatization, with the funds allocated for track and rolling stock improvements by KRL and URL. However, the World Bank has suspended disbursement of the loan, stating that institutional reform by KRL and URL has not been effectively executed. However, The German government has pledged US\$80 million (of an estimated requirement of US\$200 million) to assist achievement of the management goals of KRC and URC by adding to the sum already pledged by the World Bank. Other development partners including AfDB waiting to see what outcomes will materialize from the World Bank’s assistance for institutional reform and operational improvements, although it is understood the railways rehabilitation and development program are justifiable.

However, it is also argued that it will quite some time to see any tangible outcomes tangible. The EU has aggressively assisted development of the railway corridor by rehabilitating bridges over the Nile River, constructing major drainage culverts for railway lines, and installing new track on the Kampala–Malaba section. The Government of China is looking into possibly undertaking a study of the feasibility of upgrading to standard gauge along the section Mombasa–Nairobi section.¹⁶ In addition, the World Bank is undertaking a study of rehabilitation of the 350 km line of Tororo–Gulu (which has since ceased service), to put the section into service by URC.

The Central Corridor (Tanzania Railways, the Ferry Service on Lake Victoria): The World Bank has pledged a sum of US\$33 million loan (through the International Development Association, IDA) for track rehabilitation and a US\$44 million loan (through IFC) for capital rolling stock repairs. However, the World Bank is apprehensive of insufficiency in the amount of loan, since railway infrastructure deteriorated during the time period between bidding to commencement by the privatized operator. At the same time, the World Bank considers that GoT needs to provide some subsidies to TRL. As stated earlier, the World Bank has committed to fund rehabilitation of URC’s wagon-ferry, but some time will be required before the repair work is commenced. On the other hand, AfDB is undertaking a feasibility study for rehabilitating the Isaka–Kigali–Bujumbura line, which is proposed as an extension of the Central Railway Corridor. It is estimated that the extension will cost some US\$1 billion.

¹⁶ Interview with KRC during the field survey.

However, the development partner community has not shown a positive view toward this project, especially since TRL has not been managing well even with the operations on its existing lines.

The Other Railway Lines: As mentioned, the TAZARA line was developed with the assistance of China, which has continued to provide technical assistance. For instance, long-term capacity strengthening training for about 40 TAZARA technicians/engineers over a six-month period is held once every in three to four years in China, where they receive technical skills training for maintenance and improvements in the fields of mechanical engineering, civil engineering, and communications technologies.

When privatization of TAZARA operation was initially committed, the World Bank had the intention of assisting the privatization of TAZARA. It is understood that thereafter GoT and the Government of China agreed to give priority to a Chinese enterprise in TAZARA privatization, considering that GoT has yet to fully repay the Chinese loan of US\$500 million for TAZARA railway development. However, the World Bank still sees assistance for GoT with respect to the privatization contract as a possibility, although it is considered difficult for it to provide direct assistance to the private railway operating entity under the restrictive conditions agreed by the governments.

(3) Country/Regional Community Development Strategy

Overview: All African countries have agreed to adopt standard gauge. Among the Eastern African countries, Kenya, Uganda, and Tanzania, the countries with railway infrastructure, have proceeded with uniform adoption of standard gauge, while Sudan, Burundi, Rwanda, and DRC have planned to extend railway lines further inland. The inland extension issue is much debated among the concerned countries. The EAC railways master plan project undertaken by the EAC proposes economically efficient transport capacity strengthening by increasing operating speeds through rehabilitation and repair of existing track, rather than unified adoption of standard gauge.

Kenya: KRC is carrying out a line modernization program. It proposes unified adoption of standard gauge on all track across East Africa by 2050, in order to increase transport capacity. Proposed high-priority lines include the Mombasa–Malaba–Kampala Line, which connects Kenya and Uganda, and the Nakuru–Kisumu Line. The modernization is to treble existing transport capacity. A new railway line connecting the Kenyan Northern port of Lamu with Juba in southern Sudan is envisaged (see Figure 3.1.7).

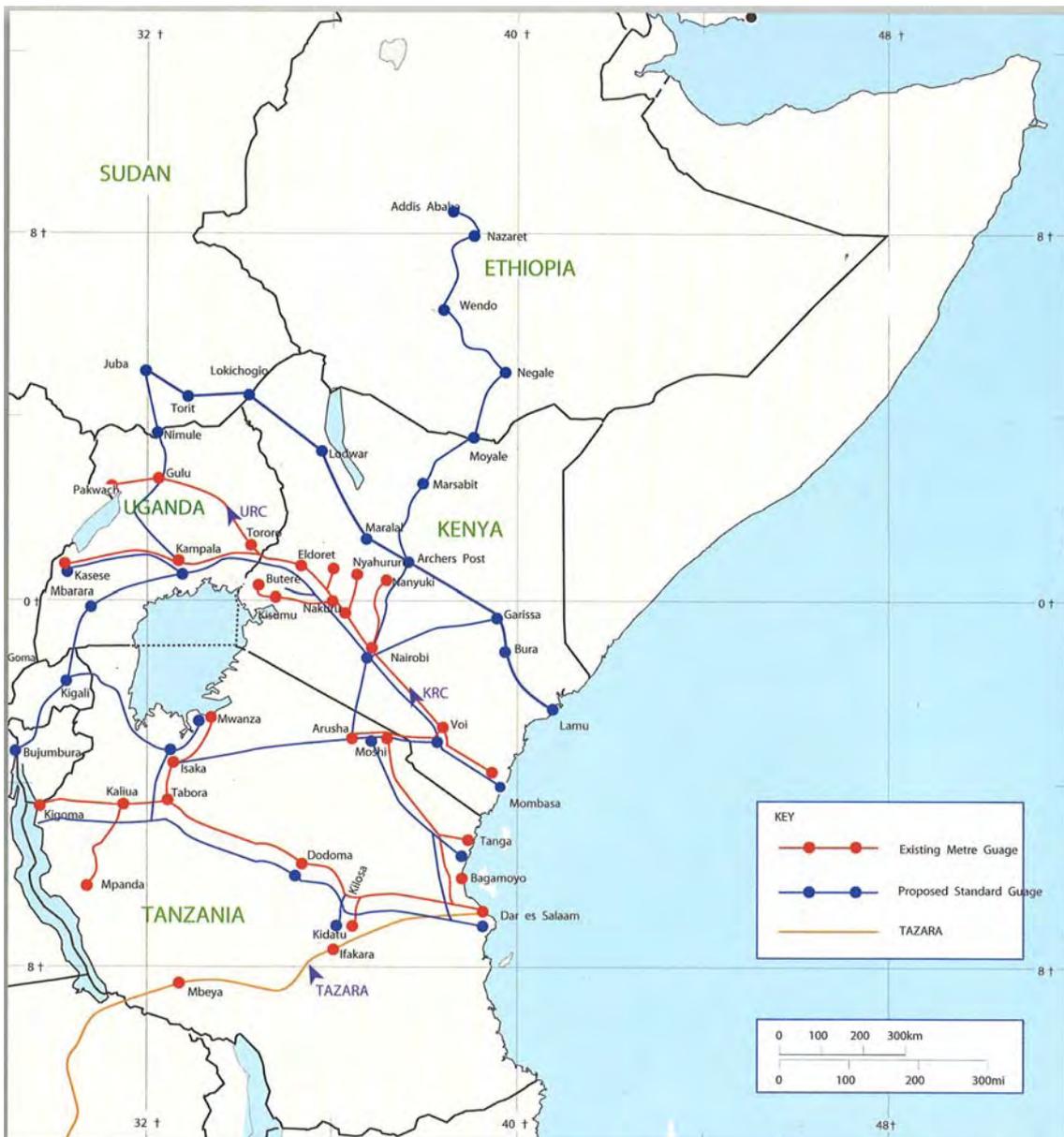
Uganda: Uganda has been aggressive in extending railway lines toward its neighboring landlocked countries. For example, it is reviewing a possible extension to Kigali and to Bujumbura. Also, with the rapid increase in trade volume with the Sudan, it sees it as critically important to extend the Gulu–Nimule Line towards Juba in southern Sudan.

Tanzania: Among the the existing RAHCO/TRL lines identified to be urgently rehabilitated is a 22 km Makutupora–Saranda section of the Tabora–Todoma Line. In addition, an extension of the RAHCO/TRL lines towards Rwanda/Burundi is being considered for extension of the Central Corridor. With the assistance of AfDB, a feasibility study on extending the existing line from Isaka toward Kigali and Bujumbura is underway. A new line connecting Arusha with Musoma is also envisaged by RAHCO/TRL. Improving the Inland Container Depot s (ICD) at major inter-modal connecting points of roads and railways is also planned. Two new lines are envisaged for construction in order to promote the mining of iron and coal Liganga and

Mchuchuma; these include options of a southern Tanzania route and a route along Lake Tanganyika (see Figure 3.1.8)

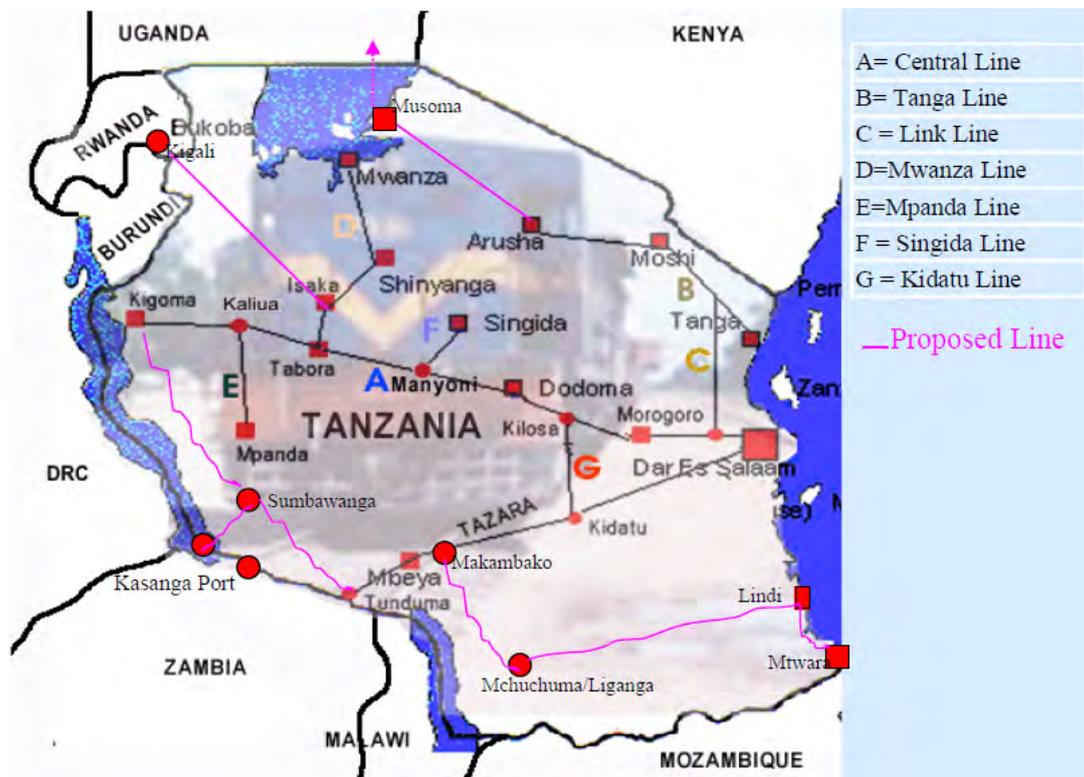
EAC: The EAC has been undertaking the East African Railways Master Plan Study, for which a (draft) final report was prepared in June 2008 and distributed to the respective railway administrations. However, as of this writing, EAC has not officially approved the report. As mentioned earlier, the draft final report proposes increasing railway traffic capacity through various measures for enhancing operating speed without resorting to a change in track gauge. The report also envisages an East African Railways network plan including the introduction of new lines compliant with the new standards for landlocked countries. It is likely that the proposal will be adopted to provide the “big picture” for the subregion’s railway development.

NCTTCA: NCTTCA is undertaking surveys of the present situation of the Northern Railway Corridor, assessing the necessity for track rehabilitation (Figure 3.1.3). In view of the pressing need to connect landlocked inland neighboring countries, through railways, with Mombasa port, NCTTCA has included two components into the Northern Railways Corridor development plan: (i) rehabilitation of the Kampala–Kasese line, which has suspended service, and (ii) construction of a new Kakase–eastern DRC line. NCTTCA ‘s future concept also includes two new lines linking to the Northern Railways Corridor, including a new line destined to serve Kigali through Bihanga and Mbarara in western Uganda, and a new line connecting Kigali with Bujumbura.



Source: KRC, Planning for the future of the railways

Figure 3.1.7 KRC's Railway Development Plan (toward 2050)



Source: Ministry of Infrastructure Development, Tanzania, TIPS, Phase I, Main Report

**Figure 3.1.8 Tanzania's Railway Development Plan
(Ministry of Infrastructure Development, Tanzania)**



Source: EAC, Draft Feasibility Study, The East African Railways Master Plan Study, 2008

Figure 3.1.9 Proposed EAC Railway Network Plan

3.1.3 Ports

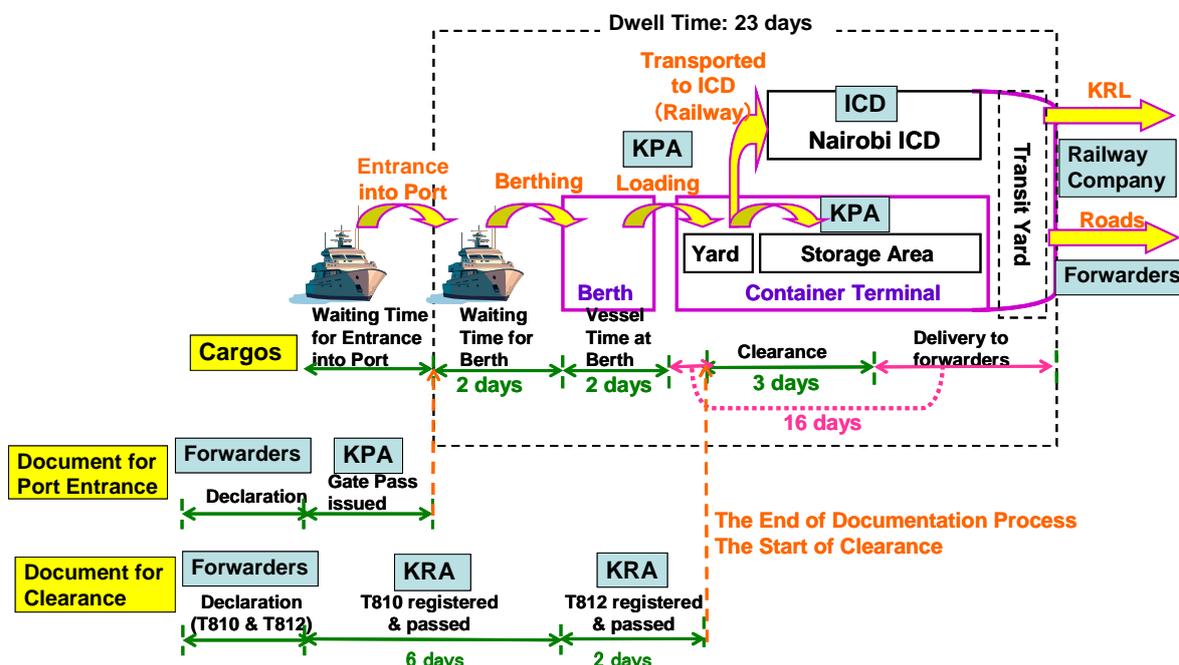
(1) Current systems

Mombasa Port: Mombasa Port serves as a hub of the Northern Transport Corridor, and is at present the only port engaged in international trade in Kenya.

It represents the largest port in East Africa, serving as the world’s gateway to Kenya, Uganda, Rwanda, Burundi, the eastern part of the DRC, southern Sudan, and northern Tanzania. The port has six berths with a total cumulative length of 3,044 m, with berth draft between 9.4–10.3 m,

and water depths of 7.0–13.4 m).¹⁷ The port is endowed with natural topography features that do not require regular dredging. The port is also relatively well furnished with necessary equipment and facilities, compared with those other international ports in the subregion. However, recent introduction of progressively larger container vessels and rapid growth in container freight volumes (see Figure 3.1.5), driven by the growth of the (sub)regional economy and trade, has created several bottlenecks, e.g., insufficient water depths to accommodate vessels in excess of 30,000 deadweight tonnage (DWT); a storage yard width not compatible with the volume of container cargo handled, which causes delays in processing procedures.¹⁸ Average cargo dwell time at the port amounted to 23 days in 2007, a consequence of severe congestion at the container terminal due to increases in cargo volumes (see Figure 3.1.5). In response to the prevailing circumstances, the port administration has opened the port for operation and forms processing round-the-clock, although few logistics operating companies have availed of the night services so far, as they are apprehensive of the security in the port and port-peripheral areas. In particular, limited lighting creates an insecure port environment and makes the handling and accepting of freight at night very difficult.

Kenya Port Authority (KPA) inspects and controls cargo transiting Mombasa Port, while customs inspection is undertaken by the Kenya Revenue Authority (KRA). These authorities maintain relatively good governance and are considered less corrupt than the corresponding authorities in neighboring countries. However, document inspection conducted independently by both KPA and KRA increase processing and cargo dwell times. In particular, long cargo dwell times have resulted since incoming vessels are allowed to enter berth before customs clearance (see Figure 3.1.10). It is urgently required to expand port facilities, improve efficiency in port procedures and institutions, and improve security at night.



Source: The Study Team

Figure 3.1.10 A Schematic Procedural Flow for Transit Containers at Mombasa Port

¹⁷ JBIC, Final Report on Project Formation Study on Mombasa Port Container Terminal Expansion, 2006; and Port and Terminals Guide 2007–2008, Lloyd’s, 2007

¹⁸ JBIC, Final Report on Project Formation Study on Mombasa Port Container Terminal Expansion, 2006

Dar es Salaam Port: Dar es Salaam Port is the largest cargo-handling port among the four international ports in Tanzania.¹⁹ The port is a hub of the Central Corridor, serving as a gateway to international trade, through which export and import goods are hauled not only to/from domestic Tanzania, but also to/from Zambia, Burundi, and Rwanda. Dar es Salaam Port also handles, although lesser volumes, of cargo for Malawi, Uganda, Zimbabwe, and the eastern DRC. Dar es Salaam Port has 11 berths with a total berth length of 1,515 m and berth drafts of 9.1–12.2 m.²⁰ The port requires regular dredging. The three berths with deeper water depths are dedicated to containers (see Photo 3.1.4), while the other berths are deployed for handling bulk and general cargo, as well as cargo loaded/unloaded from ro-ro (roll-on, roll-off) vessels.

With the rapid growth in freight volume handled by Dar es Salaam Port, in particular of containerized freight, the port is heavily congested, similar to the case Mombasa Port. As of 2008, average container cargo dwell time at Dar es Salaam was 26 days, while that of transit container cargo was 35 days. In particular, cross-border cargo, especially bound for Zambia and DRC, requires a longer time for clearance, and the problem is compounded by delays in the dispatch of cargo on backhaul trucks services, which results in increased cargo dwell time at the port.

Regarding port management and the institution of port controls, it is noticeable that many entities are engaged in the port operation and control process. TICTS (Tanzania International Container Terminal Services Ltd.) undertakes container handling and operation, since has been privatized since 2000. TICTS unloads cargo from container vessels harbored at the three container berths, and transport cargo within the container yard. At berth 8, which serves containers and general cargo, TICTS handles containers and the Tanzania Ports Authority (TPA) handles the general cargo. However, berth 8 will be dedicated to container operations in 2009, operated solely by TICTS. The other seven berths are operated by TPA. Customs cargo inspection, which is a part of TRA's responsibility, is subcontracted to TISCAN Ltd. (TISCAN). Therefore, customs application has made the procedure rather complex, with cargo inspected only after a sequence of document submissions by a freight forwarding company (requiring about 7 days), issuance of a commodity classification document by TISCAN (about 3 days), application to TRA (1–2 days), and the payment of taxes and fees by a logistics company (1–2 days).

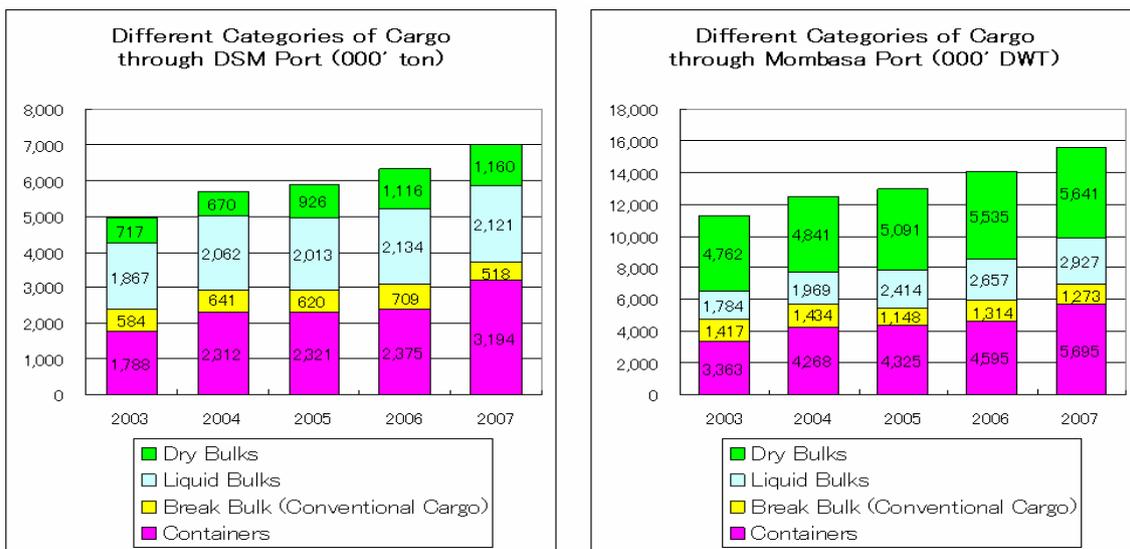
¹⁹ Dar es Salaam Port, Tanga Port, Mtwara Port, and Zanzibar Port.

²⁰ The World Bank, Tanzania Port Master Plan, Interim Report; and Port and Terminals Guide 2007–2008, Lloyd's, 2007.



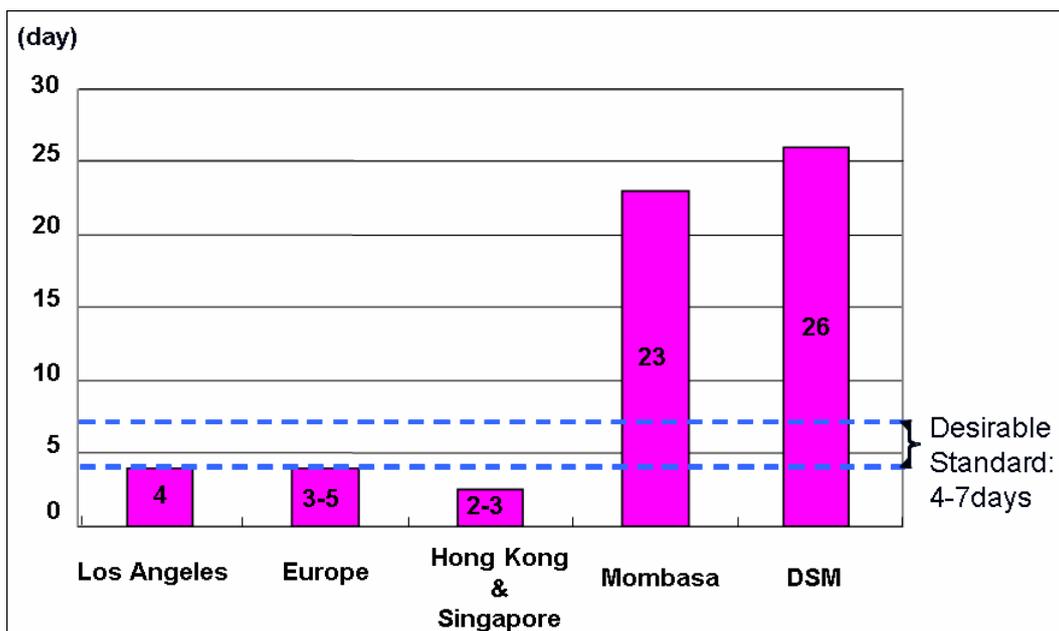
Source: Tanzania Port Authority

Photo 3.1.4 Container Terminal at Dar es Salaam Port



Source: Compiled from statistics of TANCOT House (2008), Tanzania Port Authority (2008) and Kenya Port Authority (2007)

Figure 3.1.11 Trend of Cargo Handling Volume by Category of Cargo: Mombasa Port and Dar es Salaam Port



Source: The Study Team

Figure 3.1.12 Average Vessel Dwell Time at Various Ports

(2) Improvement Projects by Development Partners

Mombasa Port: At present, a container terminal expansion project is ongoing with the assistance of JICA, which completion scheduled for 2012. At the same time, the World Bank EATTFP is assisting port security strengthening and a cargo electronic tracking system targeting cargo transiting the Northern Transport Corridor.

The JICA-assisted Mombasa Port container terminal expansion will construct four new container berths with a water depth of 11–15 m, sufficient to accommodate fourth generation container ships with a capacity of 4,600 TEU and 60,000 DWT. These four additional berths will add annual cargo handling capacity of 1.1 million TEUs. The project’s container terminal strengthening includes new berths additions, construction of new container yards and expansion of existing yards, new loading/unloading facilities, and construction of access roads. The project will also assist KPA in privatizing new container terminal operation including assistance with selection of the operator. The project is attracting attention from the neighboring inland countries since it will reduce traffic congestion at Mombasa Port.

In addition, the security strengthening component of the World Bank project includes capacity building and integration of monitoring and communications system. Although efforts have been made to establish a Port Community Based Cargo Tracking System (PCBS), there has been some difficulty in sharing data and information on process and forms among KPA, KRA, logistics operators, and other agencies. Accordingly, additional efforts are required to establish an integrated information control and management to facilitate transport along the Northern Corridor; a cargo tracking system developed by KRA will be a step in this direction.

Dar es Salaam Port and other Tanzanian Ports: In addition to assisting Mombasa Port through the EATTFP, the World Bank is assisting Dar es Salaam Port via the project as well as other Tanzanian ports, e.g., through the Tanzania Port Master Plan, which has set out future directions for the country’s port sector. EATTP program components include security training targeting officers at Dar es Salaam and Tanga Ports, introduction of CCTV at Dar es Salaam

Port, and purchase of patrol boats and vehicles for TPA. In addition, the Japan External Trade Organization has been undertaking an Urgent Needs Survey of the Mtwara Port Expansion since December 2008; the study is assessing the need for further study assisted by JICA as well as for infrastructural improvements through grant aid or a yen loan.

(3) Country/Regional Community Development Strategy

Kenya: KPA has been carrying out container terminal improvements at Mombasa, and KPA is also aggressively seeking to enhance the link between the port and Northern Corridor land transport routes. In addition, the Government of Kenya aims to privatize the operation of Mombasa Port, pursuing a “landlord” port model (see Chapter 4). Also, KPA envisages developing a second international trade port, with Lamu located along Kenya’s northeastern coast considered a candidate site, although a corridor would need to be developed to provide an inland connection. Also envisioned is a railway line connecting a port at Lamu with the Sudan and Ethiopia, although as yet no external funding for these projects has been identified. There also is a plan to establish a pipeline connecting an oil terminal at Lamu with inland points.

Tanzania: TPA is making efforts to expand container handling capacity through various measures to address the prevailing congestion at Dar es Salaam Port’s container terminal. Though a traditional approach, TPA has secured additional space for container operations capable of handling 8,000 TEUs, by moving automotive vehicle cargo outside of the port area. Also, TPA reached an agreement with TICTS, in the short term, to handle container cargos unloaded from smaller vessels at the general cargo terminal. In addition, TPA is with its own funds conducting a feasibility study for a new container terminal with two berths with an annual container handling capacity of 650,000 TEUs); TPA has already requested the Chinese Government for financing for the new container terminal. There is also a plan to establish a dry port for the handling of transit cargo at Kisarawe southwest of Dar es Salaam. The two ICDs at Dar es Salaam Port do not operate efficiently together as they are managed by independent operators. Establishing a new ICD at Kisarawe, to be managed by an existing or new private operator, is believed to provide an efficient connection with TRL, TAZARA , and the road corridors. Further, the potential connection of the port and an ICD via a single track railway is under consideration, with assistance potentially either from JICA or the World Bank.²¹ The option of operating the port on a 24-hour basis has been considered, but it has not yet been undertaken since at present the port (e.g., institutions, equipment) is not designed for nighttime operation.

On the other hand, it is argued that there is a necessity of eventually developing a large-scale alternative to Dar es Salaam Port, which suffers from chronic traffic congestion and insufficient space. Candidate ports are being selected by the World Bank assisted master plan study of Tanzanian ports. The study’s interim report identified Bagamayo and Tanga Ports as priorities. However, developing either one of these two is seen to entail large-scale dredging; large investment would also required to establish infrastructure to connect these ports with railway and road connections. Of the two, Bagamoyo has been favored by the Government; an official request for development assistance has been made of China, although details of financing (from China or others) are not yet known.

²¹ An estimated US\$100–200 million is required to develop an ICD at Kisarawe for which the GoT is looking for a private operator under a PPP scheme. The World Bank sees the possibility for assistance for a build-operate-transfer (BOT) contract with a private operator after the completion of a feasibility study. However, necessary costs not to be covered by the private operator’s investment could possibly be covered by international development partners. (Source: Interview with the World Bank, Tanzania.)

In addition, economic development zones in the periphery of major port areas are envisaged, using land secured by GoT, at Mtwara, Bagamayo, and Tanga. As noted with respect to Mtwara port, a JETRO study is underway to formulate a development project for possible Japanese financial assistance.

3.1.4 Facilities for Transit Cargo

(1) Current Systems

Overview: Representative of the facilities for transit cargo are border posts, which serve the exit/entry of passengers and cargo between neighboring countries. At most borders in the subregion at present, the respective countries' Customs authorities on each side inspect cargo and process cargo entry and exit procedures. Generally, trucks take considerable time to cross borders - there are instances of long queues by trucks waiting for the border crossing process due to insufficient Customs staff and/or insufficient facilities. Relative to elsewhere in Sub-Saharan Africa, border posts in East Africa are relatively well furnished, with border crossing times typically "only" 1–2 days, and as has been noted, One-Stop Border Post (OSBP) projects are being undertaken at many border crossings in the Subregion; however, transport operators still face the risk of possible border crossing delays of 3–7 days due to the cumbersome handling of documents²² and forms to be submitted to the Customs authorities and problems related to the requirement for bond guarantees.²³

Following international practice, in East Africa customs duties are not imposed on transit freight; rather, the duties are paid at the destination country where customs clearance is conducted, usually at an ICD. However, cargo bound for Zambia, for example, transits East Africa, and it is mandatory to have customs clearance at the border crossing point between Tanzania and Zambia, which takes an average of three days inclusive of queuing and clearance.²⁴

Other border-crossing facilities include weighbridges and police checkpoints. Normally weighbridges are used to control overloaded vehicles by measuring loaded weight. However, in East Africa weighbridges are installed at many points along the major international corridors to, among other things, prevent illegal sales of goods and/or the loading additional freight in the transit countries. However, facilities and equipment installed at weighbridge stations are insufficient, leading to long queues of trucks with waiting times of 5 hours or more. However, a problem is that different weights are sometimes recorded for the same truck with the same cargo due to inaccurate measurements by manually operated weigh scales.

Northern Corridor: Implementation of an OSBP at Malaba (see Photo 3.1.5), one of the important border crossing points along the Northern Corridor, has progressed the farthest in East Africa. While it previously required more than two days for border crossing at Malaba, this has been reduced to 0.5–1.0 hours for rail freight since the establishment of the first railway-dedicated OSBP in the subregion. Regarding road freight transport, border clearance takes only 6–8 hours due to recent developments (e.g., some provision of customs facilities,

²² Trucks are mandated to prepare the necessary documents and forms in advance of customs clearance at the border. Since any failures in the forms result in the applicant being denied permission to cross the border, it is necessary for the applicant have the forms corrected (usually in the home office) and then return to the border.

²³ These bonds are to guarantee of duties that would be owed if transit cargo "leaks" into the national economy of the transit country. Such guarantees are often undertaken through bank deposit or cash payments, although modality of deposit varies by country.

²⁴ The Tunduma (Tanzania)/Nakonde (Zambia) border crossing has the longest delays in East Africa, due in part to the slow clearance of freight on the Zambian side.

round-the-clock operation, joint customs clearance for designated goods); further, the road freight border checkpoint at Malaba is progressing towards full functional OSBP implementation. At the Katuna border, a gateway to Rwanda, border crossing takes only two hours, although this is due in part to the relatively low traffic volumes at this border.

Since the Northern Corridor has many weighbridges and police checkpoints, they contribute significantly to delay in transport. While the weighbridge clearance time in general is going to be reduced, it still takes more than 5 hours for some stations like the Mariakani one.



Source: The Study Team

Photo 3.1.5 The Malaba Border Crossing (between Kenya and Uganda)

Central Corridor: Major (Tanzanian) border crossing points along the Central Corridor include Kobelo with Burundi, Rusumo with Rwanda, and Mutukula with Uganda. Time required to cross at these points is generally within one day. The World Bank has included Mutukula as an OSBP site with the EATTFP. While bilateral talks between Uganda and Tanzania are underway regarding this border crossing, detailed design for the site has not yet been completed due to a delay in EATTFP implementation. Moreover, OSBP development at Mutukula is accorded the lowest priority and despite its inclusion in the EATTFP there is some uncertainty as to its construction (according to the Tanzania and Uganda offices of the World Bank). Issues related to weighbridge and police checkpoints along the Central Corridor are not considered as serious as along the Northern Corridor (due to lower traffic volumes and fewer weighbridges per unit length), although the problem along the Central Corridor also requires a solution, especially along the Dar es Salaam- Morogoro section, which has relatively heavy traffic as it is also part of the Tazara Corridor (e.g., waiting times at the Kibaha weighbridge station have been observed as more than three hours).

(2) Projects Assisted by Development Partners

Cross-border transport infrastructure should be developed from a more comprehensive regional viewpoint rather than focusing on corridor development per se. The World Bank has assisted the cross-border transport infrastructure through the EATTFP, through which it is to implement OSBPs at seven major international border crossings in East Africa (see Table 3.1.7). However,

implementation of the project is behind schedule since consensus building (part of the World Bank's "Coordinated Parallel Approach") among participating countries has taken some time; completion by November 2009 is not considered likely. Also, because of rapid increased in construction costs over the two years since project initiation, the World Bank considers that implementation of all planned OSBPs may be difficult to materialize.²⁵ The EATTFP also includes: (i) introduction of a Vehicle Overload Management System (VOMS), (ii) development and rehabilitation of weighbridges and other cross-border transport facilities and systems improvements.

Related initiatives supported by development partners include (i) USAID assistance for a feasibility study of OSBP implementation at major national borders in the East Africa in 2004, construction of the Malaba border crossing facility (Kenyan side), and implementation of a common bond guarantee system to be deployed by COMESA member states; (ii) EU assistance for border-crossing facilities at many international borders as early as 1990–96, including the Malaba border facility (Kenyan side), and the Isebaya/Sirali border facility; and (iii) JICA assistance for OSBP implementation, including a commitment to implementing OSBPs at the Namanga border between Kenya and Tanzania, and capacity strengthening of the Kenya, Uganda, and Tanzania Revenue Authorities. In particular, an interface system developed with JICA assistance, which is currently being introduced at Namanga (Kenya/Tanzania) will eventually serve as a model for interoperability among OSBP systems throughout the region (e.g., JICA plans to provide necessary equipment to facilitate Malaba OSBP operation).

Table 3.1.7 OSBP Development Priorities under the EATTFP

Border	Country	Priority of WB Kenya	Priority of WB Uganda	Priority of WB Tanzania
Malaba	Kenya/Uganda	1	1	-
Busia	Kenya/Uganda	2	2	-
Lunga Lunga/Horo Horo	Kenya/Tanzania	2	-	1
Isebania/ Sirari	Kenya/Tanzania	4	-	3
Taveta/ Holili	Kenya/Tanzania	4	-	2
Gatuna/ Katuna	Uganda/Rwanda	-	3	-
Mutukula	Tanzania/Uganda	-	4	4

Note: Prioritized in accordance with the views expressed at respective country offices of the World Bank.

Source: Interviews with the World Bank (WB) offices at Kenya, Tanzania, and Uganda

(3) Country/Regional Community Development Strategy

As indicated by the EATTFP initiative, the East African countries have agreed to cooperate to implement OSBPs. The EAC is also supporting the implementation of OSBPs. Indeed, there has been some dissatisfaction with the delay in implementing OSBPs under the EATTFP. The EAC as well as COMESA plan to provide cross-border transport hardware and related measures, along with associated information technology (IT) systems; specific aspects of this assistance include harmonization and standardization of maximum allowable axle loads, adoption of a common bond guarantee and common vehicle insurance system, and efforts to enhance interoperability among computer subsystems.

²⁵ Targeted OSBPs to be constructed at international boundaries under the EATTFP will be finalized based on prioritization (as shown in the Table 3.1.7) after completion of the detailed design and construction cost estimates of the respective candidate OSBPs. The World Bank's Kenya Office commented that it may be difficult to implement OSBPs at the Isebania/Sirari border between Kenya and Tanzania and the Mutukula border between Tanzania and Uganda.

3.2 Analysis of Transport Time and Cost

As elsewhere in Sub-Saharan Africa, in East Africa relatively long freight transport times and high transport costs pose bottlenecks to economic growth, trade, and private capital investment promotion. With a view to identifying causes for these longer transport times and high transport costs, the study analyzed transport time and costs in the Subregion in some depth. Addressed for analysis were imported freight containers (40 ft, i.e., about 12 meters), the use of which has grown rapidly in East Africa. Both road and railway freight transported along the Northern and Central Corridors have been assessed, with the results presented in this section.

3.2.1 Estimation of Transport Time and Cost

Initially, freight traffic routes with designated origins and destinations were assessed. Transport times along designated routes were reviewed by section from available study reports and field interviews with relevant authorities and institutions. In instances where multiple data points were available for particular sections, study results were carefully assessed and the data deemed most reliable was used. When no information was available from previous studies, the Study Team relied on data obtained from interviews. Time spent at port, on railways, and on roads was assessed. It was assumed that customs clearance was undertaken at an inland container/clearance depot (ICD) near the destination point considering that customs clearance of East African transit freight is generally undertaken at ICDs rather than at the border post of the destination country. Further, truck operating time was assumed to be 12 hours a day, which reflects standard practice observed in East Africa, considering that trucks are generally not operated at night for security reasons. The cost estimation methodology is detailed by respective transport mode below.

(1) The Northern Corridor Road Routes

Freight traffic routes along the Northern Corridor are assumed to originate from Mombasa port with a destination of either Kampala (Uganda) or Kigali (Rwanda). Freight transport time survey results²⁶ are presented in Table 3.2.1 and Figure 3.2.1.

Table 3.2.1 Freight Transport Time through the Northern Corridor (Mombasa Port–Kampala/Kigali) by a 40-ft Container

Freight Destination (Originating from Mombasa Port)	Kampala	Kigali
Distance (km)	1,119	1,683
Number of Borders	1	2
Port Dwell Time (days) ²⁷	14 ²⁸	12
Land Transport Time (days) ²⁹	5	7
Driving Time (hours)	41	62
Border Crossing Time (hours)	8	10
Weighbridge Crossing Time (hours)	11	12

²⁶ Here total transport time is defined as the time spent from cargo entry into the port up to completion of customs clearance at the ICD. This definition also applies to other routes.

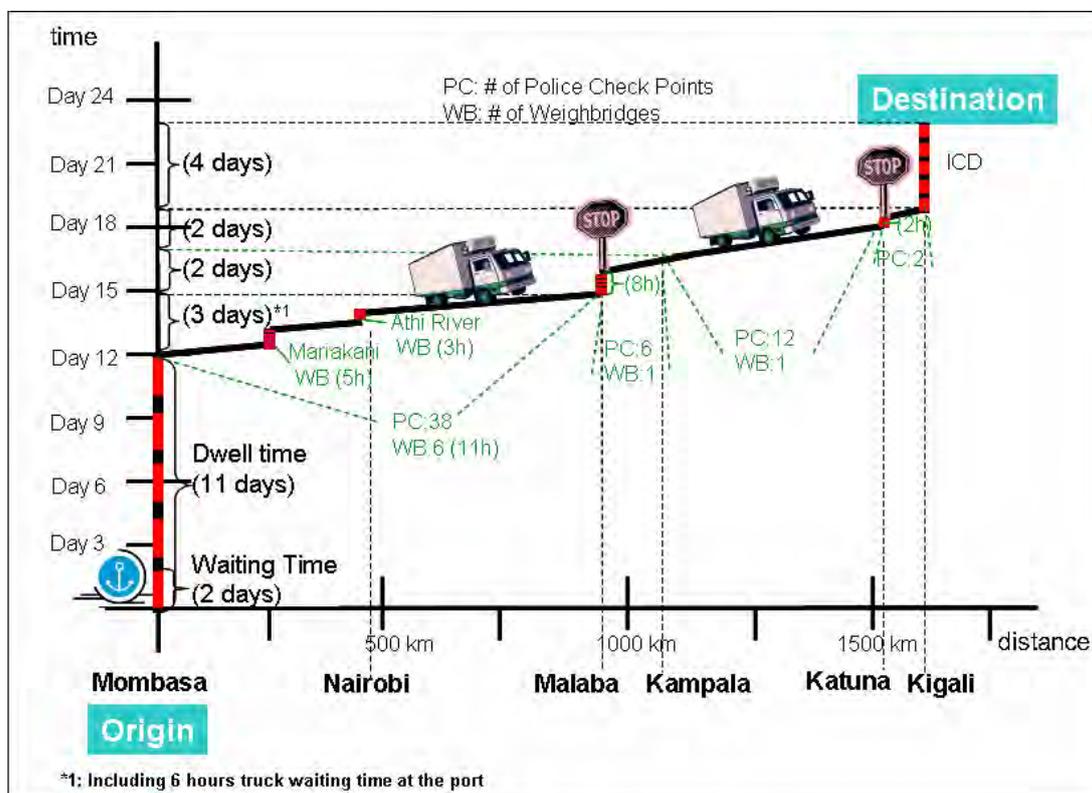
²⁷ Port dwell time includes time elapsed due to delay(s) in receipt by freight forwarding and logistics agents, in addition to time spent for port clearance procedures.

²⁸ The average dwell time of transit freight at Mombasa Port, bound for Kampala, is 21.6 days, according to KPA, 2008, Report of the Container Census 2008. Dwell time for road traffic freight is estimated at 14 days, by assuming the modal share of Uganda-bound freight and 51 days of port dwell time for railway traffic, which is calculated as the sum of 2 days of berth waiting time, 9 days for port administration procedures, and 40 days for railway waiting time, inferred from EATTFP, 2008, Report on Inspection Tour on Northern Corridor and other reports.

²⁹ The total land transport time is defined as the sum of driving time, border crossing time, and the time spent at weighbridge stations. An hour-to-day conversion was undertaken, assuming truck operations of 12 hours a day.

Freight Destination (Originating from Mombasa Port)	Kampala	Kigali
Clearance Time at ICD (days)	4	4
Total Transport Time (days)	23	23

Source: KPA, 2008, Annual Review and Bulletin of Statistics 2007; EATTFP, 2008, Report on Inspection Tour on Northern Corridor; and KPA, 2008, A Study of the Central Corridor



Source: Compiled from various sources

Figure 3.2.1 Total Road Transport Time for the Mombasa–Kigali Section (for a 40-ft Container)

Based on the transport time survey results, the transport cost and economic costs were estimated, with transport cost defined to include the fixed and variable costs of trucks deployed for freight transport and costs incurred at the port and ICD, as well as backhaul truck operating costs incurred by carrying empty loads (from inland origins to the port), as backhaul freight volume is disproportionately smaller than forward haul volume (from the port to inland destinations). Economic cost is defined to include transport cost and the imputed time value of freight. A local yard occupancy cost of US\$80 per day for a 40-ft container was used to estimate the unit value of time of freight. The methodology for quantifying transport and economic costs are shown below.

Fixed cost of forward truck operation (Tfc1): A recent World Bank publication³⁰ found the fixed operating costs for a truck operating in East Africa to be 0.35 US\$/km.³¹ The fixed operating cost of a truck over a day, Tfc1, may be calculated by the equation below.

³⁰ The World Bank, 2008, Transport Price and Cost in Africa

³¹ Defined as the fixed cost for operating a truck traveling a distance of 1,145 km from Mombasa to Kampala. It includes vehicle capital cost, driver wages, insurance, licensing fee, and other operating costs.

$$\begin{aligned} Tfc1 &= 0.35US\$/km \times 1145km \div 5days \\ &\approx 80US\$/Day \end{aligned} \quad (\text{Equation 1})$$

Fixed transport cost for a backhaul truck (Tfc2): As a truck's fixed cost is the same both for forward or back hauls, Tfc2 was defined as;

$$Tfc1 = Tfc2 \approx 80US\$/Day \quad (\text{Equation 2})$$

Forward haul truck's variable transport cost (Tvc1): The World Bank (2008) defines the variable cost of a loaded truck to be 0.98 US\$/km, which was used as variable transport cost of a forward truck operation³²:

$$Tvc1 = 0.98US\$/km \quad (\text{Equation 3})$$

Backhaul truck variable cost (Tvc2): In estimating the variable cost per km for an empty backhaul truck operation, the following equation was used.

$$Tvc2 = Tvc_m + Tvcw_{\min} \quad (\text{Equation 4})$$

Where,

$$\left\{ \begin{array}{l} Tvcw : \text{ per km fuel cost} \\ Tvc_m : \text{ per km variable cost independent of } \textit{payload} \text{ (per km variable cost except fuel cost)} \\ Tvcw_{\min} : \text{ per km fuel cost for empty load} \\ Tvcw_{\max} : \text{ per km fuel cost for a full load (100\%)} \\ \textit{ful} : \text{ fuel cost per liter} \end{array} \right.$$

Whence, the field collected data gives,

$$\textit{ful} = 1.4US\$/l$$

As was adopted by the World Bank (2008), 0.60l/km was assumed as unit fuel consumption for forward truck operation:

$$\begin{aligned} Tvcw_{\max} &= 1.4US\$/l \times 0.60l/km \\ &= 0.84US\$/km \end{aligned} \quad (\text{Equation 5})$$

Therefore,

$$\begin{aligned} Tvc_m &= Tvc1 - Tvcw_{\max} \\ &= 0.98US\$/km - 0.84US\$/km = 0.14US\$/km \end{aligned} \quad (\text{Equation 6})$$

And, since unit fuel consumption per km for an empty truck operation was assumed to be 0.20/km³³,

$$\begin{aligned} Tvcw_{\min} &= 1.4US\$/l \times 0.20l/km \\ &= 0.28US\$/km \end{aligned} \quad (\text{Equation 7})$$

³² Defined as the variable cost of operating a truck over the distance of 1,145 km from Mombasa to Kampala. It includes maintenance cost as well as fuel cost, the latter based on a unit fuel consumption of 0.60 liters per km/truck.

³³ Adopted as the fuel consumption rate for a commercial vehicle with more than 2,000 kg of maximum payload capacity, as indicated by the Notice #66 (2006), Ministry of Economy and Industry, Japan.

Using the values obtained by Equations 6 and Equation 7, Equation 1 gives:

$$\begin{aligned}
 Tvc2 &= Tvc_m + Tvc_{w_{\min}} \\
 &= 0.14US\$ / km + 0.28US\$ / km \\
 &= 0.42US\$ / km
 \end{aligned}
 \tag{Equation 8}$$

The total transport cost: Total transport cost was defined as the sum of truck operation cost, shipping line costs at the port, port-related costs, and the customs clearance cost. The truck operation cost was calculated as below, using the above-mentioned Tfc1, Tfc2, Tvc1, and Tvc2.

$$\begin{aligned}
 \text{Truck Transport Cost} &= Tfc1 \times \text{forward land transport time} + Tvc1 \times \text{haul distance} \\
 &+ (1 - \text{backhaul load factor}) \\
 &\times (Tfc2 \times \text{backhaul land transport time} + Tvc1 \times \text{haul distance}) \\
 &= 80US\$ \times \text{forward haul land transport time} + 0.98US\$ \times \text{haul distance} \\
 &+ (1 - \text{backhaul load factor}) \\
 &\times (80US\$ \times \text{backhaul land transport time} + 0.42US\$/km \times \text{haul distance})
 \end{aligned}
 \tag{Equation 9}$$

Through field interviews the Study Team found that the same time is required for forward as for backhaul operations.

Economic Cost: Economic cost was defined as the transportation cost added by the value of time for truck freight. The time value of truck freight was taken to be US\$80/day, estimated based on the warehouse cost for a 40-ft container. The economic cost was calculated by the following equation:

$$\text{Economic Cost} = \text{Transport Cost} + US\$80 \times \text{Total Transport Time (days)} \tag{Equation 10}$$

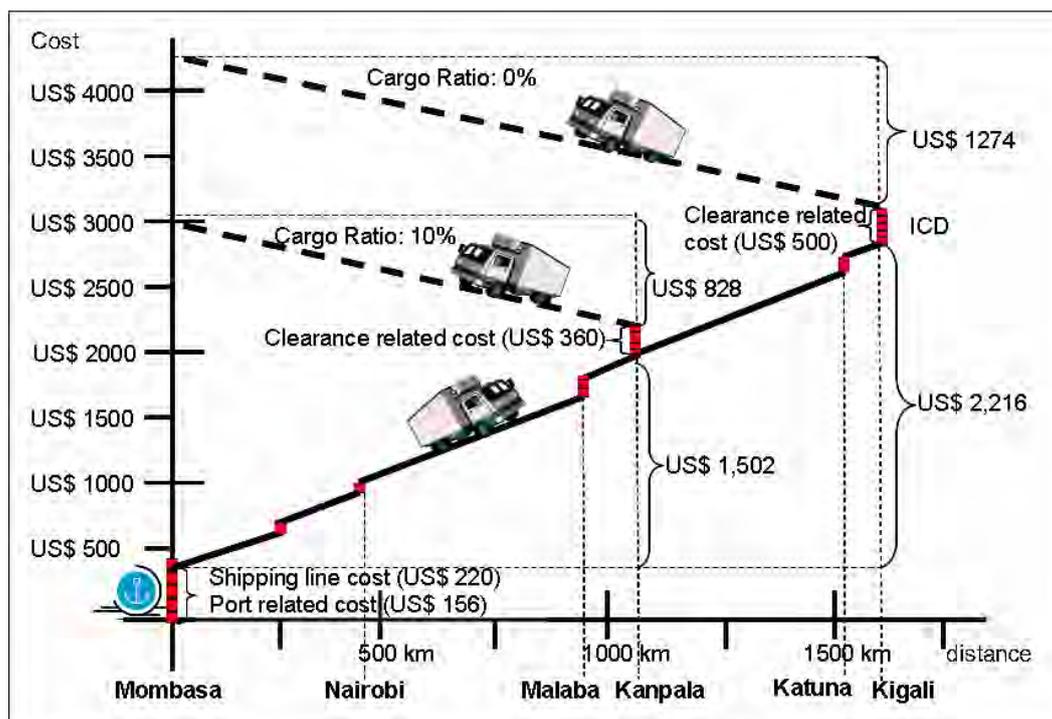
In the above equation, the total transport time was defined as the time spent from cargo entry into the port up to completion of customs clearance at the ICD, i.e., port dwelling time, land transport time, and the clearance time at the ICD.

Table 3.2.2 shows the resultant estimated transport costs and economic costs. The economic cost with a breakdown by transit section is shown in Figure 3.2.2.

Table 3.2.2 Road Transport Costs along the Northern Corridor (Mombasa Port-Kampala/Kigali) for a 40-ft Container

Freight Destination (originating from Mombasa Port)		Kampala	Kigali
Land Transport Time (days)		5	7
Port Dwell Time (days)		14	12
Clearance Time at ICD (day)		4	4
Total Transport Time (days)		23	23
Backhaul Load Factor		10%	0%
Truck Transport Cost (US\$)	Forward	Fixed Cost	400
		Variable Cost	1,097
	Back	Fixed Cost	360
		Variable Cost	423
Shipping Line Costs (US\$)		220	220
Port Related Costs (US\$)		156	156
Customs Clearance Related Costs (US\$)		360	500
Total Transport Cost (US\$)		3,016	4,352
Total Transport Price (US\$) ³⁴		4,416	7,376
Total Economic Cost (US\$)		4,856	6,192

Source: Figures for transport cost, shipping line cost, port-related cost, and customs clearance costs were adapted from KPA, 2008, A Study of the Central Corridor. Other figures are estimates by the Study Team.



Source: Compiled from various sources

Figure 3.2.2 Road Transport Costs along the Northern Corridor (Mombasa Port–Kampala/Kigali) for a 40-ft Container

³⁴ The total transport cost includes all costs incurred from the vessel’s arrival at the port to receipt of freight by the recipient. Shipping line cost, port-related costs, and the customs clearance costs are in addition to the truck transport costs.

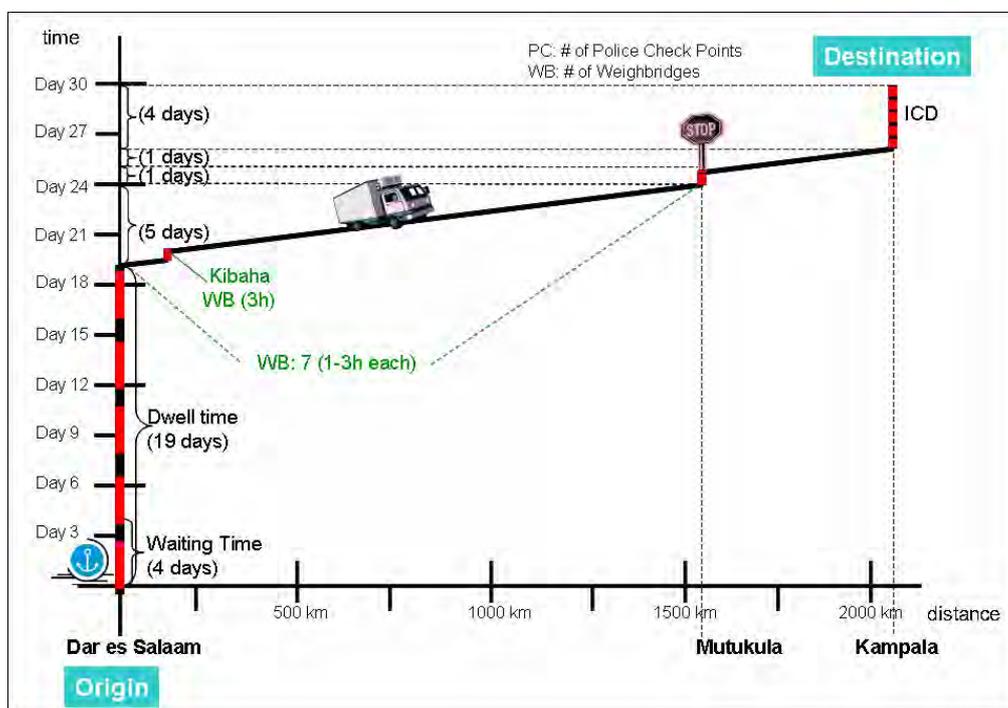
(2) The Central Corridor Road Routes

To analyze the transport cost along the Central Corridor Road routes, transport operations were assumed to originate from Dar es Salaam port with Kampala as the destination. The estimated transportation time is shown in Table 3.2.3 and Figure 3.2.3.

Table 3.2.3 Freight Transport Time for a 40-ft Container through the Central Corridor (Originating from Dar es Salaam Port and Destined for Kampala, Kigali, and Bujumbura)

Destination	Kampala	Kigali	Bujumbura
Distance (km)	1,912	1,546	1,640
Number of Borders to Be Crossed	1	1	1
Port Dwell Time (days) ³⁵	19	26	55
Land Transport Time (days)	7	5	6
Clearance Time at ICD (days)	4	4	4
Total Transport Time (days)	48	55	84

Source: Compiled from data from World Bank, 2008, Tanzania Port Master Plan Inception Report; TPA, 2008, Brief on Dar es Salaam Port; and KPA, 2008, A Study of the Central Corridor



Source: Compiled from various sources

Figure 3.2.3 Freight Transport Time along the Central Corridor (Dar es Salaam Port–Kampala, by a 40-ft Container)

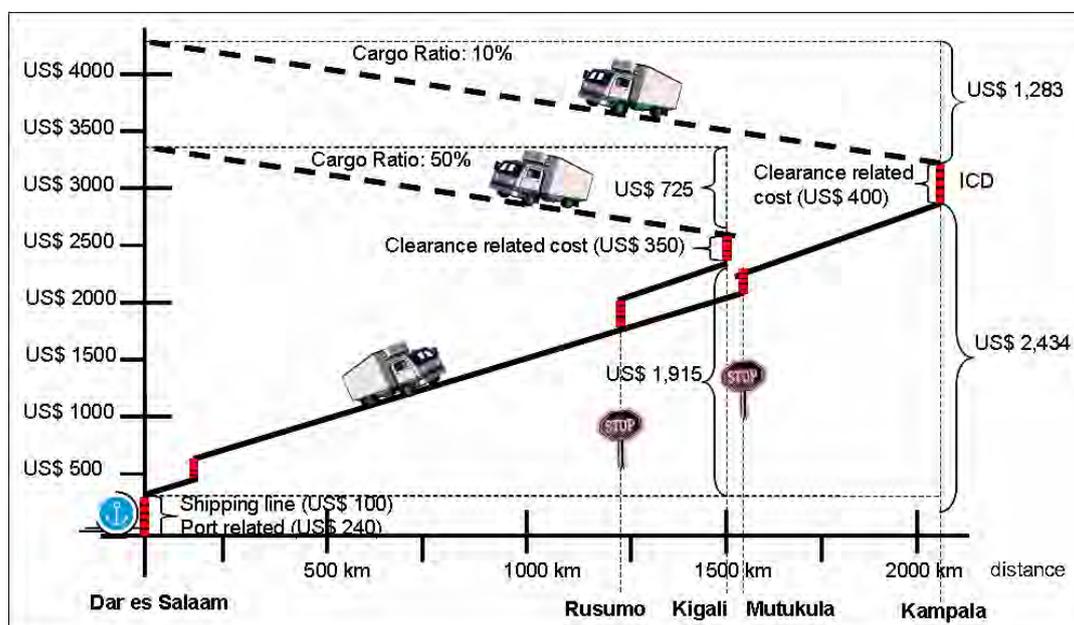
³⁵ This includes extra time spent, e.g., the time elapsed due to freight left over due to delayed pickup by clearance and forwarding agents (CFAs), in addition to actual port-related clearance time, such as the port dwell time observed at Mombasa. While the latest statistics on port dwell time by destination countries are for 2007, as reported in “TPA, 2008, Brief on Dar es Salaam”, an adjusted figure was used instead by updating TPA’s 2007 statistics since field interviews identified a 6-day increase over that reported in the statistics of 2007. Similar to the method applied in the analysis of Northern Corridor transport data, road dwell time was estimated by considering the modal share of container freight by rail and road, and the time required for trains to come to pickup freight.

Transport cost and economic cost were estimated based on the above-described survey of freight transport time. The same methodology and equations used for the Northern Corridor analysis were applied to obtain transport time and economic cost along the Central Corridor. The results are presented in Table 3.2.4 and Figure 3.2.4

Table 3.2.4 Freight Travel Costs for a 40-ft Container along the Central Corridor (Originating from the Dar es Salaam Port, and Destined for Kampala, Kigali, and Bujumbura)

Freight Destination (Originating in the Dar es Salaam Port)			Kampala	Kigali	Bujumbura
Land Transport Time (days)			7	5	6
Port Dwell Time (days)			19	26	55
Clearance Time at an ICD (days)			4	4	4
Total Transport Time (days)			48	55	84
Backhaul Load Ratio			10%	50%	50%
Truck Transport Cost (US\$)	Forward	Fixed Cost	560	400	480
		Variable Cost	1,874	1,515	1,607
	Back	Fixed Cost	504	200	240
		Variable Cost	723	325	344
Shipping Line Costs (US\$)			100	100	100
Port-Related Costs (US\$)			240	240	240
Clearing Related Costs (US\$)			400	350	350
Total Transport Cost (US\$)			4,400	3,130	3,362
Total Transport Price (US\$)			6,640	5,390	5,390
Total Economic Cost (US\$)			8,231	7,509	10,097

Source: Figures for transport cost, shipping line cost, port-related cost, and customs clearance costs were adapted from KPA, 2008, A Study of the Central Corridor. Other figures are estimates by the Study Team.



Source: The Study Team

Figure 3.2.4 Freight Road Transport Costs for a 40-ft Container along the Central Corridor (Originating from Dar es Salaam Port, and Destined for Kigali or Kampala)

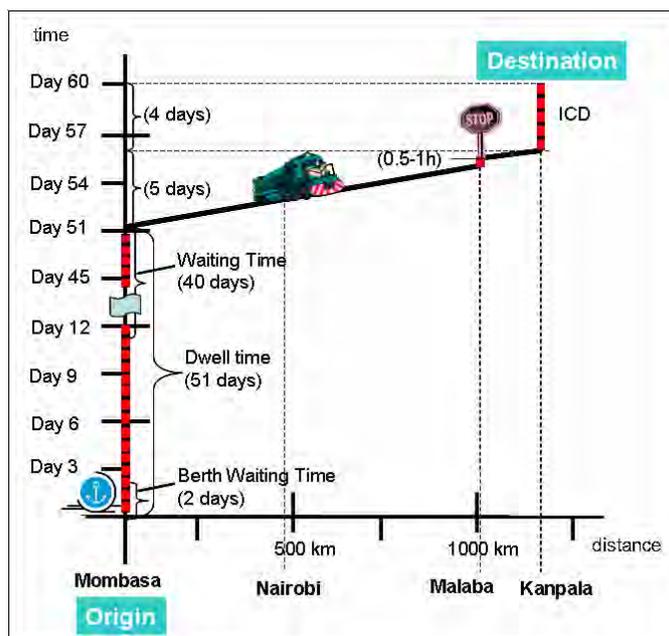
(3) Northern and Central Corridor Railway Routes

For analyses of time and costs along the Northern and Central railway routes, freight traffic was assumed to originate either at Mombasa port or Dar es Salaam port for the Northern Corridor and Central Corridor, respectively, and with (both) routes bound for Kampala. Results for the respective corridors are shown in Table 3.2.5, Figure 3.2.5, and Figure 3.2.6.

Table 3.2.5 Railway Freight Transport Time for a 40-ft Container (Originating from Mombasa Port or Dar es Salaam Port, and Destined for Kampala)

Corridor	Northern Corridor	Central Corridor
Distance (km)	1,119	1,683
Number of Borders to Be Crossed	1	2
Port Dwell Time (days) ³⁶	51	25
Land Transport Time (days) ³⁷	5	8
Railway Transport Time (days)	5 ³⁸	4
Inland Water (Lake Ferry) Transport Time (days) ³⁹	-	4
Clearance Time at ICD (days)	4	4
Total Transport Time (days)	60	37

Source: (i) KPA, 2008, Annual Review and Bulletin of Statistics 2007; (ii) KPA, 2008, A Study of the Central Corridor; (iii) World Bank, 2008, Tanzania Port Master Plan Inception Report; and (iv) Ministry of Works and Transport, Uganda, 2008, Development of the Central Corridor to the Sea



Source: The Study Team

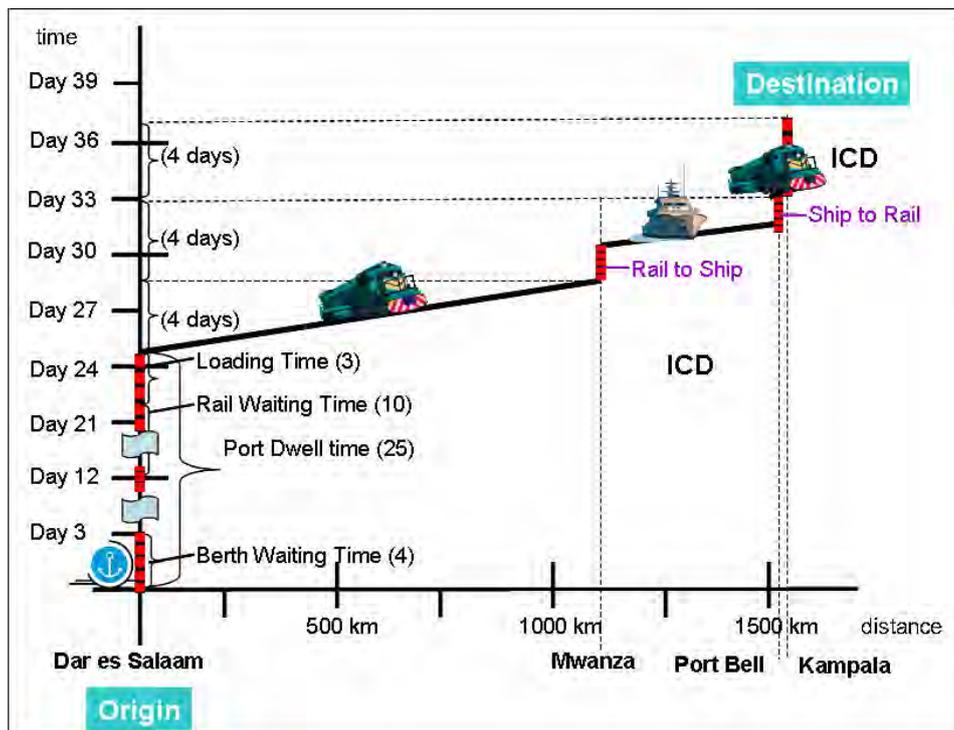
Figure 3.2.5 Railway Freight Transport Time for a 40-ft Container along the Northern Corridor (Originating from Mombasa Port and Destined for Kampala)

³⁶ Port dwell time for railway freight was estimated through the berth wait time, port-related clearance time, waiting time for rail wagons, freight loading time, and data obtained from field interviews.

³⁷ Includes time spent for lake transport.

³⁸ Includes border crossing time (0.5–1 hours) at Malaba.

³⁹ Includes dwell time and transit time between railway and ferry transport.



Source: The Study Team

Figure 3.2.6 Railway Freight Transport Time for a 40-ft Container along the Central Corridor (Originating from Dar es Salaam Port and Destined for Kampala)

Based on the above-described survey of railway freight transport time, the transport cost and the economic costs are estimated. The methodology used to estimate these costs is detailed below.

Fixed railway freight transport cost (R_{fc}): Total annual fixed costs for Kenya Railways,⁴⁰ annual railway freight transport volume,⁴¹ and average daily transport distance were employed to estimate a unit fixed transport cost, which then was applied to Kenya Railways, Uganda Railways, and Tanzania Railways. The formula used is shown below.

$$R_{fc} = (Total\ annual\ fixed\ cost) / (Annual\ maximum\ transport\ capacity) \times (Northern\ Corridor\ length) / (Northern\ Corridor\ transport\ days) \tag{Equation\ 11}$$

Maximum annual transport capacity C_{mzx} is defined as;

$$C_{mzx} = (Annual\ Transport\ Volume: t \cdot km) \times 2 / (1 + (backhaul\ load\ factor)) \tag{Equation\ 12}$$

⁴⁰ It is assumed to be an aggregate of capital investment in track and rolling stock, personnel cost, and annual depreciation cost.

⁴¹ Data on annual fixed cost and total annual transport volumes are from the Kenya National Bureau of Statistics.

Where,

$$\left\{ \begin{array}{l} \text{Total annual fixed cost: US\$23,320,000}^{42} \\ \text{Annual transport volume: 1,313,000,000 t} \cdot \text{km} \\ \text{Backhaul load factor of the Northern Corridor: 20\%} \\ \text{Service length of the Northern Corridor: 1300km} \\ \text{Service days along the Northern Corridor: 5 days} \end{array} \right.$$

Inputting these figures into equations 14 and 15,

$$Rfc = 2.77 \text{ US\$/t} \cdot \text{day} \quad (\text{Equation 13})$$

Variable Railway Cost (Rvc): It was assumed that variable railways costs consist of fuel cost only. The following formula was employed:

$$Rvc = (\text{Fuel requirement per unit freight ton and distance}) / (\text{diesel oil energy conversion factor}) \times (\text{diesel oil price}) \quad (\text{Equation 14})$$

Where,

$$\left\{ \begin{array}{l} \text{Fuel thermal energy requirement per ton-km: 0.491 MJ/t} \cdot \text{km}^{43} \\ \text{Diesel oil energy conversion factor: 38.2 MJ/\ell}^{44} \\ \text{Diesel Oil Price: 80 Ksh/\ell = 1.11 US\$/\ell}^{45} \end{array} \right.$$

Inputting these figures into Equation 11,

$$\begin{aligned} Rvc &= 0.491 \text{ MJ} / \text{t} \cdot \text{km} \div 38.2 \text{ MJ} / \ell \times 1.11 \text{ US\$/\ell} \\ &= 0.0143 \text{ US\$/t} \cdot \text{km} \end{aligned} \quad (\text{Equation 15})$$

In the above calculation, variable transport cost for an empty load is assumed to be 0, by using the definition in Equation 11.

Lake Transport Cost: In the absence of recent data on lake transport cost, a US\$20/ton transport cost (effective up to 2003) for Mwanza–Kampala was employed, which is the sum of ferry transport freight rate for Mwanza–Kampala and the railway transport rate for Port Bell–Kampala. A huge reduction in ferry transport capacity and monopoly operation since 2003 has decreased the rate to US\$33.75/t as of October 2008. The Study Team applied the 2003 ferry fare in its analysis. In this exercise, it was assumed that a 40-ft container weighs 20 tons.

Total transport cost and economic cost are presented in Table 3.2.6 and Figures 3.2.7–3.2.8.

⁴² An exchange rate of 1US\$=72Ksh was employed.

⁴³ In accordance with the 66th notice of the Ministry of Economy and Industry, Japan.

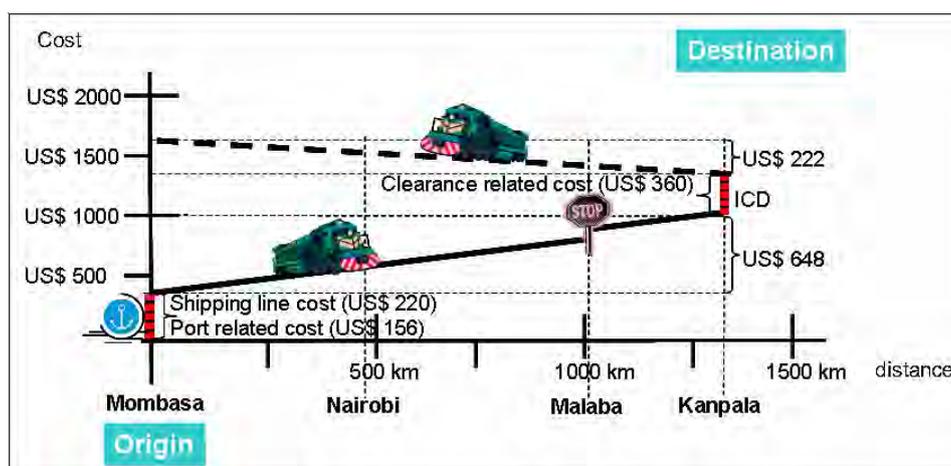
⁴⁴ Data taken from the Annual Energy Report, Agency for Natural Resources and Energy, Japan.

⁴⁵ Data obtained from field survey in Kenya.

Table 3.2.6 Total Railway Transport Costs along the Northern/Central Corridors (Originating from Mombasa Port/Dar es Salaam Port and Bound for Kampala) for a 40-ft Container

Ports of Freight Origin		Mombasa Port	Dar es Salaam Port
Total transport time (days)		5	8
Port Dwell Time (days)		51	25
Customs Clearance at an ICD (days)		4	4
Total Transport Time (days)		60	37
Backhaul Load Factor		20%	0%
Truck Transport Cost (US\$)	Forward	Fixed Cost	277
		Variable Cost	371
	Back	Fixed Cost	222
		Variable Cost	0
Lake Transport Cost (US\$)		-	400
Ship Line Cost (US\$)		220	100
Port-Related Cost (US\$)		156	240
Customs Clearance Cost (US\$)		360	400
Total Transport Cost(US\$)		1,606	1,846
Total Transport Price (US\$) ⁴⁶		3288	3859
Total Economic Cost (US\$)		6,406	4,806

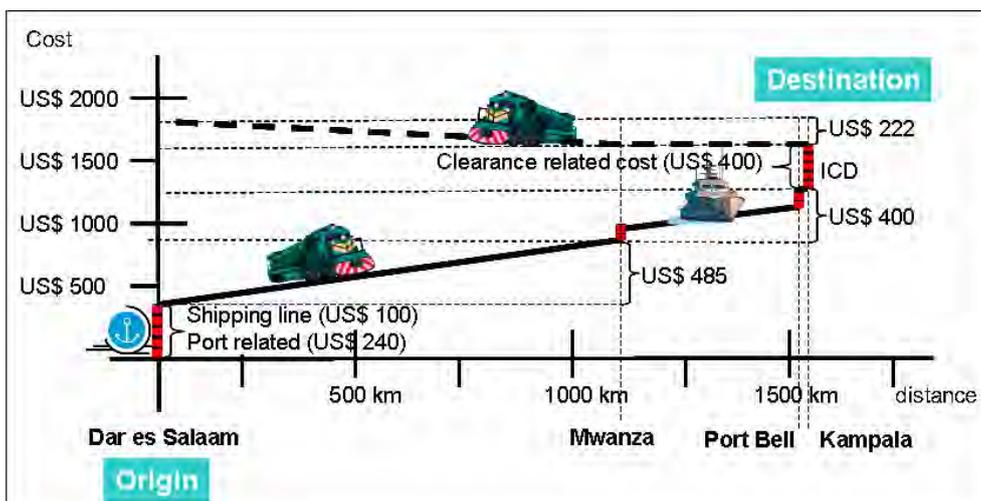
Source: Data on transport cost, ship line cost, port-related costs, and customs clearance cost were adapted from KPA, 2008, A Study of the Central Corridor. Other costs are estimates were made by the Study Team.



Source: The Study Team

Figure 3.2.7 Railway Transport Cost along the Northern Corridor (Mombasa Port–Kampala) for a 40-ft Container

⁴⁶ Total transport cost represents all costs incurred from vessel’s arrival at the port up to receipt of the freight by the recipient. It was derived from the truck haul cost, plus the ship line cost, port-related cost, and customs clearance cost.



Source: The Study Team

Figure 3.2.8 Railway Freight Transport Cost along the Central Corridor (Originating from the Dar es Salaam Port and Bound for Kampala) for a 40-ft Container

3.2.2 Findings

(1) Transport Time

Long Port Dwell Times: Port dwell time was found to be 61% and 85% respectively of total road transport time and railway transport time (inclusive of the time waiting for a freight train). In particular, about 40 days are spent for railway freight waiting for transshipment due to (i) rolling stock capacity constraints; (ii) insufficient port infrastructure capacity, in particular, of berths and yards, (iii) slow customs clearance due to processing by multiple agents, (iv) time required for document review of consignees (via CFAs), and (v) delayed pickups by cargo recipients. In some instances, agents keep freight at port yards to take advantage of storage rates that are lower than at warehouses.

Time Spent at Border Crossings and ICDs: The time spent at the Malaba border crossing has been reduced to 6–8 hours by road and 1 hour by rail, in particular by introduction of a one-stop border post for rail traffic (introduction of an OSBP for road traffic is ongoing). Consequently, the portion of time required for border crossing represents 2.9% and 0.1% of overall transport time for road traffic freight and rail traffic freight, respectively, implying that time lost due to other factors (e.g., port dwell time) is more significant. Even considering only the total transport time for domestic traffic, the border crossing portion constitutes only 6%, a small (although not necessarily an insignificant portion). For Uganda-bound freight, customs clearance is undertaken at the destination ICD (at Kampala), instead of at the border; processing at the ICD usually takes a few days. Transport delays due to a lack of preparedness for border-crossing procedures are a more serious problem. In planning and developing the cross-border transport infrastructure, there is a need to achieve overall physical distribution efficiency over the entire trip length from origin to destination,

Weighbridges, Police Checks, and Police Escort: There are many weighbridge stations and police checkpoints along the subject corridors for the purpose of preventing illegal freight transshipment, loading/unloading, and overloading. Further, police escorts are required on occasion. There are instances in which more than five hours is required at some weighbridge stations, a consequence of traffic congestion in or near the station; such delays are generally

caused by poor equipment design or insufficient parts supply since actual process of weight measurement should take only about three minutes under normal circumstances. There also are reported incidents of bribery and corruption, which is understood to be very costly for transport operators.

Low Freight Trip Speed: Trucks can be operated at relatively high speeds since the riding surfaces are maintained in good condition, but truck operations stop at night for security reasons. Railway operating speeds are as low as 10 kph since the track has not been well maintained.

Figures 3.2.9 and 3.2.10 illustrate a number of the findings presented above in the case of the Mombasa-Kampala route.

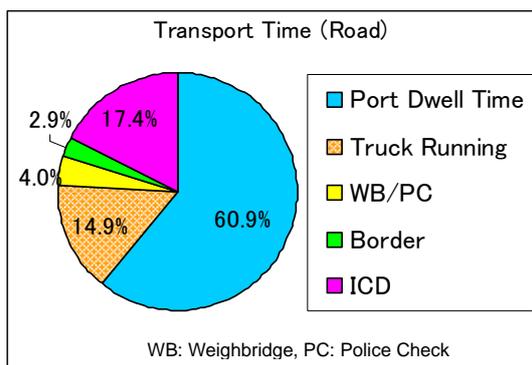


Figure 3.2.9
Breakdown of Total Road Transport Time from Mombasa to Kampala

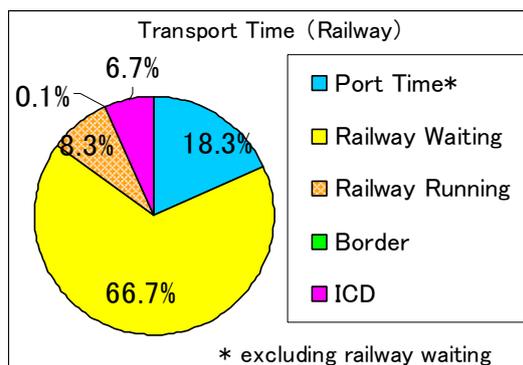


Figure 3.2.10
Breakdown of Total Railway Transport Time from Mombasa to Kampala

(2) Transport Cost

Transport Cost: One of the factors leading to high transport costs is the cost added by backhaul transport. Backhaul operation costs tend to be allocated to forward operation costs since backhaul cargo loads (originating inland and bound for the port) are disproportionately less than that of forward cargo loads (originating from the port and bound for inland destinations). It is also noted that transport policy allows for a large markup in road freight rates to cover the backhaul transport costs. On the other hand, railway freight rates are kept at relatively lower levels since railway operating costs are lower.

Economic Cost: As defined in this research study, economic costs consist of transport costs incurred plus the cost of time spent by the freight. Therefore the magnitude of the economic cost affects corporate behavior in their choice of transport modes. It is evident that ports represent a big bottleneck in the overall physical distribution system since port-related costs account for a large portion of economic costs due the long port dwell times.

Figures 3.2.11–3.2.14 illustrate the above findings regarding transport and economic costs with reference to the Monbasa–Kampala route.

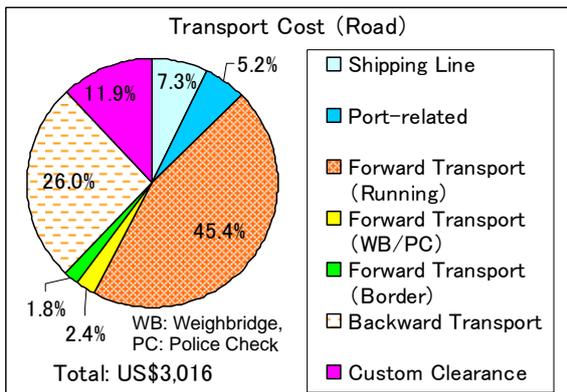


Figure 3.2.11
Breakdown of Total Road Transport Cost from Mombasa to Kampala

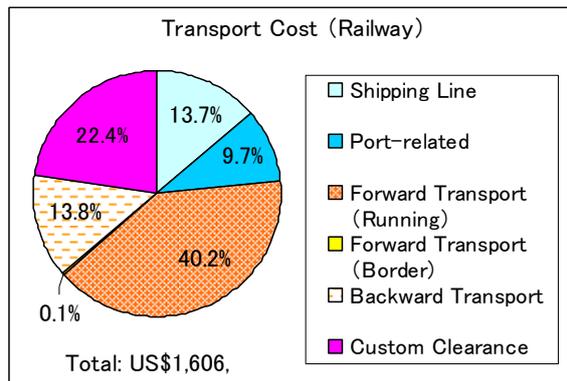


Figure 3.2.12
Breakdown of Total Railway Transport Cost from Mombasa to Kampala

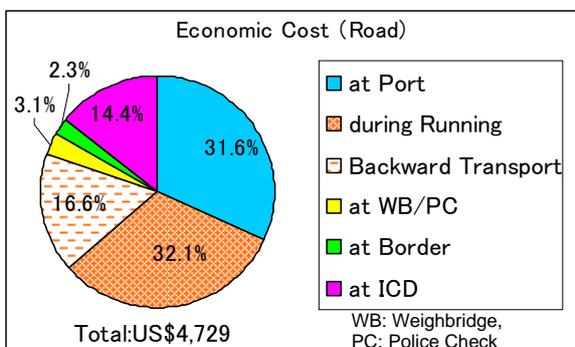


Figure 3.2.13
Breakdown of Total Road Transport Economic Cost from Mombasa to Kampala

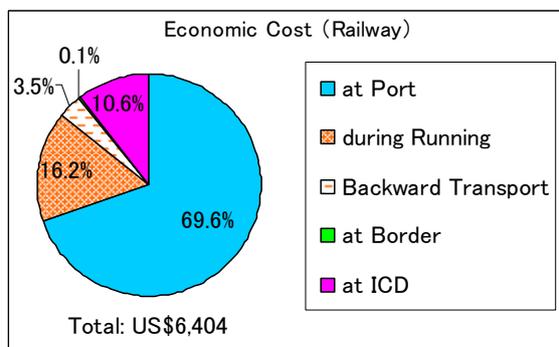


Figure 3.2.14
Breakdown of Total Railway Transport Economic Cost from Mombasa to Kampala

Chapter 4 Non-Physical (“Soft”) Issues in Cross-Border Transport in East Africa

The importance of soft infrastructure (e.g., institutional reforms, laws/regulations,) as well as hard infrastructure (e.g., roads, railways, ports) for transport and trade efficiency is well-established.¹ It is considered that 25% of delays on transport corridors worldwide are a result of poor infrastructure, while 75% are related to poor facilitation.² While infrastructure improvements save travel time and reduce vehicle operating costs, reducing documentation and border delays can save days, thereby (i) enabling greater vehicle utilization and (ii) reducing capital tied up during shipment and increased inventory to hedge against the unpredictability of delivery time.³ Accordingly, this chapter examines the soft infrastructure of cross-border transport, with the focus on East Africa, since the field data collection activities were undertaken in this subregion.⁴

Table 4.1.1 shows rankings according to the World Bank’s Logistics Performance Index, a benchmarking tool ranking 150 countries.⁵ Kenya and Uganda are in the middle of the global rankings and Tanzania near the bottom.

Table 4.1.1 Logistics Performance Index (LPI) Rankings of the Focus Countries

Country	LPI Ranking	Customs	Infra-structure	International Shipments	Logistics Competence	Tracking and Tracing	Domestic Logistics Costs	Timeliness
Kenya	76	81	100	60	79	90	65	64
Uganda	83	99	99	98	77	100	3	56
Tanzania	137	123	122	132	138	120	15	140

Note: The LPI ranking is a composite ranking based on a simple average of the country scores on the seven key dimensions shown in the table.

Source: Jean-François Arvis (World Bank), Monica Alina Mustra (World Bank), John Panzer (World Bank), Lauri Ojala (Turku School of Economics), and Tapio Naula (Turku School of Economics), *Connecting to Compete: Trade Logistics in the Global Economy, The Logistics Performance Index and Its Indicators, 2007* [the most recent available as of the current writing], pp. 26–33

In order to better understand the soft infrastructure of cross-border transport in East Africa, the following subsections address: (i) the legal/regulatory/institutional framework for cross-border transport and (ii) specific soft side issues/development. Regional integration issues are considered in the first of these subsections. The Section 2.2 presents an historical review that permits broad understanding of the background to these issues.⁶

¹ Alberto Portugal-Perez and John S. Wilson, *Trade Costs in Africa: Barriers and Opportunities for Reform*, World Bank Policy Research Working Paper 4619, September 2008, pp. 21–27; and Joseph Francois and Miriam Manchin, *Institutions, Infrastructure, and Trade*, World Bank Policy Research Working Paper 4152, March 2007.

² See, e.g., Creck Buyonge and Irina Kireeva, “Trade Facilitation in Africa: Challenges and Possible Solutions”, in *World Customs Journal*, Volume 2, Number 1, 2008, p. 43.

³ *Global Transport Knowledge Partnership Newsletter*, May 2008.

⁴ Some insights from other subregions of Sub-Saharan Africa are presented, however.

⁵ Singapore was ranked first, Afghanistan was ranked last, and Japan was ranked sixth.

⁶ As noted, institutional and organizational factors in transport have become increasingly important in Sub-Saharan Africa, since (i) transport costs are quite sensitive to the efficient utilization of transport capacity (which depends very much on the ability to obtain return freight and vehicle turnaround time), and (ii) transport speed and reliability have become more important as a result of globalization and just-in-time production, which requires goods to be delivered in vary narrow time windows, which in turn requires greater frequency of service on the various modes of transport.

4.1 Legal/Regulatory/Institutional Framework for Cross-Border Transport⁷

At the international level, the legal/regulatory/institutional framework is based on: (i) international conventions, (ii) African-wide treaties and legal instruments, (iii) subregional instruments, and (iv) partnership-based harmonization initiatives.

4.1.1 International Conventions

International transport facilitation conventions include: (i) convention with provisions protecting the rights of landlocked states, including the Convention and Statute on Freedom of Transit (Barcelona, 1921), the Convention on Transit Trade of Landlocked Countries (New York, 1965), and the United Nations Convention on Law of the Sea (New York, 1982); (ii) various customs conventions, including the Revised Kyoto Convention on the Simplification and Harmonization of Customs Procedures, the Convention on International Transport of Goods Under Cover of TIR [Transit International Routier, from the French acronym] Carnets (the TIR Convention, Geneva, 1975), the Customs Convention on Containers (Geneva, 1972), the Customs Convention on the Temporary Importation of Commercial Road Vehicles (Geneva, 1956), the Convention on the Harmonization of the Frontier Control of Goods (Geneva, 1982), and the Convention on Mutual Administrative Assistance for the Prevention, Investigation and Repression of Customs Offenses (Nairobi, 1977); (iii) various conventions on road traffic and road signs and signals, including the Convention on Road Traffic (Vienna, 1968) and the Convention on Road Signs and Signals (Vienna, 1968); (iv) various conventions on railway traffic, including the Convention Concerning International Carriage by Rail (COTIF, Convention Relative aux transports Internationaux Ferroviaires, Bern, 1980), (v) conventions related to inland water transport, such as the Convention on the Contract for the International Carriage of Passengers and Luggage by Inland Waterway (Geneva, 1978); and (vi) conventions on air transport, such as the Convention on International Civil Aviation (Chicago, 1944). Generally, the East African countries have not acceded to these conventions, although there are a few exceptions, e.g., the United Nations Convention on Law of the Sea (New York, 1982; Part X addressed the right of access of land-locked states to and from the sea and freedom of transit), acceded to by Kenya, Tanzania, and Uganda; the Customs Convention on the Importation of Private Road Vehicles (Geneva, 1954), acceded to by Uganda.

4.1.2 African-wide Treaties and Legal Instruments

Continent-wide instruments include: (i) the African Union Treaty (the Constitutive Act of the African Union, Lomé, 2001), pursuant to which the African Union has made provisions in its priority program for Linking Africa for an Integrated Continental Transport Master Plan; (ii) the Treaty of Abuja (1991), which established the African Economic Community, by which the contracting states are to promote the integration of infrastructure and develop transport coordination to increase productivity and efficiency; (iii) the African Maritime Transport Charter (Tunis, 1994); and (iv) the Treaty on the Harmonization of Business Law in Africa (Port Louis, 1993), which covers transport laws, but which to date only includes civil law countries.⁸

⁷ Particularly useful sources for this section included: (i) CPCS, *East African Railways Master Plan Study, Interim Report*, prepared for the East African Community, January 2008, Appendix C; (ii) Jean Grosdidier de Matons, *Facilitation of Transport and Trade in Sub-Saharan Africa: A Review of International Legal Instruments – Treaties, Conventions, Protocols, Decisions, [and] Directives*, SSATP Working Paper 73, 2004; and (iii) Yao Adzigbey, Charles Kunaka, and Tesfamichael Nahusenay Mitikiu, *Institutional Arrangements for Transport Corridor Management in Sub-Saharan Africa*, Sub-Saharan Africa Transport Policy Program, SSATP Working Paper No. 86.

⁸ If Rwanda and Burundi were to accede to this treaty, it could serve as a foundation for harmonization of transport laws between these two countries, which in turn may accelerate harmonization within the EAC, although the other EAC member states (Kenya, Tanzania, and Uganda) are common law countries.

4.1.3 Subregional Instruments

Relevant subregional instruments for East Africa are described below:

(1) East African Community (EAC) Treaty (Arusha, 1999)

The EAC Treaty signed by the presidents of Kenya, Tanzania, and Uganda, entered into force in 2000, establishing the East African Community, which was expanded in 2007 to include Burundi and Rwanda. Article 89 of the treaty on common transport and communications policy provides that the partner states will: (a) develop harmonized standards and regulatory laws, rules, procedures, and practices; (b) construct, maintain, upgrade, rehabilitate, and integrate roads, railways, airports, pipelines, and harbors in their territories; (c) review and re-design their intermodal transport systems and develop new routes within the Community for the transport of the type of goods and services produced in the partner states; (d) maintain, expand, and upgrade communication facilities to enhance interaction between/among persons and businesses in the partner states and promote the full exploitation of the market and investment opportunities created by the Community; (e) grant special treatment to landlocked partner states; and (f) provide security and protection to transport systems to ensure the smooth movement of goods and persons within the Community. To implement the treaty provisions, the *East African Community Development Strategy 2006–2010* calls for: (a) improved road connectivity across the region, through rehabilitation/construction of prioritized regional roads and institutionalizing the maintenance of roads; continued harmonization of traffic laws, including regulations and highway codes, adoption of common definitions of classes of roads and a route numbering system, vehicle dimensions, axle load limits, and road transit charges; and implementation of the Tripartite Agreement on Road Transport (see below); (b) maximized benefits of a safe, secure, and efficient air transport system in the region, through harmonizing and implementing civil aviation programs, projects, and regulations; establishing and operationalizing an East African Civil Aviation Safety and Security Oversight Organization and Upper Airspace Administrative Centre; finalizing a Common Aviation Policy; and fully liberalizing civil aviation activities; (c) maximizing benefits from an efficient railway system, through development and implementation of an EAC Railways Master Plan and carrying through the railways concession process; and (d) putting into place efficient, safe, and secure maritime operations, though implementing the Inland Waterways Transport Agreement and undertaking capacity building of the Lake Victoria Transport Commission. The document also calls for full implementation of a customs union by 2010.

(2) Treaty Establishing a Common Market for Eastern and Southern Africa (COMESA, Kampala, 1993)

COMESA superseded the Preferential Trade Area for Eastern and Southern Africa (1981), and has 19 members making it the largest regional grouping in Africa, including Kenya and Uganda as well as Burundi, Rwanda, and the Democratic Republic of the Congo, but not Tanzania, which withdrew on 2 September 2000, stating that its industries were too weak to compete in a free trade zone. As the main objectives of a common transport policy, Article 84 of the treaty calls for adequate maintenance of roads, ports, airports, and other transport facilities, as well as for the security of transport systems, the granting of special treatment to landlocked countries, and the development of intermodal systems. Regarding roads and road transport, Article 85 calls for the partner countries to accede to international conventions on road traffic and signs/signals, and to harmonize laws, standards, and formalities, and ensure equal treatment of common carriers and road operators in the common market. Regarding railways and railway transport, Article 86 cites efficiency and coordination as objectives, and prioritizes subsector development, with common safety rules, procedures, documents, regulations, non-discriminatory tariffs, and standards of equipment/facilities.

(3) Treaty of the Southern African Development Community (SADC, 1993)

SADC, which originated from the frontline states opposed to apartheid in South Africa, has 14 member states, including Tanzania, but not Kenya and Uganda. SADC overlaps substantially with COMESA, although historically SADC has resisted efforts to merge the two. Within SADC, Mozambique has responsibility for coordinating transport and Tanzania has responsibility for coordinating trade. A SADC Protocol on Transport, Communications and Meteorology (1996) has been signed by the Heads of State and calls for (a) development of complementarities between and among modes and encouragement of multimodal services; (b) establishment of infrastructure, logistical, institutional, and legal frameworks including the right of transit of landlocked countries to unimpeded access to the sea and equal treatment of nationals from different member countries; and (c) establishment of cross-border multimodal corridor planning committees with representatives from both the public and private sectors. SADC promoted transport corridors from the early stages, and now focuses on development corridors, encompassing transport and complementary measures.

(4) Northern Corridor Transit Agreement (Bujumbura, 1985)

The Northern Corridor Transit Agreement, initially concluded by Burundi, Kenya, Rwanda, and Uganda (and acceded to by the Democratic Republic of Congo in 1987), was revised in December 2006 and is awaiting ratification by all five signatory states.⁹ The revised Agreement includes 11 implementing Protocols, covering (a) maritime port facilities, (b) routes and facilities, (c) customs control, (d) documentation procedures, (e) transport of goods by rail, (f) transport of goods by road, (g) inland water transport, (h) transport by pipeline, (i) multimodal transport of goods, (j) handling of dangerous goods, and (k) measures of facilitation for transit agencies, traders, and employees. Like the original agreement, the revised agreement is well drafted and relatively comprehensive in scope. It will rename the existing Northern Corridor Transit Transport Coordination Authority (NCTTCA) as the Northern Corridor Co-ordination Authority, which is to include a Council of Ministers, Executive Board, Specialized Committees, Public Private Partnership Committee, and Permanent Secretariat.

(5) Central Corridor Transit Transport Facilitation Agency Agreement (2006)

The Central Corridor Transit Transport Facilitation Agency Agreement has been signed by Burundi, Democratic Republic of Congo, Rwanda, Tanzania, and Uganda, and has been ratified to date by Burundi, Tanzania, and Uganda. The agreement is to become operational after at least three countries have deposited their instruments of ratification with the United Nations Commission for Africa in Addis Ababa (Uganda has already done so). The agreement is modeled upon the (original) Northern Corridor Transit Agreement, with the main objectives to (a) ensure that the corridor is efficient and cost-effective; (b) market the corridor with a view toward increasing its use; (c) supporting infrastructure planning and operations of the corridor through collection, processing, and dissemination of relevant data; (d) promote sustainable maintenance of infrastructure; (e) improve customs transit procedures, including joint customs controls and juxtaposed customs offices at land borders and seaports; and (f) cooperate with other regional bodies. It is to be governed by an interstate council of ministers, an executive board, and a stakeholders' consultative committee,¹⁰ supported by a permanent secretariat to be

⁹ The original agreement was to be 10 years in duration and may not have been formally extended. Also, it referred to a number of international instruments the parties never acceded to (e.g., the 1980 Convention on International Multimodal Transport of Goods).

¹⁰ The stakeholders consultative committee is responsible for: (i) developing and implementing strategies designed to provide seamless transport along the corridor; (ii) developing performance targets for the corridor and monitoring its utilization and performance; (iii) developing and implementing strategies to market the corridor; (iv) undertaking research and recommending the appointment of senior staff by the executive board; (v) establishing a stakeholders representative group to oversee its affairs between meetings; and (vi) appointing technical committees or working

based in Dar es Salaam, with start-up costs of US\$1.8 million to be provided for three years by AfDB.¹¹ At this stage, however, the legal basis for the Central Corridor coordination has not yet been finalized, although coordinating committees have been established on a bilateral basis between Tanzania and the landlocked countries of Uganda, Rwanda, and Burundi.

(6) Agreement Establishing the Intergovernmental Authority on Development (IGAD, Nairobi, 1996)

The Agreement Establishing the Intergovernmental Authority on Development includes Kenya and Uganda among its six parties in the Horn of Africa, the others being Djibouti, Ethiopia, Somalia, and Sudan. Article 7 of the agreement provides that the parties are to (a) promote joint development strategies and harmonize policies regarding trade, transport, communications and customs, as well as the free movement of goods, persons, and services; (b) create an enabling environment for foreign, cross-border, and domestic trade; and (c) develop and improve a coordinate transport infrastructure. Article 13 A provides that the parties are to work toward harmonization of transport policies and elimination of physical and nonphysical barriers. Kenya and Uganda have focused more on the EAC, although Kenya has been active as the current president of IGAD.

(7) Tripartite Agreement on Road Transport between the Government of the Republic of Kenya, the Government of Uganda and the Government of the United Republic of Tanzania (Arusha, 2001)

The Tripartite Agreement is to be implemented according to the *East African Community Development Strategy 2006–2010*. Article II provides that the objectives of the agreement are to (a) promote, regulate, and facilitate traffic flow through transit routes by handling regional trade through the partner states' territories with a view to achieving a fair distribution of road transport services; and (b) minimize the incidence of customs fraud and avoidance by taking all the necessary measures to ensure expeditious and secure movement of traffic, avoidance of unnecessary delays in the movement of goods, and the simplification and harmonization of relevant documentation and procedures. Rather than adopting a free market approach, Article IV limits market access based on permits/licenses to be issued to carriers. Article V limits operation of the agreement to designated ports of entry and routes authorized for international operations. Article VI(2) identifies the following transit routes: (a) Mombasa–Nairobi–Kampala; (b) Mombasa–Horohoro–Tanga–Dar es Salaam; (c) Dar es Salaam–Arusha–Namanga–Kajiado–Nairobi; (d) Namanga–Arusha–Dodoma–Iringa–Tunduma; (e) Nairobi–Isebania–Musoma–Mwanza–Biharamulo; (f) Mombasa–Voi–Taveta–Holili–Moshi–Arusha; (g) Dar es Salaam–Dodoma–Isaka–Mutukula–Masa–Kampala; (h) Mbarara–Kikagati–Kayanga–Bukoba; (i) Nfutukula–Kigoma–Tunduma; (j) Mbale–Moroto–Lodwar–Wamurupulh-route; and (k) Nakuru–Kisumu–Busia–Kampala. Article VII(b) provides that the partner states undertake to: (a) keep documentation and procedures under continuous review in order to simplify and reduce them; (b) align their documentation and procedures to those of larger regional organizations to which the partner states are members; (c) harmonize as far as possible commodity codes and descriptions with those commonly used in international trade; and (d) look for possibilities of harmonizing, rationalizing, and merging control and license/permit issuing bodies for the purpose of minimizing difficulties and diversity. Article IX(d) provides that the partner states shall harmonize relevant technical standards on, but not limited to (a) safety and fitness of vehicles; (b) dimensions of vehicles and vehicle combinations; (c) loads on vehicles; (d) traffic

groups. Yao Adzigbey, Charles Kunaka, and Tesfamichael Nahusenay Mitikiu, *Institutional Arrangements for Transport Corridor Management in Sub-Saharan Africa*, Sub-Saharan Africa Transport Policy Program, SSATP Working Paper No. 86, p. 6.

¹¹ See source in previous footnote, pp. 6–8 and p.20.

signs including traffic signals, road signs, and markings; and (e) road and bridge design standards. Article IX provides for mutual recognition of roadworthiness certificates. Article X provides for a Joint Technical Committee to meet four times per year to manage implementation of the Agreement; it also calls for the Joint Technical Committee to establish Route Management Groups. Article XII(6) provides that the partner states will agree to implement a harmonized cross-border road charging system or road transit charges that shall be reviewed as the need arises in a framework acceptable to all partner states. Article XIII(2) provides that visas will not be required by nationals of any of the partner states for entry into the territory of the other partner states. The agreement is reasonably comprehensive, although it: (a) does not provide for a customs transit and inland clearance regime for goods, or a customs temporary importation for containers; (b) does not address mutual recognition of driving licenses or multimodal carrier licensing/liability regimes; and (c) does not provide the details of single-stop/single-window border crossing inspection.

4.1.4 Partnership-based Transport Harmonization Initiatives

Partnership-based transport harmonization initiatives include: (i) the New Partnership for Africa's Development (NEPAD), an integrated socioeconomic development framework for Africa adopted by a 2001 summit of the Organization for African Unity, with objectives including promoting economic activity and cross-border trade through improved land transport linkages and including an action plan to establish customs and immigration task teams to harmonize border crossing and visa procedures, establish and nurture public-private partnerships (PPPs) as well as grant concessions towards the development/maintenance of transport infrastructure, and promote harmonization of transport modal standards and regulations and the increased use of multimodal transport facilities; (ii) the Sub-Saharan Africa Transport Policy Program (SSATP), which includes eight regional economic communities, three African institutions (AfDB, NEPAD, and the UN Economic Commission for Africa or UNECA), national and regional organizations as well as international development partners seeking to ensure that transport plays its full part in achieving the developmental objectives of Sub-Saharan Africa; and (iii) the United States Agency for International Development (USAID) East and Central Africa Global Competiveness Hub, which has been involved in trade policy formulation/capacity building enterprise development, customs harmonization and simplification, and initiatives to promote transport efficiency.

4.1.5 Assessment

A number of conclusions may be reached regarding the multi-tiered international legal framework outlined above:

- (i) The memberships and functions of the different legal frameworks overlap; one recent study termed the arrangements a “muddle”. The resulting “spaghetti bowl”¹² is displayed in Figure 1.6.2 (Chapter 1), for East Africa as well as for other parts of the continent. In East Africa, for example, while Kenya and Uganda are both members of COMESA, Tanzania is no longer a COMESA member, but is a member of SADC; however, all three are members of the EAC, along with Burundi and Rwanda.¹³ While the EAC has historically represented a fast track of the COMESA integration agenda, the EAC is now

¹² Usage of this term is found in a number of sources, e.g., Luis Abugattas Majluf, *Swimming in the Spaghetti Bowl: Challenges for Developing Countries under the “New Regionalism”*, United Nations Conference on Trade and Development, Policy Issues in International Trade and Commodities Study Series, No. 27, 2004, downloaded from http://www.unctad.org/en/docs/itcdtab28_en.pdf.

¹³ Burundi and Rwanda are also members of the Economic Community of Central African States and the Economic Community of Great Lakes States (ECGLS), both of which seek to achieve full economic union including a common transport policy and harmonization of road transport policies.

implementing a customs union, which means that Kenya and Uganda's COMESA membership will be incompatible with their EAC membership as soon as COMESA moves to a customs union unless the common external tariffs of the two regional groupings are harmonized.¹⁴ Also, successful implementation of common transport policies is more difficult in the case of overlapping memberships because of differences in obligations and implementation timetables, as well as the added burden on the respective countries' institutional capacity; the problem is compounded by the lack of a clear division of responsibilities between the regional groupings and the partner states.¹⁵ However, on 22 October 2008 in Kampala the heads of state of the EAC, COMESA, and SADC approved the establishment of a free trade area encompassing the 26 states that are members of the three regional groupings, with the ultimate goal of establishing a single union.¹⁶ In the longer term, accession to and implementation of the major international transport facilitation conventions (including the TIR Convention)¹⁷ should be undertaken.

- (ii) It has been suggested that the legal framework can be streamlined if: (a) African-wide institutions limit their role to coordinating the policies and strategies of regional economic institutions, and facilitate regional policy harmonization, observing corridor and national implementation, disseminating best practices, and monitoring corridor committees; (b) corridor committees serve as anchors for public-private partnerships across two or more countries seeking to improve transport efficiency and monitor national implementation; and (c) national governments implement national policies and enabling frameworks, with national coordinating committees identifying enablers and constraints, investment opportunities, and potential efficiency gains at the national level and coordinate with government and the private sector.¹⁸
- (iii) To pursue the interests of the EAC countries in the transport sector, the EAC countries would ideally adopt a uniform approach in various international organizations such as COMESA, SADC, and NEPAD. Comprehensive guidelines for a common transport policy should be adopted sooner rather than later.¹⁹

¹⁴ C. Jakobeit, T. Hartzenberg, and N. Charalambides, *Overlapping Membership in COMESA, EAC, SACU and SADC: Trade Policy Options for the Region and for EPA Negotiations*, GTZ (German Agency for Technical Cooperation), 2005, p. 24.

¹⁵ For example, the area of EAC responsibility/competency is often stated in broad terms with respect to transport; because EAC legislation is emerging as supranational law, the partner states are obligated to observe it [e.g., Article 8(1)(c) of the EAC Treaty states that the partner states agree "to abstain from any measures likely to jeopardize the implementation of the provisions of the treaty"]; however, if there is no specific EAC legislation on a matter (yet), partner states may consider that the matter is not covered by the EAC legal regime, thereby rendering efforts at a common transport policy more difficult. See CPCS, *East African Railways Master Plan Study, Interim Report*, prepared for the East African Community, January 2008, pp. C-21 to C-22.

¹⁶ The African Free Trade Zone (AFTZ) announced at the EAC-SADC-COMESA Summit (also known the AFTZ Summit and Tripartite Summit) effectively is the realization of a dream of more than 100 years, a trade zone spanning the length of African continent from Cape Town to Cairo. Regarding the legal and institutional framework, the Tripartite Summit (i) directed the Council of Ministers of each of the three regional economic communities (RECs) to, within six months, consider and approve a memorandum of understanding on interregional cooperation; (ii) the approved memorandum of undersigned to be signed by the chairpersons of the three RECs within one month of its approval; and (iii) have established a Tripartite Summit of Heads of State and/or Government, which shall sit once every two years.

¹⁷ In post-war Europe the TIR system, which relies on public-private partnerships, played an important role in increasing trade. See Jean-François Arvis, Gael Raballand, and Jean-François Marteau, *The Cost of Being Landlocked: Logistics Costs and Supply Chain Reliability*, World Bank Policy Research Working Paper 4528, June 2007, p. 59.

¹⁸ See CPCS, *East African Railways Master Plan Study, Interim Report*, prepared for the East African Community, January 2008, C-13 to C-14 and C-18 to C-22.

¹⁹ See CPCS, *East African Railways Master Plan Study, Interim Report*, prepared for the East African Community, January 2008, C-22.

- (iv) The Northern Corridor Transit Agreement has operated effectively with the NCTTCA implementing a number of initiatives focusing on the facilitation of trade and transport in the corridor. Although its budget is limited (only about US\$1 million per annum, with funding provided by a tonnage-based levy on imports at the port of Mombasa²⁰ and budget allocations from the governments), it has laid the foundation for implementation of corridor action plans. A similar approach in the Central Corridor should prove fruitful after establishment of the Central Corridor Transit Transport Facilitation Agency, especially if a clear role is given to stakeholder consultations in corridor management.²¹
- (v) In some cases, the EAC has implemented Community-wide laws/regulations, e.g., the East African Community Customs Management Act (2004), which standardizes and modernizes the respective customs legislation of the EAC partner countries.²² However, effective application of international legal instruments often requires action internalizing them in national legal/regulatory frameworks to ensure that government officials such as customs officers and police understand and apply the new regulations, documentation, and formalities.²³ National policymaking institutions have often been slow or unable to translate their commitments under regional agreements into substantive changes in policies, laws, rules, and regulations.²⁴ To some extent, there may still be a hesitancy to give up elements of sovereignty to regional institutions. Also, vested interests sometimes oppose regional transport integration. Due to its small size and limited capacity, the EAC has been unable to put in place effective monitoring and enforcement mechanism to assure adherence to agreed measures and timings.²⁵

4.2 Specific Soft Issues/Developments

4.2.1 Overview

This subsection addresses specific soft side issues/developments (listed in Box 4.1) relating to the institutional system and laws/regulations for the smooth operation and maintenance of hard infrastructure.

²⁰ Such a usage fee puts pressure on the corridor management committee to deliver tangible benefits for corridor stakeholder to justify its funding. Yao Adzigbey, Charles Kunaka, and Tesfamichael Nahusenay Mitikiu, *Institutional Arrangements for Transport Corridor Management in Sub-Saharan Africa*, Sub-Saharan Africa Transport Policy Program, SSATP Working Paper No. 86, section 4.

²¹ See source in previous footnote, p. C-14 and Yao Adzigbey, Charles Kunaka, and Tesfamichael Nahusenay Mitikiu, *Institutional Arrangements for Transport Corridor Management in Sub-Saharan Africa*, Sub-Saharan Africa Transport Policy Program, SSATP Working Paper No. 86, p. 6 and pp. 6–8 and 20.

²² The EAC Customs Management Act (2004) still requires improvements and detailed implementing regulations. http://www.integratedframework.org/files/Uganda_DTIS_vol1.pdf [*Uganda Diagnostic Trade Integration Study*], p. 109.

²³ Ernest Vitta Mbuli, *Improving Transit Transport in East Africa: Challenges and Opportunities*, United Nations Conference on Trade and Development, Contribution to the Mid-Term Review of the Almaty Programme of action, 16 April 2007, p. 14.

²⁴ Sometimes a regional commitment is made to achieve a uniform standard (e.g., vehicle roadworthiness inspections) without specifying the standards, determining the cost of the necessary facilities, and determining how these costs would be paid). The East and Central Africa Global Competiveness Hub/Bearing Point (Harold Kurzman and others), *Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region, Final Report*, April 2005, Chapter 13.

²⁵ See CPCS, *East African Railways Master Plan Study, Interim Report*, prepared for the East African Community, January 2008, p. C-19.

Box 4.1: Soft Issues/Developments**Customs and Transit**

Customs Bond Guarantees Issues
 Issues Related to Additional Customs Security (e.g., customs escorts)
 Border Post Issues (to move to one-stop inspection)
 Other Border Post Issues
 Corruption
 Need to Sensitize Frontline (Border) Officials

Regional Gateway Ports

Need to Introduce “Landlord” Ports
 Need for Port Facilitation Improvements

Regional Road Corridors (Roads and Road Transport)

Excessive Number of Checkpoints and Weighbridges
 Need for Third-Party Motor Insurance
 Need for Harmonization of Road Traffic Rules/Regulations
 Need for Harmonization of Axle Load Controls
 Road Transport and Health Issues

Regional Railway Corridors

Railway Services Issues
 Concession Issues

Air Transport

Need for Liberalization of Air Transport Services
 Need for Air Transport Regulatory Reform

Indicative Cross-Cutting Issues

Need for Revision of National Laws and Regulations in accordance with Regional Agreements
 Need for Performance Measures to Monitor Transport Facilitation and other Soft Measures to Improve Transport Efficiency
 Need for Training

4.2.2 Customs and Transit²⁶

While revenue collection has been the traditional focus of customs authorities in many Sub-Saharan African countries,²⁷ in recent years greater attention has been devoted to the role that customs authorities must play in facilitating transport and trade. With the assistance of international development partners, customs authorities have initiated ambitious modernization programs, to meet their responsibilities in a changing international environment. Nevertheless, a number of customs and transit issues remain, as detailed below.

²⁶ Some issues that might be included under Customs and Transit Issues (i.e., excessive number of checkpoints, third-party motor insurance) have been discussed under Regional Road Corridors.

²⁷ A 2005 study in Tanzania found that “[a] control mentality focused on maximizing revenue collection permeates all Customs activities at the expense of meeting trade facilitation objectives. Organizational performance is assessed almost exclusively by its success in meeting revenue targets and little or no objective data is available on its performance in relation to other organizational priorities.” http://www.integratedframework.org/files/english/Tanzania_DTIS_Vol1_Nov05.pdf [*Tanzania Diagnostic Trade Integration Study*], p. 129.

(1) Customs Bond Guarantees

The EAC countries require customs bonds to cover the potential loss of duty revenue if the goods carried are diverted and consumed in a transit country.²⁸ Within a nationally executed bond system, transporters transiting one country en route to another need to take out a customs bond at least equal to the duty that would be payable on their cargo; when they prove that the cargo has left the customs territory, the bond is released. However, the processing of releasing takes time (sometimes as long as 60 days), and the issuance of the bond comes at a cost, estimated at about 4% of the cost of an import or export commodity.²⁹ An estimated US\$500 million equivalent in business capital in the COMESA region is currently being used to bond goods, which ties up working capital of mainly small firms already short of cash. The problem is compounded by delays in bond cancellation, due to manual rather than electronic processing. A recommended countermeasure is the COMESA Regional Customs Transit Guarantee (RCTG), which is being developed with the support of USAID to bond goods on a regional basis instead of country by country.

The RCTG has been piloted but is still not fully functional. Benefits may ultimately include: (i) faster clearance of vehicles; (ii) a resulting increase in tons/kilometers with a positive impact on freight rates; (iii) release of a large sum of money for clearing and forwarding agents, which is tied up as a guarantee and/or collateral in commercial banks and insurance companies; (iv) providing customs authorities with reliable security and an improved system for collection of duties and taxes; (v) providing a simple and economical administrative system for carriers/transporters; and (vi) providing a simple and economical mechanism for sureties (financial institutions) to issue and manage customs bond and creating an opportunity to extend their cooperation.³⁰

In the longer run, a more comprehensive solution could involve the countries acceding to the Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention) (Geneva, 14 November 1975), which permits the international carriage of goods by road from one customs office of departure to a customs office of arrival, through as many countries as necessary, without any intermediate frontier check of the goods carried.³¹

(2) Additional Customs Security Measures (e.g., Customs Escorts)

Kenya has been requiring customs escorts by its Transit Monitoring Unit for various categories of “sensitive goods”, which comprise as much as half or more of containerized transit traffic.³² Many of the items deemed “sensitive” are listed only to protect Kenyan industries. Another issue is that Kenya requires transit goods to clear the Kenya/Uganda border within 15 days from

²⁸ While requiring such bonds is permitted under the EAC Customs Management Act (2004), the Act does not require it.

²⁹ http://www.integratedframework.org/files/Uganda_DTIS_vol1.pdf [Uganda Diagnostic Trade Integration Study., p. 88]

³⁰ <http://www.ecatradehub.com/spotlight/rctgmis.overview.asp>; http://www.rtfp.org/bond_guarantee.php; and United States Agency for International Development, *Request for Task Order Proposal (RFTOP) Number USAID-EA-623--08-032 – COMPETE PROJECT*, 2008, pp. 13–14.

³¹ It might even be argued that no guarantee system is required for a large percentage of cargo because most goods traveling under bonds are carried by established clearing and forwarding companies, which have substantial fixed assets that could be seized. See, e.g., http://www.integratedframework.org/files/Uganda_DTIS_vol1.pdf [Uganda Diagnostic Trade Integration Study], p. 89

³² Escorts are to be provided (i) from Mombasa port to Mariakani Weighbridge, (ii) from Mariakani to Athi River, and (iii) from Athi River to Malaba. Since the convoys move in fleets of 25, they often take time to assemble. Prome Consultants Ltd. in association with Dr. C. K. Kaira Associates Ltd., *Project Document for Support Services for Elimination of Non-Physical Barriers along the Northern Corridor, Final Report*, Appendix 3, prepared for the Northern Corridor Transit Transport Coordination Authority, April 2006, p. 5.

presentation of the documents for customs clearing in Mombasa, even though such delays often arise for legitimate commercial, transport, or documentation reasons. Policy changes required include a reduction in the categories of goods deemed sensitive, allowing for longer transit times, and more generally adoption of a mindset oriented more toward transport and trade facilitation.³³

(3) Border Post Issues (the Move to One-Stop Inspection)

Historically, at border posts along transport corridors in the region several government agencies (e.g., customs, immigration, health/quarantine) have had responsibilities for clearing people, goods, and cargo; these procedures have been labor intensive, duplicated in each country, and not available for more than 12 hours per weekday and sometimes less on weekends. However, efforts to address these issues have been undertaken with the implementation of one-stop border posts, now planned for the following border crossings in East Africa, including: (i) Malaba (Kenya-Uganda) border (where it has already been partially implemented, with ongoing World Bank assistance), (ii) Busia (Kenya-Uganda, scheduled to be implemented with World Bank support), (iii) Lunga Lunga-Horo Horo (Kenya-Tanzania, also slated for implementation with World Bank support), (iv) Namanga (Kenya-Tanzania, with JICA and AfDB assistance), (v) Isebania-Sirari, (Kenya-Tanzania, expected with World Bank support), (vi) Taveta (Kenya-Tanzania; development partner uncertain), (vii) Gatuna/Katuna (Uganda-Rwanda; development partner uncertain), (viii) Rusumo Falls (Tanzania-Rwanda, with JICA support envisaged), (ix) Mutukula (Tanzania-Uganda, possibly with JICA support), and (x) Kagitumba-Mirama Falls (Uganda-Rwanda, with likely World Bank assistance).³⁴

Implementation of one-stop border posts in East Africa is farthest along at Malaba, where it has now been implemented for all railway traffic and partially for road traffic (for 12 commodities comprising an estimated 30% of traffic).³⁵ Implementation is being facilitated by the JICA-assisted Project on Capacity Development for the Customs Administrations of Kenya, Tanzania, and Uganda, summarized in Box 4.2.

The legal basis of implementation at Malaba is the Bilateral Agreement between the Government of the Republic of Uganda and the Government of the Republic of Kenya on Joint Border Controls, Procedures, Facilities and Management at Malaba Border Post (April 2006, Arusha). It is considered that this bilateral agreement does not adequately deal with issues of extraterritoriality and control (administration and enforcement). For example, a question may arise as to criminal investigations when there are concurrent violations of entry and exit laws,

³³ The East and Central Africa Global Competiveness Hub/Bearing Point (Harold Kurzman and others), *Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region, Final Report*, April 2005, Chapter 8.

³⁴ See, e.g., *OSBP Newsletter*, June 2008. World Bank support under the East Africa Trade and Transport Facilitation Project may be insufficient to support all one-stop border posts envisaged due to unanticipated inflation in construction costs. Other one-stop border posts in East Africa may include: (i) Mpondwe (Uganda/Democratic Republic of Congo or DRC); (ii) Ishasha (Uganda/DRC); (iii) Gisenyi (Rwanda/DRC border); (iv) Cyangugu (Rwanda/DRC); and (v) Akanyaru (Rwanda-Burundi). In addition, there are 17 OSBP projects in West Africa, and 11 in Southern Africa, under the auspices of the World Bank, the African Development Bank, the Japan International Cooperation Agency, the Economic Community of West African States, and the West African Monetary Union (Union Economique et Monétaire Ouest Africaine), among others.

³⁵ However, a July 2008 inspection tour found that: (i) the road manifest released from the port arrives after the trucks arrive at the border control points, causing delays; (ii) a surcharge after six hours and uneven terrain on the Uganda side causes truck drivers to prefer parking on the Kenyan side, resulting in congestion; (iii) exports through Uganda into and through Kenya are not jointly verified; and (iv) duty payments on the Uganda are done only after verification resulting in delays. East African Trade and Transport Facilitation Project (EATTFP), *Report on Inspection Tour of Northern Corridor from Mombasa-Malaba-Kigali by the Seamless Transport Committee, 4th-12th July 2008*, 14 July 2008, p. 4.

such as disputes over large tax evasions, smuggling, and the rights of accused criminals. In such cases, there may be questions as to who can apprehend and detain the accused persons, and who can seize and confiscate the goods.³⁶ Solutions to these and other issues can be found in a draft Regional Framework Convention prepared for the Economic Commission for West African States (ECOWAS) in the context of the Abidjan–Lagos Corridor, which traverses Côte d’Ivoire, Ghana, Togo, Bénin, and Nigeria.³⁷ Issues to be addressed in this regional convention include: (i) institutional arrangements, (ii) configuration of the site, (iii) status of the land of the control area, (iv) status of the infrastructure and equipment, (v) modality of the inspection process, (vi) status of expatriate staff, (vii) extraterritorial jurisdiction,³⁸ and (viii) miscellaneous facilitation measures.

Box 4.2 Three Pillars of the JICA-assisted Project on Capacity Development for the Customs Administrations of Kenya, Tanzania, and Uganda

The project is developing three “pillars”:

- Pillar 1: Concurrent Process (establishment of a real time monitoring system, concurrent document processing, a single counter system, document acceptance examination, and joint coordinated physical examination);
- Pillar 2: Immediate Release upon Arrival (establishment of an electronic cargo control system, document examination with PDF copies prior to arrival in parallel with enhancement of risk management and promotion and mutual recognition of scheme for authorized economic operators);
- Pillar 3: Management by Tact Time (replacement of the traditional work practices largely depending on “rules of thumb” with precise operational management practices by introducing a concept of new industrial engineering, establishment of a lean process by processing in small batches under rigid time management and eliminating processes and daily backlogs, elimination of wasted work by introducing document acceptance examination, and improvement of process traceability)

It has developed the prototypes of two custom-made ICT systems (a real time monitoring system and a cargo control system). The model systems will shorten the clearance time from 2–3 days to 2 hours.

Note: “Tact time” in this context refers to a fixed short-time period between the allocations of declarations to the individual customs officers

Source: JICA Team for the Project on Capacity Development for the Customs Administrations of Kenya, Tanzania, and Uganda (also see Japan International Cooperation Agency, *Model Operational System for “One Stop Border Post” (OSBP)*, 14 May 2008

³⁶ See, e.g., Wambui Namu, Commissioner, Customs Service Department, Kenya Revenue Authority, *OSP [One-Stop Border Post] Operational Model [Background and Outlines]*, 14 May 2008.

³⁷ PADECO Co., Ltd., *West Africa Regional Road Transport and Transit Facilitation Program – Joint Border Posts (PHRD P0 79749), Final Report*, prepared for the Economic Community of West African States (ECOWAS), Union Economique et Monétaire Ouest Africaine (UEMOA), and the World Bank, Part B.

³⁸ Regarding conflicting competence/authority in the arrest of offenders and detention of goods and vehicles, Article 32 of the draft regional framework conventions provides that: (i) the contracting party whose officers have first established the offence shall have priority to arrest the offenders and to detain the vehicles and the goods; (ii) in case of arrest and/or detention by the host contracting party, but when the guest contracting party has jurisdiction for the prosecution of the offence, the host contracting party shall extradite the offenders and transfer the vehicles and goods to the authorities of the guest contracting party; and (iii) the host contracting party is however entitled to refuse the extradition of its national subjects, provided it prosecutes them itself for the offences committed. PADECO Co., Ltd., *West Africa Regional Road Transport and Transit Facilitation Program – Joint Border Posts (PHRD P0 79749), Final Report*, prepared for the Economic Community of West African States (ECOWAS), Union Economique et Monétaire Ouest Africaine (UEMOA), and the World Bank, p. B-80.

(4) Other Border Post Issues

A number of other border post issues have been identified in the region, e.g., high levels of traffic congestion at the border checkpoints, a lack of modern verification sheds, insufficient use of information and communication technology (ICT) for freight tracking and clearance, a lack of an appropriate institutional framework for parking management, poor environmental management, lengthy documentation and cumbersome procedures for cargo clearance, a poorly coordinated framework between/among institutions involved in cargo clearance, poor social infrastructure, insecurity, and uncoordinated border activities.³⁹ Most or all of these issues should be addressed when developing one-stop border posts.

(5) Corruption

A USAID-sponsored study found that 29% of shipments in the region are subject to corruption, with the incidence of bribery as high as 59% in Tanzania, compared to 15% in Kenya and 18% in Uganda; the amounts of bribes paid were found to be highest in Uganda at US\$277, compared to US\$123 in Kenya and US\$265 in Tanzania. Customs and the police were found to be the most corrupt, with immigration, quality control, and food and health agencies less corrupt. The study found a strong link between delays and corruption since delays provide an environment that facilitates corruption; 57% of respondents reported avoiding delay as the reason for paying bribes. Measures to reduce corruption may include: (i) reducing the level of bureaucracy by streamlining and simplifying clearance procedures and making them transparent; (ii) establishing a code of conduct for both customs officers and clearing and forwarding agents (CFAs), which should include standards for customs clearance in terms of duration as well as a provision of appeals of customs decisions; (iii) capacity enhancement, including information technology (IT) solutions, which will reduce documentation requirements and increase transparency, and workshops for CFAs, so that they can more effectively handle clearance documentation procedures; and (iv) implementation of anti-corruption campaigns, similar to the Kenya Ports Authority's integrity initiative.⁴⁰

(6) Need to Sensitize Frontline (Border) Officials

It has been observed that there is a “disconnect between the most senior officials, who tend to be helpful and understand the problems faced by the private sector, and frontline officials who are often officious, indecisive, susceptible to petty corruption, and suspicious of business”. While survey data has shown that this disconnect is generally greater in West Africa than in East Africa, it remains a problem that should be addressed in training of frontline officials.⁴¹

4.2.3 Regional Gateway Ports

(1) Moving toward “Landlord” Ports

East Africa's main gateway ports (Mombasa and Dar es Salaam) have been seeking to convert from a service port model to a landlord port model, by which the port authority retains the port infrastructure and regulatory functions, but the port services are provided by private operators;

³⁹ Tom O. Oketch & Associates, *Feasibility Study for Establishment of One Stop/Joint Border Post[s] at Busia, Namanga, Isebania/Sirari, Lungalunga/Horohoro, Gatuna/Katuna and Kagitumba/Mirama Hills*, prepared for the Kenya Ministry of Transport and the East and Central Asia Global Competitiveness Hub, August 2005. pp. 32–36.

⁴⁰ The Steadman Group, *Report on the Assessment Study on Corruption at the Northern Road Corridor Transit Points (Baseline Study July 2007)*, for USAID Anti-Corruption Program, 2007, pp. 41–42, 44–45, and 62–64 [in spite of the study title, study coverage included Tanzania and points in locations other than the Northern Corridor].

⁴¹ See, e.g., Creck Buyonge and Irina Kireeva, “Trade Facilitation in Africa: Challenges and Possible Solutions”, in *World Customs Journal*, Volume 2, Number 1, 2008, p. 44.

indeed, such is explicit government policy.⁴² Rotterdam, Antwerp, New York, and Singapore are examples of landlord ports globally, and Abidjan, Tema, Takoradi, Luanda, and Douala are examples of landlord ports in Africa.⁴³ The strengths of landlord ports are that: (i) private terminal handling companies generally are better able to cope with market requirements, and (ii) the terminal operators are more likely to make needed investments as a consequence of their long-term contracts; the weaknesses are: (i) the risk of overcapacity as a result of pressure from various private operators, and (ii) the risk of misjudging the timing of capacity additions.⁴⁴

In the case of Mombasa, a JBIC SAPROF team urged that it introduce intra-port competition by inviting two or more private container terminal operators,⁴⁵ and in October 2008 the port was advertising for container freight station (CFS) operators. Kenya Ports Authority cites the port of Nhava Sheva (Jawaharlal Nehru Port, Mumbai) as a model; it has a size similar to that of Mombasa, but has 16 container freight stations and a cargo dwell time of only 48 hours.

In the case of Dar es Salaam, while the Tanzania Ports Authority (TPA) is mandated by law to act as a landlord and award concessions, it is still buying equipment (e.g., cranes); a better approach would be for TPA to move more in the direction of public-private partnership, and for external development partners to assist any residual cost that cannot be financed by the private sector.

(2) Port Facilitation Measures

Port performance is a key factor for trade competitiveness, yet time release studies have indicated substantial delays⁴⁶ at both Mombasa and Dar es Salaam. For example, clearance times at Mombasa port have been of the order of 10–11 days.⁴⁷ A time release study for Dar es Salaam port found that the mean time release from arrival to movement of goods from customs control areas was 12.7 days, 12.2 days from lodgment to release, and 4.1 days from release to removal, although there has been reportedly some improvement since then.⁴⁸ For comparison

⁴² See, e.g., *Performance Contract between the Government of Kenya and the Kenya Ports Authority for the Year 1 July 2006 to 30 June 2007*, Section 10.1.7 [case of Mombasa].

⁴³ Samuel O. Helu, Principal Planning Officer, Kenya Ports Authority, *Trade Negotiations and Pro-Poor Services Reforms in Africa: Status of Transport Services Reforms – Bridging the Gap for Enhanced Trade and Pro-Poor Growth*, Kampala, 4–8 February 2008.

⁴⁴ World Bank, *Port Reform Toolkit, Module 3, Alternative Port Management Structures and Ownership Modules*, 2007, p. 84.

⁴⁵ Japan Bank for International Cooperation and Japan Port Consultants, Ltd., *Special Assistance for Project Formation (SAPROF) for Mombasa Port Container Terminal Expansion Project, the Republic of Kenya, Final Report*. December 2006, p. 4–13.

⁴⁶ Substantial indirect costs result from these delays. There are costs due to the goods not being available for use, estimated at 0.8% of the value of the goods per day based on a study of exporters' willingness to pay for reducing the time of manufactured goods. See http://www.integratedframework.org/files/Uganda_DTIS_vol1.pdf [*Uganda Diagnostic Trade Integration Study*], p. 86. Inventory holding costs have been found to be equal to 0.6% of the value of the goods for each 10 days of delay (based on an assumed 20% annual interest rate; this may be lower now). Also, World Bank research has found that on average each additional day that a product is delayed prior to being shipped reduces trade by at least 1%. Simeon Djankov, Caroline Freund, and Cong S. Pham, *Trading on Time*, 26 January 2006, downloaded from http://www.doingbusiness.org/documents/trading_on_time_full_report.pdf.

⁴⁷ Business Climate Legal & Institutional Reform, *Customs Automation and Process Reform: Lessons from Kenya*, Issue 12, March 2007. An earlier World Bank report found a mean port dwell time at Mombasa port to be 13 days. Jean-François Arvis, Gael Raballand, and Jean-François Marteau, *The Cost of Being Landlocked: Logistics Costs and Supply Chain Reliability*, World Bank Policy Research Working Paper 4528, June 2007, p. 28. Another important issue is the variability of transit time, with a standard deviation of 20% of transit time found to increase costs by 45%. See previously cited source, p. 30 (citing Ernst Frankel, "The Economics of Total Trans-ocean Supply Chain Management," *International Journal of Maritime Economics*, Volume 1, pp. 61–89).

⁴⁸ Tanzania Revenue Authority, *Time Release Study, April–August 2005*, September 2005, p. 29. Indications are that some degree of improvement has been achieved since 2005. Royal Haskoning, *Congestion Assessment Study DSM*

purposes, a time release study at Port Klang, Malaysia undertaken in the mid-1990s found an average release time of only 34.5 hours, while in Sweden in 2001 the average release time at seaports was 1.4 hours.⁴⁹

The time release study for Dar es Salaam port found causes of delay in the processes of the (i) Tanzania Revenue Authority (TRA) (e.g., late submission and registration of data into the Automated System for Customs Data (ASYCUDA), repetitive document checking, mistrust of importers, the lack of interface with cargo handlers, delay in the release of exempted goods, uncoordinated examination of goods, poor declarations resulting from misclassifications and under- or over-declarations); (ii) Tanzania Inspection Service Co. (TISCAN) (e.g., the practice of requesting detailed information from the country of supply, lack of effective communication between TISCAN and importers/agents); (iii) importers/agents (e.g., poor declarations resulting from misclassifications and under- and over-declarations, poor declarations due to a desire to evade duties, underinvoicing and misclassification); and (iv) shipping agents (e.g., late or partial submission of manifests, delay in managing rejections and queries on manifests).⁵⁰

Measures to address such delays may include: (i) introduction of an electronic declaration system to the introduction of a single window through which traders can lodge information fulfilling all import- and export-related regulatory requirements (Kenya is in the process of implementing such a system, through its “community based system”, with full implementation expected in 2009); (ii) various improvements to avoid duplication and eliminate unnecessary procedures (e.g., introduction of random quality control provision on receipt of declarations, improved coordination between customs authorities and other control agencies, introduction of enhanced risk management techniques); and (iii) increased cooperation between customs authorities and the private sector to improve procedures and introduce an authorized trader scheme that would permit frequent traders to use simplified procedures.⁵¹

Port, Final Report, prepared for Tanzania Ports Authority, 30 September 2008, pp. 1, 4. The Tanzania Revenue Authority plans to commence another time release study in January 2009, with results expected in mid-2009.

⁴⁹ World Bank, *Kenya: Unleashing the Potential for Trade and Growth*, February 2007, p. 35.

⁵⁰ Tanzania Revenue Authority, *Time Release Study, April–August 2005*, September 2005, Chapter 6. The World Bank found a low level of cooperation among the players involved in the execution of port procedures. World Bank, *Project Appraisal Report on Proped Credits to the Republic of Kenya, to the Republic of Tanzania and to the Republic of Uganda for the East Africa Trade and Transport Facilitation Project*, 27 December 2005, p. 47.

⁵¹ See, e.g., World Bank, *Kenya: Unleashing the Potential for Trade and Growth*, February 2007, p. 35. Perhaps too pessimistically, the 2008 Dar es Salaam port master planning study found that many of the structural changes (particularly with respect to TRA) have been made, and that remaining measures such as training and improved communications would be difficult and slow to have impacts. Royal Haskoning, *Congestion Assessment Study DSM Port, Final Report*, prepared for Tanzania Ports Authority, 30 September 2008, pp. 3–4.

4.2.4 Regional Road Corridors (Roads and Road Transport)

(1) Excessive Number of Checkpoints and Weighbridges

There are a large number of checkpoints and weighbridges along the main transport corridors in East Africa,⁵² including several at which transit vehicles must be weighed, and at which there are problems with queuing,⁵³ inconsistency in weights recorded at different checkpoints, and inconsistency in the way in which penalties are administered. The system leads to corruption, with payments to police and magistrates, so that vehicles can proceed. The police may hold vehicles until overload fees are paid and excess weight unloaded, the latter of which requires customs supervision for goods in transit. The incentive for a driver to negotiate an “informal” settlement is high. Policy measures to address this issue include: (i) weighing vehicles only at the point of loading, (ii) use of weigh-in-motion rather than static weighbridges; (iii) regular calibration of weighbridges by joint (multinational) teams to assure the accuracy and reliability of weighing equipment and create confidence in weights registered by respective countries along the corridor; (iv) providing vehicles carrying containers with a certificate of compliance at the originating weigh station, after which they should not be subject to further weight controls until exiting the country; (v) operating axle load controls on private contract management, as has been done in Tanzania, with specification of fair and enforceable contract condition; and (vi) levying user fees rather than fines for a criminal offense, thereby reducing delays by avoiding court proceedings, as also has been instituted in Tanzania.⁵⁴

(2) Third-Party Motor Insurance

In all East African countries, the COMESA Yellow Card, based on the COMESA Protocol on Third Party Motor Vehicle Insurance Scheme, allows for pre-purchase of motor insurance in local currency at the origin with the insurance honored by all participating countries.⁵⁵ The insurance, which covers third-party property liabilities and medical expenses of the driver and passengers, facilitates cross-border transport since transporters and motorists do not need to buy separate insurance coverage for each country they traverse. However, there have been a number

⁵² E.g., along the Northern Corridor there were found to be seven weighbridges in Kenya, at Mariakani, Athi River, Norok, Gilgil, Eldoret, Webuye, and Amogoro, and three in Uganda, at Malaba, Iganga, and Mbarare. Prome Consultants Ltd. in association with Dr. C. K. Kaira Associates Ltd., *Project Document for Support Services for Elimination of Non-Physical Barriers along the Northern Corridor, Final Report*, Appendix 3, prepared for the Northern Corridor Transit Transport Coordination Authority, April 2006, p. 5. Also, along the Northern Corridor there were reported 38 police checkpoints in Kenya (13 between Mombasa and Nairobi, 10 between Nairobi and Nakuru, and 15 between Nakuru and Malaba) and 18 in Uganda (6 between Malaba and Kampala and 12 between Kampala and Katuna). East African Trade and Transport Facilitation Project (EATTFP), *Report on Inspection Tour of Northern Corridor from Mombasa–Malaba–Kigali by the Seamless Transport Committee, 4th–12th July 2008*, 14 July 2008, p. 5. There are six current and five proposed weighbridges along the Central Corridor into Rwanda (via Rusumo) and Burundi (via Nyakahura), and five existing and six proposed weighbridges into Uganda (via Mutukula), as shown in the TANROADS *Weighbridges Master Plan*. It has been observed that the time spent at weighbridges is less along the Central Corridor than along the Northern Corridor. Kenya Ports Authority and the Kenya High Commission, Tanzania, *A Study of the Central Corridor (Dar-Rusumo/Mutukula) as an Alternative Route to the Northern Corridor (Mombasa–Malaba/Busia)*, February 2008, p. 26. For comparison purposes, the problem is much worse in Nigeria, with 35 checkpoints along the 105 km road segment between Seme (on the border with Bénin) and Lagos. Arc Ingénierie, *Setting Up Observatories to Follow-Up the Migratory Movements in the Abidjan–Lagos Corridor*, Report Term 3, Volume 1, January–March 2006, section 5.1.

⁵³ Although the actual process of weighing a truck takes only about three minutes, the logistics of trucks entering and exiting some of the weighbridge stations leads to congestion. At some weighbridge stations, parking facilities are inadequate for waiting and impounded vehicles. East African Trade and Transport Facilitation Project (EATTFP), *Report on Inspection Tour of Northern Corridor from Mombasa–Malaba–Kigali by the Seamless Transport Committee, 4th–12th July 2008*, 14 July 2008, p. 4.

⁵⁴ The East and Central Africa Global Competitiveness Hub/Bearing Point (Harold Kurzman and others), *Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region, Final Report*, April 2005, Chapter 4.

⁵⁵ A comparable Brown Card scheme is implemented in West Africa under the auspices of ECOWAS.

of problems with implementation of the scheme: (i) the insurance coverage varies between/among countries (e.g., Kenya's coverage is broader than Uganda's); (ii) there have been problems with counterfeit cards, especially cards forged in Uganda; (iii) some companies authorized to issue Yellow Cards have been de-registered; (iv) at some borders there are no insurance companies to issue the cards; and (v) the cost of the Yellow Card varies by country, although to some extent this reflects the different coverage. Recommended policy measures include: (i) computerization of Yellow Card operations, with the national bureaus to link their databases to monitor the use of the card along transport corridors; and (ii) harmonization of Yellow Card coverage between/among counties so that insurance coverage is uniform.⁵⁶

(3) Harmonization of Road Traffic Rules/Regulations

None of the East African countries has acceded to the latest Convention on Road Traffic (Vienna, 1968),⁵⁷ so the countries may need to work toward harmonizing their "rules of the road". The left-hand, right-hand drive issue may arise because Kenya, Tanzania, and Uganda drive on the left side (i.e., right-hand drive, meaning that the steering wheel is on the right side), while Rwanda and Burundi drive on the right side (i.e., left-hand drive). The solution in other regions, such as the Greater Mekong Subregion (GMS) of Southeast Asia, has been mutual recognition, since it is often not practical for a country or countries to switch their system,⁵⁸ and indeed there is little or no evidence of adverse safety impacts from this approach.

(4) Harmonization of Axle Load Controls

Technical meetings involving weighbridge management officials of the EAC countries have been held, considering issues such as: (i) axle load limits, (ii) axle configuration, (iii) abnormal loads, (iv) vehicle dimensions, (v) equipment standardization, (vi) weighbridge operations and procedures, (vii) policy on the treatment of excess import cargo, (viii) reports and communications systems, (ix) treatment of offenders, and (x) penalties against overloading. Broad agreement has been reached, except for (i) disparities in maximum gross vehicle weight allowable in the SADC and EAC/COMESA groupings, due to the COMESA tandem axle limit of 16 tons versus 18 tons in SADEC; (ii) disparities in tolerance levels for axle loads allowable in Uganda and Tanzania (5% for axle loads and 0% for gross vehicle weight)⁵⁹; and (iii) while Kenya outlawed lift axles effective 1 December 2007, Uganda and Tanzania regulations as well as those of SADC do not address the issue. These latter issues will require implementation of uniform legislation provisions, operational procedures, and rules by the EAC partner countries.⁶⁰

(5) Road Transport and Health

There are a number of health impacts of cross-border road transport, including: (i) road traffic accidents, which result in medical costs as well as pain and suffering; (ii) the transmission of

⁵⁶ See, e.g., http://about.comesa.int/attachments/059_yellow-card-compendium.pdf; and The East and Central Africa Global Competiveness Hub/Bearing Point (Harold Kurzman and others), *Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region, Final Report*, April 2005, Chapter 5.

⁵⁷ Uganda (and Rwanda) acceded to the earlier (1949) Geneva Convention on Road Traffic.

⁵⁸ Although such a switch has occurred in various places at various times, e.g., in China in 1946, Sweden in 1967, and Myanmar (Burma) in 1970 (as well as the Japanese prefecture of Okinawa in 1978).

⁵⁹ A proposal to adopt a uniform tolerance of 5% in both cases was agreed in consideration of the potential for an undesirable rise in gross vehicle weight.

⁶⁰ [Kenya] Ministry of Roads, East African Trade and Transport Facilitation Project, Status Update on Components, undated, p. 5. A July 2008 USSAID/COMESA/SSATP regional workshop to review harmonization of key elements and implementation of best practice in overload control proposed (i) a resolution on standardized axle/axle unit load limits, (ii) a cross-border overload system linked to customs at all border posts, and (iii) harmonized weighbridge certificates.

disease (e.g., HIV/AIDS by road transport workers, a problem that is exacerbated by long delays at borders); and (iii) the health effects of air and noise pollution. Countermeasures may include: (i) research to better understand the linkages between road transport and health to develop a framework for interventions; (ii) development of a multisectoral framework to combat the spread of HIV/AIDS, focusing on long-distance truck drivers; and (iii) a move towards the use of more environmentally friendly fuels.⁶¹ With respect to (ii), the USAID-sponsored Safe-T-Stop program at Malaba is worth mentioning.

4.2.5 Regional Railway Corridors

(1) Railway Services

While the railway subsector has been losing market share to road, rail should be competitive for trips of more than 1,000 km, especially with enforcement of axle load limits on trucks. While implementation of concessions (see below) may eventually address some issues (e.g., the Rift Valley Railway concession involving Kenya and Uganda, which has to some extent reintegrated the two national rail systems), rail services in the region remain substandard in terms of reliability and wagon turnaround performance. Soft-side issues/problems include: (i) the need to increase financial efficiency in the railway subsector, (ii) the need to further introduce market forces in the railway subsector, (iii) the need to integrate the technical standards of national railway systems, (iv) introduction of an EAC railway licensing system, and (v) adoption of comprehensive railway guidelines, e.g., covering safety, certification of train crews, passenger rights, compliance in the case of noncompliance with contractual requirements for rail freight services.⁶²

(2) Concession Issues

An assessment of the concession to Tanzania Railways Limited by the JICA Project Team indicates that: (i) track conditions and wagon availability are the major constraints at present although a broad range of operational difficulties are contributing further to lack of profitability; (ii) operational costs are significantly above target due to the operational constraints noted above; (iii) efforts to resolve the constraints are in hand but seem to be slow in implementation as witnessed by disbursement levels on existing loan facilities; (iv) technical assistance does not seem to be a high priority except perhaps in the area of marketing as the concessionaires apparently already have the staff with the required expertise; and (v) while the concession has only been effective for just over one year to date, it is too early to draw definitive conclusions but clearly much remains to be done.

Rift Valley Railways (RVR) in Kenya and Uganda suffer from similar difficulties. An assessment by the JICA Project Team found that: (i) the operations of RVR are poor (a consultant found that the existing meter gauge track can serve Uganda and the Democratic Republic of Congo, but they need to modernize locomotives and wagons, and undertake track rehabilitation; the concessionaire is required to start track rehabilitation and procure new locomotives and wagons but these requirements have not been met to date); (ii) existing management is poor in relation to both the concessionaire and authority entities; (iii) the International Finance Corporation (IFC) of the World Bank Group and the Kreditanstalt Für Wiederaufbau (KfW, the German Development Bank) had not yet disbursed funds to RVR due

⁶¹ See, e.g., Republic of Kenya, Ministry of Transport and Communications, *Recommendations on Integrated National Transport Policy, Moving a Working Nation*, Main Document, Volume 1, 2004, p. 72.

⁶² See CPCS, *East African Railways Master Plan Study, Interim Report*, prepared for the East African Community, January 2008, Appendix C, pp. 50–52; and The East and Central Africa Global Competitiveness Hub/Bearing Point (Harold Kurzman and others), *Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region, Final Report*, April 2005, Chapter 5, Chapter 10.

to covenants and due diligence shortfalls (conditions precedent); (iv) there has been some restructuring of shareholding (although the current structuring is not available in detail); (v) current freight traffic is 1.7 million tons per year as compared with theoretical network capacity of some 7 million tons; (vi) cross-border processes are a continuing constraint (with taxes generated on cross-border transactions that are purely internal to the concession, adversely affecting profitability); and (vii) the concession agreement envisaged capitalization of US\$30 million but now the concessionaire estimates that actual need is about US\$190 million over the first five years.

The government agencies overseeing the concessions – Kenya Railways in Kenya and Reli Assets Holding Company (RAHCO) in Tanzania – have indicated a need for training in operations (so the supervisor is not disadvantaged), infrastructure management, equipment utilization and management, financial, and legal aspects. Also KRC indicated that it could benefit from development support from JICA for new railway networks and modernization of the existing network; feasibility studies are required at this stage.

The experience with railway concessions in Tanzania and Kenya/Uganda is not different from the experience generally in sub-Saharan Africa, where the World Bank has identified four core problem areas: (i) limited capacity and/or willingness of private operators to finance track renewal; (ii) low financial returns have been low; (iii) a need for effective and efficient regulation of private rail operators; and (iv) the need for government behavior vis-à-vis railway concessionaires to be more consistent, and in line with good business practices to promote efficiency and economies of scale.⁶³

Details of assessment of railway concessions in Tanzania and Kenya/Uganda undertaken by the JICA Project Team are further set out in Appendix.

4.2.6 Air Transport

(1) Liberalization of Air Transport Services

The EAC has been in the process of liberalization of air transport in line with the Yamoussoukro Decision (YD) on Air Transport, which came into force on 12 August 2000 and which is expected to lead to significant gains for passengers as well as to boost economic activity through increased trade, higher levels of foreign direct investment, increased tourism, and job creation. The EAC countries are also members of COMESA, which has taken steps towards implementation of the YD. Tanzania is also a member of SADC, which historically has pursued a slower approach to YD implementation than COMESA, which has slowed down both regional groupings because of the need for “harmonization”. EAC rules have been more binding than those of COMESA and SADC and are more effective in promoting integration of the air transport market. While implementation of the YD has faced some problems (e.g., the reluctance of some countries to grant unrestricted fifth freedom rights), it is generally accepted. More recently, the EAC–COMESA–SADC Tripartite Summit launched a Joint Competition Authority (JCA), which is to oversee the full implementation of the YD in the three regional economic communities commencing in January 2009; the JCA includes seven members, two each from the EAC, COMESA, and SADC, and a chairperson on a rotating basis. Going forward, there is a need to (i) complete the YD legal and institutional framework, including adoption of common competitive regulations, adoption of guidelines/procedures/implementing provisions for the competitive regulations, and establishment of the executing agency; (ii) agree on a permanent framework for external relations, and (iii) agree on a YD implementation timetable and on an

⁶³ World Bank, *Sub-Saharan Africa – Review of Selected Railway Concessions*, Report No. 36491, June 2006.

awareness campaign in the regional economic communities and member states for political commitment for full implementation of the YD.⁶⁴

(2) Air Transport Regulatory Reform

The East African countries have been setting up a two-tier regulatory system, consisting of (i) an independent civil aviation authority in charge of regulating air transport (e.g., the issuance of licenses, enforcement of technical regulations, monitoring of competition practices), and (ii) a government structure that formulates policies through laws/regulations and the negotiation of international agreements (including bilateral air services agreements). The structure is aimed at complying with the recommendations of the International Civil Aviation Organization (ICAO) to make civil aviation authorities independent from political interference and separate operators from regulatory bodies. One challenge is likely to be the separation of air traffic control from civil aviation authorities as the consequent loss of revenue may weaken their capacity to regulate effectively. Another issue is that the separation of regulation and policymaking may lead to organizations in charge of policymaking having limited experience with the practical realities of air transport.⁶⁵

4.2.7 Indicative Cross-Cutting Issues

Indicative cross-cutting issues include: (i) the need for revision of national laws and regulations in accordance with regional agreements; (ii) the need for performance measures to monitor transport facilitation and other soft measures to improve transport efficiency; and (iii) the need for training. Each is discussed below.

(1) Need for Revision of National Laws and Regulations in Accordance with Regional Agreements

As noted, the countries have in some cases reached regional agreements without fully appreciating their implied implementation obligations in conforming their national laws and regulations to the regional provisions. Accordingly, national governments should review and amend their laws and regulations to meet the requirements of regional agreements (e.g., the Northern Corridor Transit Agreement, Corridor Transit Transport Facilitation Agency Agreement, Tripartite Agreement on Road Transport between the Government of the Republic of Kenya, the Government of Uganda and the Government of the United Republic of Tanzania).⁶⁶

(2) Need for Performance Measures to Monitor Transport Facilitation and Other Soft Measures to Improve Transport Efficiency

Performance measures can support, guide, and justify decisions in corridors. Generally, progress is best measured by time and cost savings rather than by intermediate criteria. Indicators should be measurable, efficient, “forecastable”, and comprehensible. Examples of performance indicators for corridors include: (i) traffic volumes, (ii) transport cost, (iii) turnaround time of

⁶⁴ See, e.g., http://www.icao.int/icao/en/atb/meetings/2008/Sympo_Nigeria/Docs/SADC.pdf [Air Transport Liberalization Process in SADC, 2008] and http://siteresources.worldbank.org/INTAIRTRANSPORT/Resources/514573-1117230543314/050617-East_Africa_Air_Transport_Survey_Revision_2.pdf [East Africa Air Transport Survey, 2005].

⁶⁵ E.g., the negotiation of bilateral air services agreements is a complex exercise, as the rights exchanged may not have the same economic value to the respective parties. http://siteresources.worldbank.org/INTAIRTRANSPORT/Resources/514573-1117230543314/050617-East_Africa_Air_Transport_Survey_Revision_2.pdf [East Africa Air Transport Survey, 2005], p. 35.

⁶⁶ The East and Central Africa Global Competiveness Hub/Bearing Point (Harold Kurzman and others), *Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region, Final Report*, April 2005, Chapter 13.

trucks and rail wagons, (iv) port dwell time, (v) border crossing times, and (vi) variation in the above times.⁶⁷

(3) Need for Training

As elsewhere in Sub-Saharan Africa, enhancement of the technical and managerial capacity in transport sector in East Africa is required. Specifically, with respect to the facilitation of cross-border transport, private sector associations (e.g., freight forwarders' associations) require strengthening to increase their capacity to (i) communicate their members' concerns to government agencies, (ii) hold agencies accountable for remedial actions, and (iii) pressure political leaders to take actions necessary to carry out required reforms. In particular, the private sector should better articulate the costs of logistics inefficiencies on their business and investment prospects (e.g., the impact of higher transport costs on raw material and consumer prices, the impact of logistic bottlenecks on export competitiveness).⁶⁸ Also, as noted above, the government agencies overseeing the railway concessions have indicated a need for training in operations (so the supervisor is not disadvantaged), infrastructure management, equipment utilization and management, financial, and legal aspects.

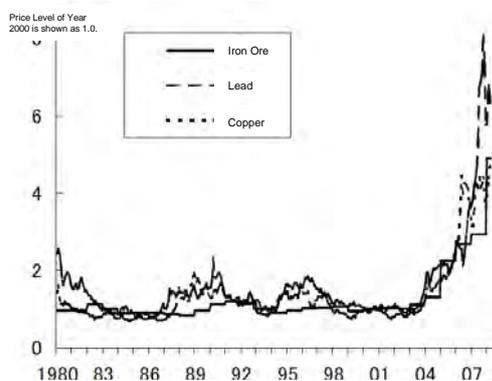
⁶⁷ Yao Adzigbey, Charles Kunaka, and Tesfamichael Nahusenay Mitikiu, *Institutional Arrangements for Transport Corridor Management in Sub-Saharan Africa*, Sub-Saharan Africa Transport Policy Program, SSATP Working Paper No. 86, section 3.4.

⁶⁸ The East and Central Africa Global Competiveness Hub/Bearing Point (Harold Kurzman and others), *Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region, Final Report*, April 2005, Chapter 15.

Chapter 5 Cross-Border Transport and Economic Development in East Africa

5.1 Change in Relative Prices between Natural Resource and Industrial Products: Implications for Cross-Border Transport

The worldwide economic structure is changing. Inflation of resources and deflation of industrial products is taking place, with prices of primary products increasing compared with those of industrial products. While prices of various primary products including agricultural commodities, crude oil, nonferrous metals, and steel materials have been increasing rapidly in recent years (as an example, the surging prices of mineral resources are shown in Figure 5.1.1), the prices of industrial products have been relatively decreasing. Specialists have started to recognize a historical transition to a new pricing structure,¹ which is a trend contrary to the “North-South problem” in the 19th and 20th centuries, when income was transferred from the South to the North driven by the increasing rising prices of industrial products and the decreasing prices of primary products. A new North-South structure is emerging.²



Source: Japan Research Institute, “Research Eye”, June 2008

Figure 5.1.1 Rapid Increases in Natural Resource Prices



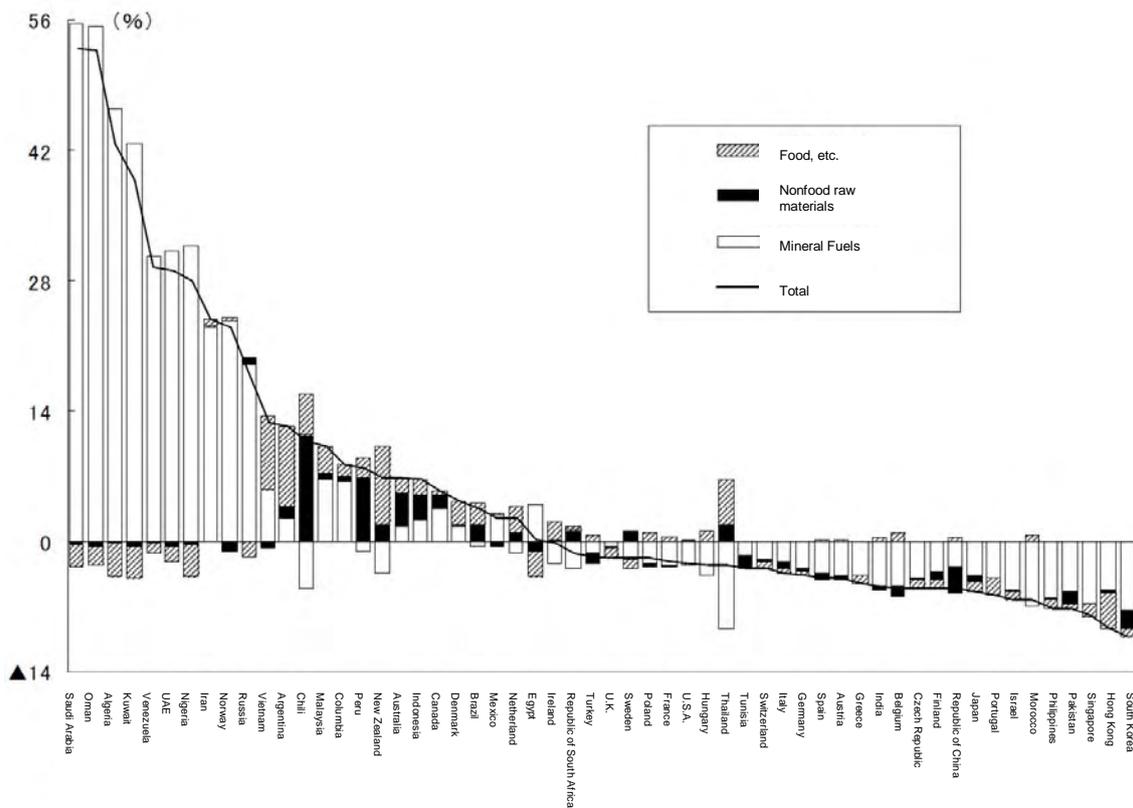
Source: Mitsubishi UFJ Research & Consulting “Non-Ferrous Metal Report”, No. 41, November 2008

Figure 5.1.2 Financial Crisis Impacts on the Prices of Primary Products (Changes in London Metal Exchange Prices after Crisis)

For primary products including natural resources and agricultural products, income elasticity was formerly low and their relative prices vis-à-vis industrial products remained low over a long period of time with only a few exceptions such as during the “oil shock” of the 1970s. In the 1970s and 1980s, Latin America aimed for economic growth using its own natural resources as a driving force, but its economy stalled due to low relative prices of primary products (especially of mineral resources). On the other hand, Newly Industrializing Economies (NIES) in Asia achieved high economic growth through exporting manufactured goods in a manner that, in hindsight, took advantage of the low prices of primary products.

¹ Comment made by Mr. Kadoma, Director General of the Research and Statistics Department, Bank of Japan, under the theme of “Messages of surging resource prices” in a NHK program titled “Shiten Ronten” (broadcast on September 5, 2008). In 2004, Mr. Kojima, Chairman of Japan Center for Economic Research at that time, also said that “for decades in the late 20th century, prices of industrial products kept rising and those of primary products kept dropping relatively. But I assume such relationship was reversed when the world rapidly became industrialized (with the trend of globalization) starting in the late ’90s after the end of the Cold War.” (Source: <http://www.nikkei.com.sg/file/seminar/2004-11/mr-kojima-melbourne.pdf>).

² Source: Japan Research Institute, “Research Eye”, June 2008.



Note1): Year 2006 except for Oman, Tunisia and Vietnam (2005), Nigeria (2003) and Kuwait (2001).

Note2): For countries with GDP more than US\$90 billion plus Vietnam, Oman and Tunisia. 56 countries in total except for Eastern Europe.

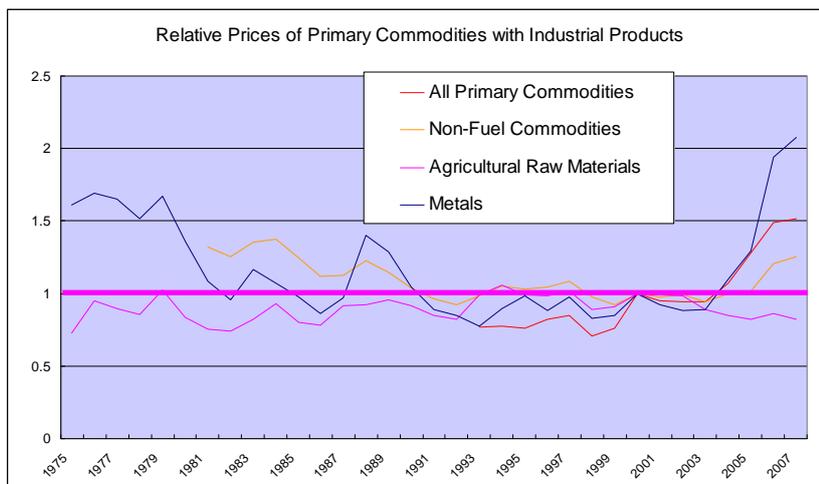
Source: Japan Research Institute “Research Eye”, June 2008

Figure 5.1.3 Trade Balance of Selected Countries in 2006 (for Primary Products, Share of GDP)

However, as shown in Figure 5.1.3 Trade Balance of Selected Countries in 2006 (for Primary Products, Share of GDP) Figure 5.1.3, income losses are increasing in countries consuming primary products (mainly developed countries and some developing countries such as China, the Philippines, and Pakistan), remotely due to the reverse of relative prices. The income loss of the developed countries in 2008 was estimated (before the financial crisis) at 1–3% of GDP, which presents a very serious problem for Japan, which can only achieve a potential economic growth of about 2%³. Major causes of this “reverse of relative prices” seem to include growing demand worldwide (especially in the BRICs, i.e., the fast-growing developing economies of Brazil, Russia, India, and China, and other emerging countries), restriction of supply for such growing demand, and decreasing natural resources. A paradigm shift or crustal change of the economic structure is taking place as the relative prices of primary products and industrial products are adjusting. (For details, see Figure 5.1.4.)

On the other hand, due to such factors as the withdrawal of investment monies and declining demand following the financial crisis in late 2008, resource prices are currently in an adjustment phase, as shown in Figure 5.1.2. It is difficult to forecast future price trends, but many specialists expect that the prices will increase again, as described in Chapter 1, considering decreasing natural resources and the brisk demand for resources in emerging countries.

³ Source: Japan Research Institute, “Research Eye”, June 2008



- Note 1): The relative price was calculated by dividing Primary Commodities Index by IMF-IFS (at 2000 prices) per Export Unit Value Index for Advanced Economies (at 2000 prices).
 - Note 2): “Export Unit Value Index for Advanced Economies” was applied as an index representing the price level of industrial products. (Note that this index does not strictly represent the price level since it includes prices of agricultural export products of the U.S.A., France, and other countries.)
 - Note 3): The figure shows four types of primary commodities prices: (i) All Primary Commodities, (ii) Non-Fuel Commodities, (iii) Agricultural Raw Materials, and (iv) Metals.
 - Note 4): The figure does not incorporate the impacts of global financial crises because of the lack of data.
- Source: Study Team (Prepared from the International Monetary Fund (IMF), International Financial Statistics (IFS))

Figure 5.1.4 Relative Prices of Primary Commodities with Industrial Products

Since Japan is a trading nation, this worsened trading condition, i.e., adverse changes in the relative prices of industrial products, will cause persistent deterioration of the country’s trade balance and may weaken the economy over the long term. Although there are other options including “urban mine” development,⁴ methane hydrate development,⁵ and Arctic Ocean development,⁶ securing mineral resources in Sub-Saharan Africa is vital for the Japanese economy over the medium and long term.

⁴ Sony has started experimental recycling rare metals taken from discarded personal computers (PCs) and home electric appliances in Kitakyushu City. Other parties including the Ministry of Economy, Trade and Industry (METI), the Agency for Natural Resources and Energy and university researchers are also carrying out large-scale activities concerning “urban mines.”

⁵ This is a “dream” technology for natural gas extraction. Bodies of waters around Japan have the world’s largest methane hydrate deposits. However, such gas extraction is technologically very challenging and further research and development (R&D) investment is required for toward practical utilization.

⁶ Some specialists say that new mine lots will be developed rapidly as the Arctic Ocean ice is diminishing due to global warming and other factors.

5.2 Trade/Investment Promotion, Industrial/Regional Development, and CBTI Development

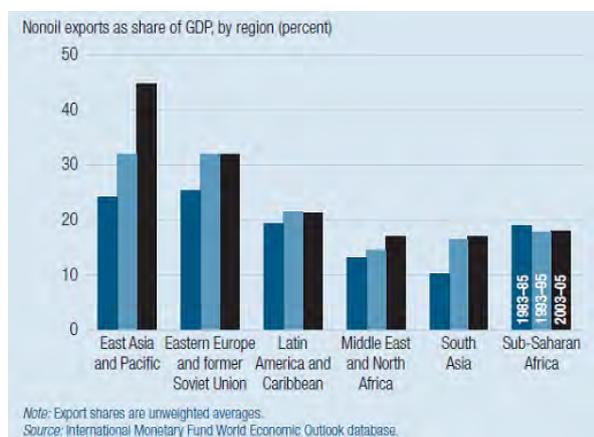
5.2.1 Trade

(1) Current Industrial Structure and Intra-Regional Trade

In Sub-Saharan Africa the share of agricultural production in GDP has been 20–25% on average over the last 40 years,⁷ although the ratio of agricultural population to the total employed population is extremely high, as described in Chapter 1. This means that agricultural productivity is remarkably low in the continent. In addition, many countries in Sub-Saharan Africa are totally dependent on the export of colonial primary products for their foreign currency earnings.⁸ At the same time the share of exports in agricultural production is relatively low (e.g., 12.8% as a whole in 2000), and most of the agricultural products are for domestic consumption.

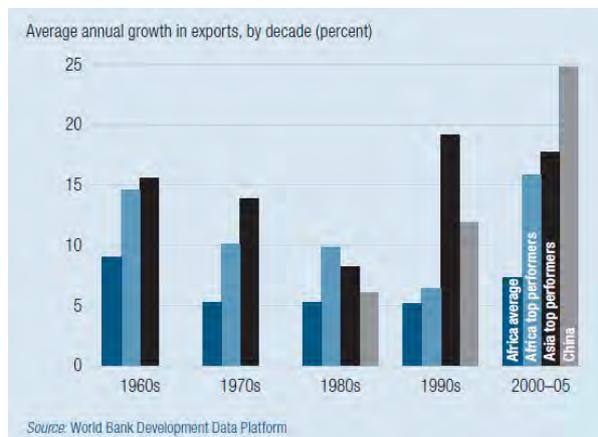
Regarding the manufacturing industry, there are many countries where the proportion of employment in manufacturing sectors is lower than 10 percent of total employment. Industry accounts for less than 1% of world production. As a whole, the manufacturing industry in Sub-Saharan Africa is, apart from exceptional cases, merely contributing to domestic economic activities, which has resulted in their being marginalized in international markets.

Thus, it can be concluded that the international competitiveness of both the agricultural and manufacturing sectors is weak in general, and the shares of exports in these sectors remain at a low level compared to those of developed countries and other regions, as shown in Figures 5.2.1–5.2.2. However, there have been many comments over the presence of informal sectors that are not shown in the statistics.)



Source: African Development Indicators 2007

Figure 5.2.1 Exports in Sub-Saharan Africa and Other Regions (as a share of GDP, percent, non-oil commodities only)



Source: African Development Indicators 2007

Figure 5.2.2 Average Annual Growth in Exports of Sub-Saharan Africa and Other Regions (by decade, percent)

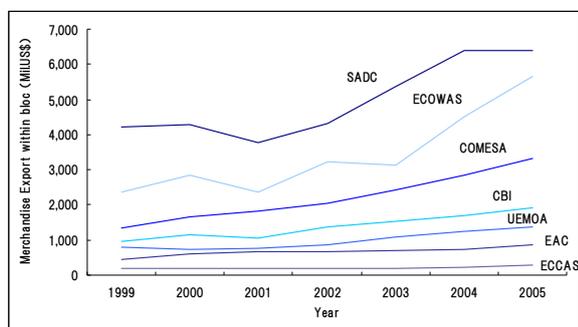
On the other hand, an assessment of intraregional trade within Sub-Saharan Africa shows that the trade volume within regional economic communities (RECs) has been increasing as shown in Figure 5.2.3, stemming from the (i) relative economic positions of each country’s agriculture

⁷ If the economic presence of South Africa and Nigeria is excluded, this figure will slightly increase.

⁸ Ethiopia and Burundi are highly dependent on coffee export revenues (65 percent in Ethiopia and 90 percent in Burundi). These revenues are significantly influenced by international market conditions.

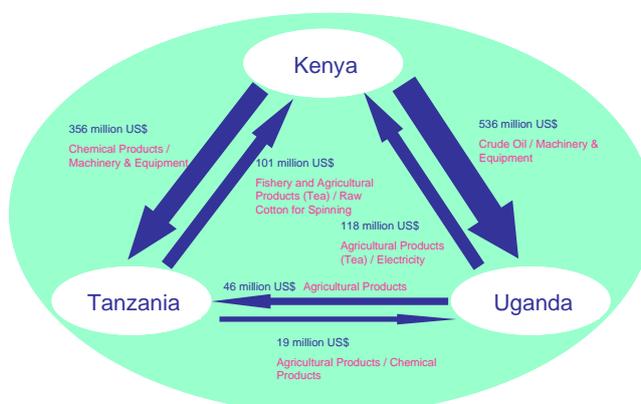
and manufacturing sector, (ii) the exchange of complementary products, and (iii) an increase in the trade of consumer products due to recent rapid economic growth. Particularly in the large-scale RECs such as SADC, COMESA, and ECOWAS, interregional trade among member states has been consistently growing since 2002. (Refer to Chapter 1 for the basic information for each REC.) Such a trend reflects diversification of trading partners within the regions, and it is highly possible that there are some transitions from traditional “vertical” trade relations to intraregional interdependence and/or a “South-South” trading structure.

Regarding the trade patterns within EAC member countries, trade volume between Kenya and Uganda and between Kenya and Tanzania has been relatively high, as shown in Figure 5.2.4. Kenya provides consumer products to Uganda and Tanzania while Uganda and Tanzania are exporting primary products.⁹



Source: Study Team (prepared from African Development Indicators 2007)

Figure 5.2.3 Intraregional Trade within RECs in Sub-Saharan Africa



Source: Study Team (prepared from annual statistical books, etc.)

Figure 5.2.4 Trade Pattern among Kenya, Tanzania, and Uganda (2007)

(2) Kenya

Kenya was originally an agrarian country and about 60 percent¹⁰ of its labor force is employed in agriculture. The sector accounted for 25.9% of GDP in 2006, and agricultural products accounted for 60% of total exports. Coffee, tea, and soda ash have traditionally been major exports, but in recent years exports of horticultural crops have grown rapidly with such exports to Europe and the Middle East currently being expanded.

Major export products are tea, horticultural crops, coffee, fishery products, petroleum products, and industrial products. Almost half of the exports directed to Sub-Saharan Africa including EAC member states and other countries are to Uganda and Tanzania, which are geographically close to Kenya and maintain a close trading relationship with Kenya. The majority of export items to the EAC and COMESA are industrial products whereas about 30% of total exports are directed to Europe countries, the majority of which are primary agricultural products such as horticultural products and tea. The biggest import partner is currently United Arab Emirates (UAE), followed by the United Kingdom, Japan, the United States, and India. Table 5.2.1 shows the major trading partners of Kenya.

⁹ However, regarding tea exports, the export value from Tanzania/Uganda to Kenya has incorporated the amount re-exported to developed countries, which is transported through “the Auction Center” in Mombasa, Kenya.

¹⁰ However, there are no reliable statistics in Kenya (or other Sub-Saharan African countries) regarding the number of agriculture workers.

The horticultural industry in Kenya has received a fair amount of attention as a successful example of agricultural development in Africa. Exports of fresh vegetables (peas), fruit (pineapples), cut flowers (mainly roses exported to the European Union) are rapidly expanding with a record 388% increase in fruit, 1,064% in vegetable, and 1,221% in cut flower exports from 1992 up to 2003.

Table 5.2.1 Major Trading Partners of Kenya

Unit: million US\$					
Year	2003	2004	2005	2006	2007
Exports					
Tanzania	191.6	231.7	275.7	263.5	356.1
Uganda	402.8	479.1	589.8	400.8	535.5
Other EAC ¹⁾	115.1	118.5	151.9	100.1	131.2
Rest of Africa	402.3	487.0	645.7	796.2	961.6
All Africa	1,111.8	1,316.3	1,663.1	1,560.7	1,984.3
All other countries	1,293.7	1,460.8	1,935.5	2,056.1	2,397.0
Total	2,405.5	2,777.1	3,598.6	3,616.8	4,381.4
Imports					
Tanzania	18.0	26.0	42.8	65.0	106.5
Uganda	13.6	13.0	19.3	14.4	95.4
Other EAC ¹⁾	0.1	0.2	1.9	7.9	3.9
Rest of Africa	458.5	638.7	802.5	829.3	943.6
All Africa	490.1	677.9	866.4	916.7	1,149.4
All other countries	3,211.6	4,035.5	5,256.4	6,597.8	8,505.4
Total	3,701.7	4,713.4	6,122.8	7,514.5	9,654.8

Source: Study Team (prepared from, e.g., Economic Survey 2008, Kenya National Bureau of Statistics)

Note 1): Rwanda and Burundi joined the EAC in July 2007.

(3) Tanzania

The economy of Tanzania depends heavily on agriculture, which accounts for more than 40% of its GDP, 85% of its exports, and 80% of its employment, although its topography and climatic conditions limit the cultivated area.¹¹ Tanzania's export trade of mining products of gold, copper, and other metals continue to increase in recent years, and the leading export product is gold in 2007. Table 5.2.2 shows data on the major trading partners of Tanzania.

Table 5.2.2 Major Trading Partners of Tanzania

Unit: million US\$					
Year	2003	2004	2005	2006 ²⁾	2007 ²⁾
Exports					
Kenya	78.3	83.7	76.3	97.2	101.1
Uganda	10.3	11.7	20.1	20.5	19.0
Other EAC ¹⁾	-	-	-	-	52.7
Rest of Africa	116.7	171.9	357.0	371.0	321.2
All Africa	205.3	267.3	453.4	488.7	494.0
All other countries	923.9	1,067.6	1,222.9	1,234.3	1,528.1
Total	1,129.2	1,334.9	1,676.3	1,723.0	2,022.1
Imports					
Kenya	115.9	130.1	155.3	169.1	100.1
Uganda	8.2	7.6	5.1	5.3	6.4
Other EAC ¹⁾	-	-	-	-	0.0
Rest of Africa	346.0	428.0	447.8	688.8	716.5
All Africa	470.1	565.7	608.2	863.2	823.0
All other countries	1,698.1	1,715.1	2,316.8	3,383.1	4,037.6
Total	2,168.2	2,280.8	2,925.0	4,246.3	4,860.6

Source: Study Team (prepared from, e.g., The Economic Survey 2007, Ministry of Finance and Economic Affairs of Tanzania)

Note 1): Rwanda and Burundi joined the EAC in July 2007.

Note 2): Provisional data

¹¹ The cultivated area was 9.2 million ha in 2005 (Source: FAO-STAT, Food and Agricultural Organization), which accounts for 10.4% of Tanzania's total surface area of 88.6 million ha.

Exports of primary agricultural products and imports of industrial goods have historically been the underlying trade structure of Tanzania; major export products included agricultural products such as coffee, tea, tobacco, sisal, cotton, and cashew nuts until 1990s. However, exports of mining products (e.g. gold and diamonds), copper, manufactured goods and fishery products increased considerably much after 2000. In particular, the share of gold in export value has increased, accounting for 44% of total export value in 2003. Major import items include machinery, automobile products, industrial raw materials, food, and garments. Leading export partners include the United Kingdom, Germany, the Netherlands, and Japan, while India and Kenya have become significant partners recently. Import trade partners include South Africa, China, Japan, the United Kingdom, Australia, India, and Kenya.

(4) Uganda

Agriculture is the most important sector of the Ugandan economy, employing about 82% of its workforce, and generating one-third of its GDP. Although export revenues used to depend heavily on traditional export products such as coffee and tea, the country was successful in diversifying export crops since 2000 despite its being a landlocked country. Production of freshwater fish from Lake Victoria, vanilla, and waragi (distilled liquor) has been active. Also, Uganda is endowed with abundant natural resources, including sizable deposits of copper and cobalt.

The underlying trade structure of Uganda is very similar to that of Tanzania and Kenya, all of which export primary agricultural products and import industrial goods. The item with the largest share of total exports is coffee, although exports of horticultural crops are growing rapidly. Other major export products include cotton, tea, and tobacco. The export items that have been increasingly recently include garments, leather goods, vanilla, and freshwater fishery products, except for horticultural crops. Major import items include capital goods such as machinery, automobiles, petroleum, and cereal grains. Uganda's biggest export trade partner is currently Kenya, followed by European countries such as Belgium, the Netherlands, France, and Germany. Tanzania's leading import partner is Kenya with 32.6% in total, followed by the United States, South Africa, India, China, and the United Kingdom. Table 5.2.3 shows data on the major trading partners of Uganda.

Table 5.2.3 Major Trading Partners of Uganda

Year	Unit: Million US\$				
	2003	2004	2005	2006	2007
Exports					
Kenya	78.4	76.9	72.4	88.0	118.2
Tanzania	5.8	12.2	15.4	13.2	46.4
Other EAC ¹⁾	30.9	42.8	56.9	51.1	126.0
Rest of Africa	78.7	83.9	143.5	169.2	303.6
All Africa	193.8	215.8	288.2	321.5	594.2
All other countries	340.3	449.3	524.7	640.7	742.5
Total	534.1	665.1	812.9	962.2	1,336.7
Imports					
Kenya	357.3	399.2	520.7	401.0	495.7
Tanzania	10.8	15.8	30.1	28.7	30.8
Other EAC ¹⁾²⁾	0.5	0.6	0.5	0.5	3.8
Rest of Africa	133.0	178.7	191.6	209.1	272.7
All Africa	501.6	594.3	742.9	639.3	803.0
All other countries	873.5	1,131.9	1,311.2	1,918.0	2,692.4
Total	1,375.1	1,726.2	2,054.1	2,557.3	3,495.4

Source: Study Team (prepared from, e.g., Statistical Abstract 2008, Uganda Bureau of Statistics)

Note 1): Rwanda and Burundi joined the EAC in July 2007.

Note 2): Rwanda only (there were no reported imports from Burundi)

5.2.2 Foreign Direct Investment

(1) Kenya

From the 1960s to the 1970s, foreign investors considered Kenya the most developed nation in East Africa and it attracted more foreign investments than its neighboring countries. This was mainly because Kenya was perceived as a promising market with a reasonable market size and growth potential considering that physical infrastructure was well provided and the nation itself was relatively developed at that time. However, foreign investment in Kenya drastically decreased after 1980 due to increasing costs in every sector caused by economic policy incoherence, pervasive corruption, and dilapidated infrastructure.

Foreign investment did not start increasing again until 2006. The business environment has been improving with government reform of business registration and licensing regulations, although the political turmoil in late 2007 had a negative impact on foreign direct investment to the country Kenya, and the recent global financial crisis had had an effect.

(2) Tanzania

Annual foreign direct investment in Tanzania from 1999 to 2001 was 2–3 times that in 1998, a consequence of financial assistance planned by the IMF and the World Bank for the period after 2000 as well as the commencement of gold mining projects around that time. In addition, government implementation of economic reform, infrastructure development, and poverty reduction measures also helped attract private investment. Foreign direct investment in Tanzania is still steady although it decreased after 2002 since gold development projects had just completed the first stage. The major sectors for investment after 1999 have been construction, petroleum, mining, and manufacturing; the mining sector has been particularly strong, with both “majors” and “junior” firms active.

Privatization of public enterprises/corporations has been ongoing to promote economic efficiency, reduce financial burden, and increase productivity. State-owned enterprises have recently been acquired through foreign capital investment in the sectors of automobile assembly, steel manufacturing, and hotels.

(3) Uganda

Foreign direct investment in Uganda has been rapidly increasing every year since structural adjustment in 1987 and the introduction of a new investment law in 1991. This law fundamentally changed the government policy for foreign direct investment, e.g., by guaranteeing private companies' interests and protecting them from asset expropriation as well as providing general measures to attract investments. Also, the Government of Uganda provides support and advisory services to potential investors through the Uganda Investment Authority under the Ministry of Finance, Planning and Economic Development. These efforts along with the recent activity by the EAC has led to considerable attention from European and South African investors in particular. Investment sectors have ranged from small-scale companies in agriculture and/or agro-processing industry to global enterprises with several thousand employees.

5.2.3 Industrial and Regional Development

(1) National Policy on Industrial Development and Trade Promotion

Kenya

Recent policies and strategies in relation to industrial development and trade promotion in

Kenya are summarized below, based on the results of interview in October 2008 with related governmental agencies/institutions:

- (i) A national policy “Vision 2030” was established in 2007, aiming at 10% annual economic growth. As of this writing, several export-related sectors have significantly contributed to this rapid economic growth. The Vision also seeks to attract business process outsourcing (BPO) services to Kenya as a location of call/telemarketing centers for private European Union and American companies. It also includes the development of professional services such as accounting, to deliver in the market of EAC countries.
- (ii) A National Export Strategy was formulated in 2003 as a export promotion strategy and was under review at the time of the Study Team’s field visit (October 2008). The strategy selected the following strategic export sectors: (a) horticultural industry, (b) coffee and tea, and (c) the apparel industry. The competitiveness of the textile industry has decreased due to increases the prices of imported raw materials (e.g., cotton for spinning). The horticultural industry is at present thriving but tightening regulation (e.g., employment conditions, product certification) may adversely affect exports. Traditional primary products such as coffee and tea have been replaced by cut flowers in terms of export value.
- (iii) The EAC countries are the first priority targets for exports, followed by the COMESA countries. Infrastructure improvement is an issue. For example, the government recognizes that it is necessary to improve road links between Kenya and Southern Sudan to expand exports to this area. There are other issues and challenges, including: (a) lack of capacity in Mombasa Port, (b) the need for railway improvement, (c) skyrocketing electricity tariffs, and (d) customs operation improvements.
- (iv) In terms of interregional export promotion, there has been a tendency for Kenyan manufacturing companies to build factories in Uganda and Tanzania, rather than directly to export their industrial products to these countries, due to (a) higher transportation costs and (b) customs duties.
- (v) Tariffs still have not been abolished in the EAC. If and when that happens, exports will increase substantially. In contrast, adverse effects stemming from the free movement of goods, services, and workers should be noted.

Tanzania

In a similar way, recent policies and strategies in relation to industrial development and trade promotion in Tanzania are summarized below, based on the results of interviews in October 2008 with related governmental agencies/institutions:

- (i) The fundamental policy of industrial development and trade promotion in Tanzania is National Trade Policy; also, the Agriculture Marketing Policy Tanzania, which directs export promotion of the country’s agricultural sector, is a very important policy document.
- (ii) As a comprehensive export promotion strategy for the entire industrial sector, an Export Development Strategy was to be completed by the end of 2008. It will serve as a framework for the country’s export promotion policies and strategies, focusing on agriculture (including livestock industry), mining, and the tourism sectors.
- (iii) Strategic export products in the agricultural sector include: (a) cashew nuts, (b) cotton, (c) horticultural products, and (d) livestock industry products. For cashew nuts and cotton, there is a big challenge of how to add value to products that are currently exported as raw materials. Coffee and tea—which are traditional export products—will also continue to be emphasized.
- (iv) For adding value to export products a key concern will be “processing”, which includes a packaging industry. Also, there are some problems with the quarantine system in exporting edible meat to markets in the Middle East.

- (v) There are a lot of restrictions on infrastructure development to support industrial development and export promotion. Major restrictions for export include: (a) the poor quality of rural roads, (b) unpaved main roads, (c) the lack of infrastructure supporting marketing activities (e.g., underdeveloped cold chains for the horticultural industry, a shortage of silos for grain storage), and (d) inadequate public utility services such as electricity, water supply, and sewerage.
- (vi) The Tanzania Mineral Policy was established in 1997, with the target year set as 2007. Implementing supplementary laws for the Policy include the Mining Act of 1998. At present, an inter-ministerial task force has been set up to prepare a new national policy for the sector, with a draft version completed in December 2008.
- (vii) For the preparation of this new policy, a Policy Review Committee, a Physical Review Committee, and a Final Review Committee were established in 2004, 2005, and 2007, respectively, in order to review and evaluate the former policy. The mining sector has greatly contributed to economic growth in Tanzania with the highest growth rate of all sectors, and it is considered that the government should continue to be involved in the mining and development of gold, uranium, diamonds, and coal.
- (viii) One of the biggest issues and challenges for the mining sector in Tanzania is that there is no strategic linkage between the development of mineral resources and the construction of supporting infrastructure such as access railroads and power plants. One of the good practices for development of such linkages is the project along the Central Corridor by a “mining major” (NiCo Mining Limited), which received mining rights near Kabanga; NiCo studied the feasibility study of the construction of railway linking the mining area and Isaka (where a dry port is located) with the utilization of funds from AfDB and the EU.
- (ix) While there has been no progress on infrastructure development along the Mtwara Development Corridor, it is expected to incorporate coal development along the Corridor into the provision of related infrastructure. One government official stated that there remains plenty of room for involvement for the Government of Japan.

Uganda

Recent policies and strategies in relation to industrial development and trade promotion in Uganda are summarized below, based on the results of interviews in October 2008 with related governmental agencies/institutions:

- (i) The National Export Strategy (NES) 2008–2012 was set out in October 2007 as an export promoting strategy for Uganda. The main directions of the Strategy are (a) infrastructure development contributing to export promotion, (b) development and improvement of related laws and regulations, (c) quality improvement and standard development, (d) export competitiveness strengthening, (e) trade finance provision, and (f) market information management and customs documentation development.
- (ii) Priority sectors in the NES are (a) coffee, (b) tea, (c) horticultural products (cut flowers), (d) freshwater fishery, (e) cotton, and (f) service sectors.
- (iii) The following governmental agencies were involved in developing the NES: (a) the Private Sector Foundation Uganda (PSFU), (b) the National Planning Authority, (c) the Uganda Export Promotion Board (UEPB), (d) the United Nations Conference on Trade and Development (UNCTAD), and (e) the Commonwealth Secretariat.
- (iv) The NES Implementation Plan (three-year plan) has already been developed.

The overview of the strategies of each country set out above indicates that agricultural and mineral resources development will be priority targets in the strategic arena of industrial development and export promotion. The following section presents issues and viewpoints on these arenas.

(2) Agricultural Development

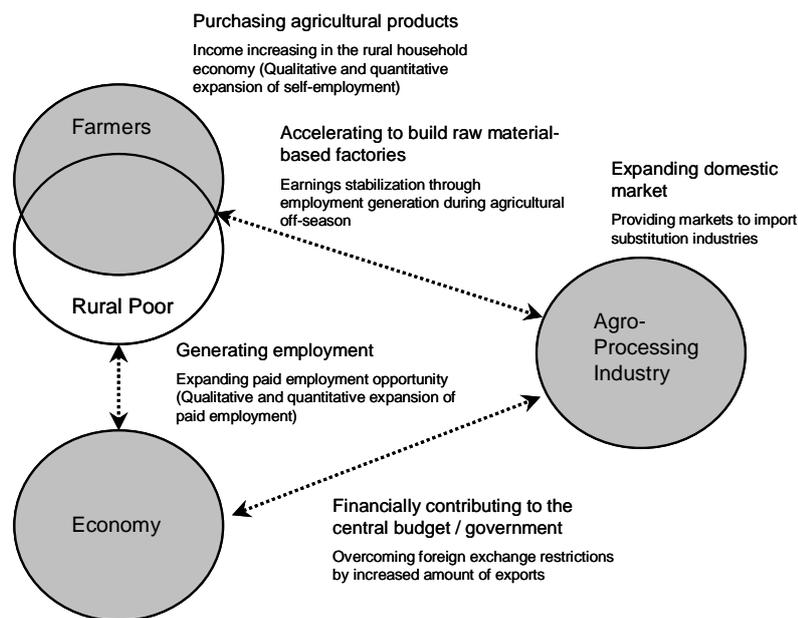
There are a number of outstanding issues relating to the domestic distribution system for agriculture products in the East African countries of Kenya, Tanzania, and Uganda. The system is unfavorable especially for small-scale farmers, considering that they are now confronting issues and problems of price setting, quality inspection, and accessibility to market information, mainly caused by the complicated distribution routes in this region with many middlemen (intermediaries) between producers and consumers. Moreover, accessibility to bazaars/shopping places, enhancement of selling capacity, and improvement of product quality by small-scale farmers have severely been hampered by not only distribution system problems, but also a lack of physical distribution infrastructure (e.g., access roads to markets, cold chains with refrigerated containers/chilled trucks, bazaars/shopping place, market information infrastructure), which are not well developed in East Africa. Infrastructure issues have become the biggest constraint on further expansion of exports and the reduction of poverty. Taking these issues into consideration, it can be effective in the short term to redevelop both the institutional distribution system and physical distribution infrastructure, while productivity improvement of subsistence crops such as rice and maize (corn) should be stressed over the medium and long term from the viewpoint of ensuring food security of each country.

Based on this background, the Kenyan agriculture ministry is, for example, currently putting a strategic emphasis on the development and market promotion of high value-added products with a central focus on processing and packaging, sensibly recognizing the necessity to diversify export products and export markets since the majority of Kenya's products in the marketplace are fresh foods, which are very sensitive to market conditions. Also in Tanzania, the government is aiming at the development of agriculture as one of the prioritized export promotion sectors, focusing on the processing industry of primary agricultural products as a strategic target of for adding value. In Uganda, a similar strategy has been developed in the country's export promotion policies, considering primary agricultural products as priority commodities for export promotion.

To enhance the value added of agriculture products by developing the agro-processing industry, together with the diversification of export products and markets, thereby increasing the potential for export expansion. Furthermore it is very much expected that focusing on the agro-processing industry will contribute both to industrial development and poverty reduction, considering a World Bank research finding¹² that the development of the agro-processing industry will assist income growth and diversification of the poor, and contribute to providing more wide-ranging employment opportunities, as well as JBIC Research Institute empirical research¹³ demonstrating an effective linkage between agro-processing industry development and pro-poor growth, drawing from a case study conducted in Thailand and in Kenya. (For the details of paths to pro-poor growth by the development of agro-processing industry, refer to the Figure 5.2.5; also refer to Box 5.1 on the presence of horticulture in Kenya.) It can be concluded that targeting the agro-processing industry with the aim of adding value to agricultural export products is a significant strategy not only for strengthening export competitiveness but also for reducing poverty in East Africa.

¹² World Bank (2003), "Promoting Agro-Enterprise and Agro-Food Systems Development in Transition Countries", Report No.26032, Washington D.C.: World Bank.

¹³ JBIC Research Institute (2006), "Pro-Poor Growth by Employment Generation: Comparative Research on the Growth in Agro-Processing Industries in Kenya and in Thailand", JBIC Research Paper No. 30.



Source: Kurihara (2006), “Pro-Poor Growth by Employment Generation: Comparison of Agro-Processing Industries in Kenya and in Thailand” (in Japanese)

Figure 5.2.5 Paths to Pro-Poor Growth by Agro-Processing Industry Development

Box 5.1 Presence of Horticulture in Kenya¹⁴

Kenya produces a wide variety of horticultural products including fresh/frozen vegetables and fruits, herbs, and cut flowers. Horticulture is the industry where producers in the least developed countries can become relatively competitive by utilizing comparatively low labor costs and seasonality. The poor in rural areas can improve skills and increase income by exploiting such comparative advantages. In Kenya, horticultural crops have been grown since the 1960s soon after independence. Major crops in the late 1960s were pineapples and passion fruits. Initially, the demand for pineapples was mainly for canning, but some (e.g., fresh fruit) were distributed to the domestic market. Passion fruits were mostly processed into beverages. Later the product range became more diverse, including avocados and French beans.

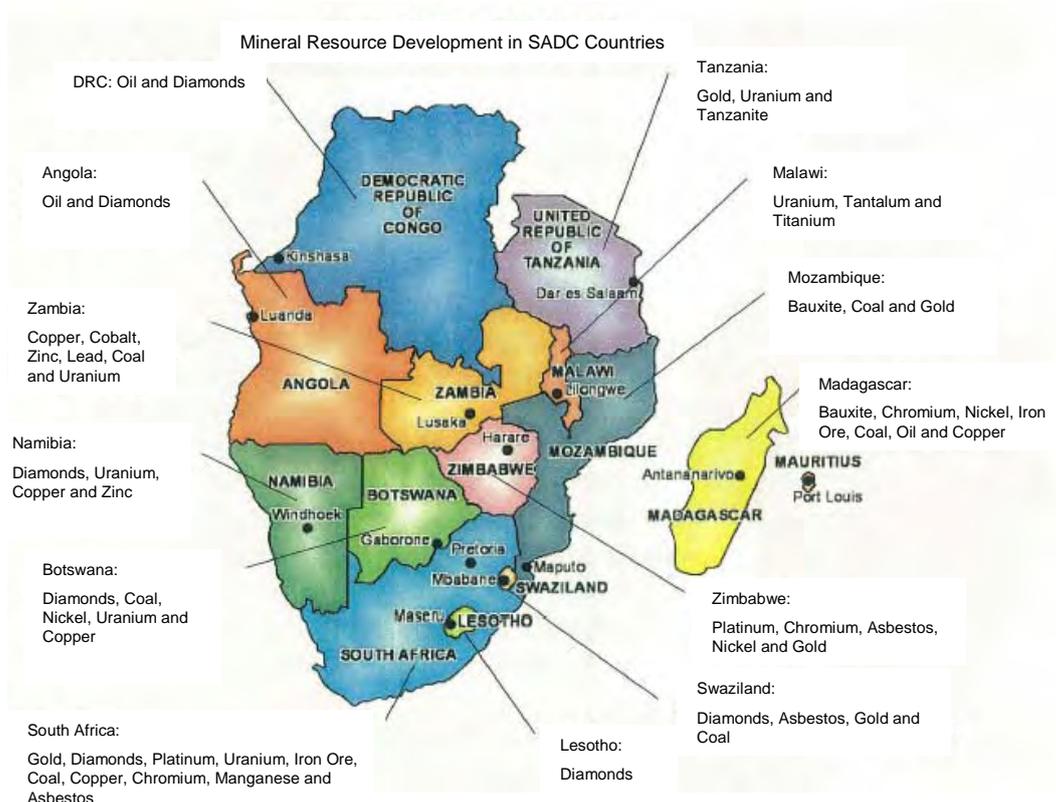
In the interest of employment, the country’s current development plan stresses the manufacturing sector, especially industries where agricultural goods are used. The Government of Kenya is also implementing a policy to promote horticultural products. In 1994, the government budget included import duty exemption and benefits for fertilizers and other items necessary for growing horticultural crops. As a result, the export of horticultural products steadily increased both in quantity and money amount. Against this background, the horticultural industry in Kenya is enjoying rapid growth of exports both in quantity and monetary amount and the products are rapidly becoming more diverse.

¹⁴ Extract from JBIC Development Institute/UFJ Sogo Kenkyusho (2006), “Pro-Poor Growth in Asia and its Application to Africa (Phase 2): Pro-Poor Growth through Creation of Employment Opportunities”.

(3) Mine Development

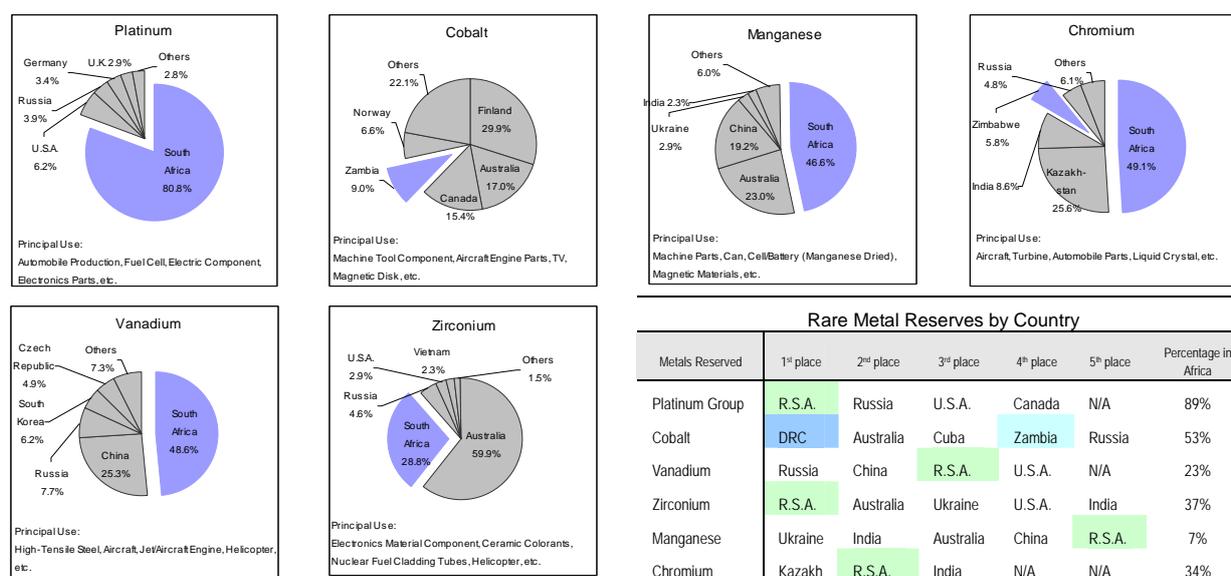
Among the main players in mineral resources development in Sub-Saharan Africa are major mine development companies, the so-called mining giants/majors, which have been active since around 2005. These major companies have significantly reduced risks through large-scale mergers; they normally reject partial participation of so-called passive investors such as Japanese trading companies. The so-called mining juniors or mining minors have been more vigorous than the mining giants. They are quicker in implementing development strategies (e.g., in making investment decisions), and they tend to deal with small and medium projects mainly for rare metals and non-ferrous metals, rather than large projects.

As stated in Chapter 1, the international prices of oil, coal, nonferrous metals, and rare metals have been increasing in recent years, a development that has boosted the inflow of resource FDI into inland countries in Sub-Saharan Africa, which formerly had been avoided due to relatively high mining costs. However, as also stated previously, mineral resources prices have been falling sharply due to withdrawal of investment funds following the financial crisis in late 2008, declining demand, and other factors (although many specialists forecast such prices to rise again over the long term).



Source: “Meeting Session with Japanese Ambassadors to Middle East and African Regions” hosted by Keidanren (Federation of Economic Organizations Federation of Economic Organizations Federation of Economic Organizations), January 16, 2009

Figure 5.2.6 Mineral Resource Deposits in SADC



Source: JBIC TODAY, April 2008

Figure 5.2.7 Japanese Imports of Major Rare Metals by Exporting Country and Rare Metal Reserves by Country

The Government of Japan, which intends to participate in mine development in Botswana and other Southern African countries as part a public-private initiatives/cooperation for securing resources in Africa, has commenced exploration activities utilizing leading-edge remote sensing technologies. Figure 5.2.6 shows the achievements of such activities as of today. The types of rare metals targeted by Japanese companies are unevenly distributed in Southern Africa. Box 5.2 assesses the needs for CBTI development from the viewpoint of private companies.

Box 5.2 Needs of CBTI Development from Private Companies' Viewpoint — Results of Interviews with Private Companies in East Africa

In this study, field surveys were carried out in Kenya, Tanzania, and Uganda in October 2008, including interviews with 11 Japanese and local companies, to obtain suggestions on how to remove business disincentives and bottlenecks. The companies interviewed are listed in Table 5.2.4 below:

Table 5.2.4 Interviewed Private Companies in the Field Survey

Interviewee Company	Nation	Business Category	Example Export/Import Items	Export to//Import from (Examples)
Company A	Tanzania	Tea/Coffee Manufacturer	Tea, Coffee	Kenya, Uganda, Zambia
Company B	Tanzania	Trading	Sugar, Rice, Cooking Oil, Sisal, Trucks	Kenya, Uganda, Burundi, DRC
Company C	Tanzania	Food Processing	Biscuit	Kenya, DRC
Company D	Tanzania	Cashew nuts Producer	Cashew nuts	India, China, Denmark
Company E	Tanzania	Trading	Agricultural/Industrial Products	Kenya, Uganda, DRC
Company F	Kenya	Manufacturer	Steel, Water Pipes	EAC countries, Zambia, Malawi

Company G	Kenya	Manufacturer	Generator, Power Appliances	Tanzania, Uganda
Company H	Kenya	Pharmaceutical Manufacturer	Drugs (e.g., for malaria)	EAC countries, Ethiopia, Sudan
Company I*	Uganda	Car Importing	Used Cars	Japan (Imports)
Company J*	Uganda	Textile	Organic Clothes	EU, Japan, USA
Company K	Uganda	Manufacturer	Steel, Water Pipes (Imports)	Kenya (Imports)

Note: Asterisks (*) denote private Japanese companies.

The opinions and suggestions of these companies as stated in the interviews are as follows.

Disincentives to and bottlenecks in promotion of intraregional trades from the viewpoint of local private companies

1) High transport cost

- ✓ Extremely poor quality of port operation (Ports of Mombasa and Dar es Salaam)
- ✓ Increase in port charges as a result of freight congestion
- ✓ Various problems regarding customs duties (e.g., informal costs, with amounts varying depending on the customs officer, especially at Namanga)
- ✓ Physical inspections/checks frequently conducted by the police (especially along the Northern Corridor) and long hours at weighbridges (same as above)
- ✓ For some companies, transport cost accounts for as much as about 50% of the total cost. (There are some cases where they have no choice but to use air freight because land transport is unreliable.)

2) Poor infrastructure

- ✓ Unreliable railway operation (along the Northern and Central Corridors)
 - Such operation is so unreliable that in some cases there is no choice but to depend on roads.
- ✓ Bad road conditions (especially conditions of secondary routes used for transport of products to consuming areas)
- ✓ Electricity shortages and steep increases in electricity price (especially in Kenya)

3) Trade barriers (segmented markets)

- ✓ In 2005, the EAC introduced common customs tariffs and declared a policy to eliminate tariffs in 2010. However, there are too many exceptional items (about 600 items for Tanzania and about 300 for Kenya).

Suggestions from local private companies to remove bottlenecks

1) Improvement of infrastructure

- ✓ More efficient port operation (“Port of Dar es Salaam is the height of chaos,” one company stated.)
- ✓ More reliable railway operation (it is totally unreliable at present).
- ✓ Improvement of roads (especially along the Northern Corridor)

2) Customs

- ✓ Duties should be consistent at least (this is especially a problem at the Namanga border, where currently amounts vary depending on the customs officer).
- ✓ There are a lot of “red-tape” routines for various procedures and even bribes. These practices should be eliminated.
- ✓ Trade barriers should be removed. (Markets should be unified.)
- ✓ The number of tariff exception articles should be decreased.

Other comments

- ✓ Vehicle passage in Kenya has been restricted since 2008. (The number of trailer axles has to be three or below. Trailers with four or more axles are not allowed to be used, which imposes a heavy burden on private companies. These views were stated by more than one Kenyan companies.)
- ✓ Politicians are involved in most Kenyan transport companies, which is the biggest contributor to the existence of cartels and chronically high transport costs. (Opinions of Kenyan and Ugandan companies)
- ✓ About 40 years ago, rail transport between Kampala and Mombasa took about one week. Since efficient operations were once achieved in the past, they can also be achieved now. Improvement in railway operations is definitely necessary for cost reduction. (Opinion of a Ugandan company)
- ✓ The Government of Japan should focus on strengthening administrative capacities within the EAC. (The EAC personnel are honest and highly qualified. The problem lies in the system to implement policies. Improvement of EAC's implementation system is vital to the promotion of free trade. (Opinion of a Ugandan company)

5.3 Harmonization of Cross-Border Transport Requirements with Industrial Development and Trade Promotion Priorities

5.3.1 Basic Concept

While, as mentioned earlier, the Millennium Development Goals (MDGs) were developed at the United Nations Millennium Summit in 2000 with the fundamental theme of poverty reduction, the idea of focusing on areas with growing economies has also received attention especially in Southern African countries as South Africa increases its economic presence. As the host country for the Tokyo International Conference on African Development (TICAD), Japan has become actively involved in the development of Africa, and in 2005 announced it would double ODA to Africa over the coming three years (and has started cooperation with the African Development Bank for a yen loans scheme Enhanced Private Sector Assistance, EPSA, for Africa). TICAD-IV (the fourth TICAD conference) announced a policy to support development of the private sector in Africa.¹⁵ When supporting CBTI development, taking the earlier mentioned actions as a set condition, “higher-level” CBTI strategies and regional/industrial development must be organically combined, based on the utilization of the private sector, which will be considered in more detail below.

Maputo Corridor development provides an example of good practice for effective linkages between transport corridor and industrial development in Africa. This corridor project became successful because the Government of South Africa provided information to domestic and foreign investors through Bankable Packages¹⁶ as well investing in the initial infrastructure.¹⁷

¹⁵ The new Japan Bank for International Cooperation (the new JBIC, formerly the Export-Import Bank of Japan) has announced that, as part of its activities for Africa, it will establish Fund to Facilitate Doubling Investment in Africa (Facility for African Investment) in April 2010 (within JBIC) to support Japanese companies' business expansion in Africa, and that it will provide support for African infrastructure for manufacturing, resource development, electricity, ports, and others through investment, guarantees, and local currency financing from Facility for African Investment. Moreover, JBIC will provide financial support totaling US\$ 2.5 billion to Africa over the next five years in the form of loans, equity investments, and guarantees.

¹⁶ Bankable Packages include various pieces of information: information on economically superior projects such as development of transport infrastructure or industrial parks, and information on potential resources in the region and other geographical characteristics. Projects that are not individually profitable may turn profitable by synergistic effects when combined with other projects. For example, a road project that is not profitable by itself can secure toll revenue with another industry located on the periphery. Conversely, such industries could not come to the area if there

Moreover, according to a review of Maputo Corridor development from the standpoint of regional development,¹⁸ this corridor development is unique in that multiple investment opportunities were put together into a package and investment was widely called for, and that in such cases it is vital for investors to understand packaged investments are more bankable, i.e., more profitable. This review also found that the Maputo Corridor represents the emergence of a new type of micro-regionalism under which joint development of the border area between two nations (South Africa and Mozambique) is carried out, in contrast with wide-area regionalism between nations as seen in SADC and COMESA, there is likely to be more cross-national regional development using such corridors.

The above discussion is highly suggestive and a similar discussion is also seen in the JICA-sponsored Cross-Border Transport Infrastructure Feasibility Project Study, Phase 2,¹⁹ a study prior to the current one in the same series. Thus, when developing a strategy harmonious with transport corridor development and local development projects in the region (such as development of a SEZ or a mine), it is necessary to have broad perspectives such as (i) how to bring about the synergistic effects of the common use of corridor infrastructure through multiple private investment businesses to the local countries' higher-level strategies, and (ii) how such local countries can internalize the benefits of CBTI development in their economy through regional development projects including resource, agricultural, and industrial development. In addition, in case corridor infrastructure is developed through public-private initiatives/cooperation, it is also critical to consider the amount of government subsidy and how to allocate risk between the government and the private sectors.

Another example of a Bankable Package is the Corridor Sands project in Mozambique, described in Table 5.3.1. This project is unique in that the funds for building infrastructure were drawn from a financing group formed by multiple financial institutes as well as from investment companies, through a project finance scheme.

Table 5.3.1 Corridor Sands Project (Mozambique)

Project Site	The deposit is near town of Chibuto, Gaza Province, located 190 km North of Maputo, and 50 km inland from Indian Ocean.
Mineral Resource	Deposit of titanium dioxide (TiO ₂)
Investors	BHP Billiton (the former Australian mining company Western Mining Corporation, WMC)
Infrastructure to be Developed	The road, jetty, and related infrastructure to be built to the coast cost US\$80 million, and power infrastructure will cost US\$80 million.
Total Investment Cost	US\$800 million with US\$500 million as an initial investment.
Feasibility Study	The bankable feasibility study completed in 2002, with US\$10 million.

Source: JBIC/Mitsubishi UFJ Research & Consulting (2007), "Pilot Studies for Project Formation (PILOT) for Economic Corridors and Growth Poles for Private Sector Development in Sub-Saharan Africa", Final Report Summary. (Unpublished report, Original Source: Mining Review Africa, Issue 5, 2003)

was no road. Therefore, the term Bankable Package implies profitability through synergistic effects." (Source: JBIC Research Institute for Development and Finance, Report No. 2 (April 2000).

¹⁷ Source: JBIC Research Institute for Development and Finance, Report No. 2 (April 2000), pp. 24-37

¹⁸ Source: F. Soderbaum and I. Taylor (2004), "Micro-regionalism in Africa: Competing Region-building in the Maputo Development Corridor".

¹⁹ E.g., this study found that in order to maximize the effect of cross-border transport, regional development focusing on such effects is important. Previously, development priorities tended to be set based on the industry composition and resource allocation of a country but, as interchanges and trading with neighboring countries increase and the cross-border transfer of labor resource becomes easier, development strategies need to be more adaptable to the industry composition of the whole region and the comparative advantage over neighboring countries.

5.3.2 Strategy Development Issues

One approach to the development of Sub-Saharan Africa is the MDGs, the underpinning theme of which is poverty reduction. At the same time, with the increasing economic presence of South Africa and the steady economic growth of many countries, development linked with industrial and trade promotion may be preferred, especially in the Southern African subregion. Meanwhile, as stated earlier, transport costs in Sub-Saharan Africa are extremely high compared with those in other regions. As shown in Chapter 1, the ratio of indirect costs (e.g., transport, energy, security) to total costs is high in Sub-Saharan Africa. Moreover, high logistics cost are big disincentive to industrial promotion and economic growth, e.g., as found by Amjadi and Yeats, 1995 (“High transport cost in Africa is a greater trade barrier than import duties and other trade restrictions”) and World Bank, 2007 (“Transport cost in Africa can be even higher than the value of products themselves”).

In addition, as mentioned in Section 5.1, the worldwide economic structure is changing. The prices of primary products are increasing compared with those of industrial products, and an inflation of resources and deflation of industrial products is ongoing. This is mainly caused by growing demand worldwide (especially in BRICs and other emerging economies), the restriction of supply for such growing demand, and decreasing natural resources. A paradigm shift or crustal change of the economic structure is taking place as the relative prices of primary products and industrial products are adjusting (although resource prices are currently in an adjustment phase following the financial crisis later last year). Since Japan is a trading nation, the disadvantage in trading conditions (relative prices of industrial products) will cause a persistent deterioration in trade balance and may weaken the Japanese economy in the long term. Although there are other options including “urban mine” development and Arctic Ocean development as previously stated, securing mineral resources in Sub-Saharan Africa is vital for the Japanese economy over the medium and long term.

In addition, as discussed in Section 5.2, it is essential in the short run to redevelop both the institutional distribution system and the physical distribution infrastructure to facilitate the transportation of agricultural products, whereas productivity improvement in subsistence crops such as rice²⁰ and maize are also important in terms of food security in the medium and long run. Also, the agro-processing industry, selected as one of the promising industries in the industrial development policies of most East African countries, is expected to greatly contribute not only to an increase in various potentials for export promotion but also to achievement of “pro-poor growth”. Accordingly, focusing on this industry can be expected to be substantially beneficial for both industrial development and poverty reduction.

Among the major players in resource development, as mentioned in Section 5.1 are mining giants/majors, who are said to reject partial participation of other firms such as Japanese trading companies. In contrast, the mining juniors/minors, who make quicker investment decisions than mining giants/majors and tend to deal with small and medium projects mainly for rare metals and non-ferrous metals, are becoming active. As pointed out in Section 5.1, although prices of mineral resources have been sharply dropping as a result of the financial crisis in late 2008, many specialists expect prices to increase over the long term. Future trends in mineral resource prices should be closely monitored.

²⁰ Rice consumption is very high in West Africa compared to other parts of Africa. The staple food in East Africa is maize (corn), except in Madagascar and in some parts of Tanzania, Malawi, and other areas.

5.3.3 Strategic Directions

To maintain sustainable economic growth in Sub-Saharan Africa, it is of great importance to break the “negative spiral” shown in Figure 5.3.1 resulting from a delay in transport infrastructure development, together with laggard regional and industrial development in this subregion. Transport demand for CBTI in Sub-Saharan Africa is certainly lower than that in the Greater Mekong Subregion (GMS) of Southeast Asia, the study area in the previous phase of this research series. Thus, implementation of strategies to stimulate traffic demand through industrial development in conjunction with CBTI development is very much needed in this subregion.

To narrow down these points, the following measures may be proposed as part of CBTI development strategies, or industrial development and trade promotion strategies: (i) elimination of various barriers to promote market expansion within and outside the subregion, (ii) fostering of the agro-processing industry and promotion of exports of primary agricultural products, (iii) effective linkages with mineral resources development, as well as (iv) the development of industrial human resources and employment creation as a sub-strategy to complement the first three strategies.

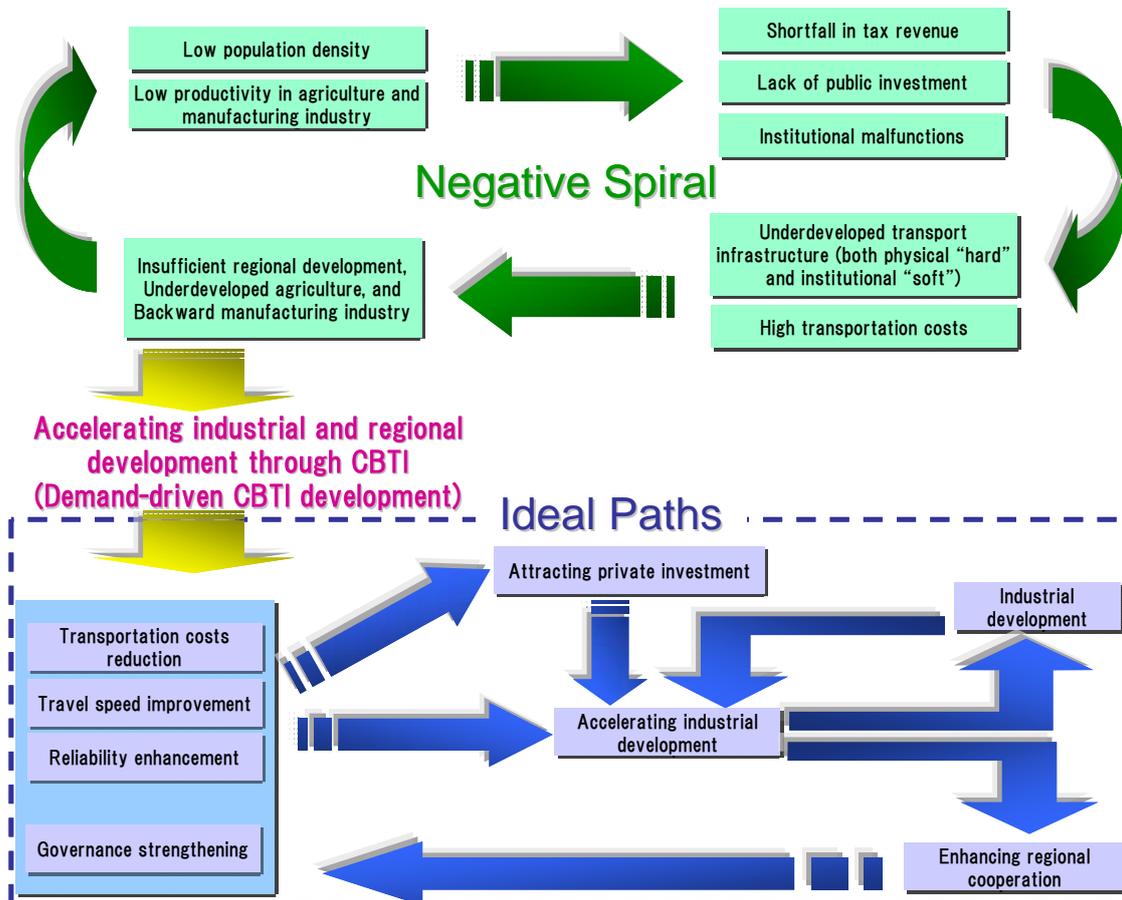


Figure 5.3.1 CBTI Development and Trade and Industry Promotion in Sub-Saharan Africa

Strategy 1: Reduction of physical and institutional barriers to contribute to expansion of interregional and intraregional markets

CBTI development in terms of both “hardware” and “software” will help increase transport speed and reliability and significantly reduce costs. These achievements will improve company earnings. For example, it is estimated that in East Africa, if vehicle operating conditions along a corridor improve dramatically after an improvement project, transport costs will decrease by about 15% and forwarding and other prices by 7–10%.²¹ CBTI development will directly decrease transport costs for imports and exports, dramatically improve the business environment, and eventually contribute to trade promotion and market expansion within and outside the region. (This market expansion will lead to intraregional specialization in the medium and long term and will contribute to region-wide growth in production and trade over the longer term.) Concrete examples of possible effects are that: (i) within the region, cross-border distribution of consumable goods and subsistence crops such as rice and maize (corn), the trade of which is growing along with high economic growth, will be promoted, and the corresponding food security system will be reinforced (especially in the case of drought conditions); (ii) outside the region, domestic distribution and the export of strategic primary agricultural products (to be described later) will be promoted.

In addition, efforts to increase the flexibility of freight rates by further promoting the deregulation of the transport/distribution industry in the region and to eliminate freight cost cartels are required (although this may be difficult for political reasons²²).

It may also be effective to indirectly support the ongoing market integration and currency unification in regional economic communities (RECs) and at the same time carry out measures to reduce trade barriers, although these actions have no direct relation with CBTI development. Since there have been developments such as the establishment of a customs union (2005) and abolition of tariffs (2010 as a target) in the EAC, creation of a Free Trade Area (2000) and introduction of common tariffs in the region (by 2008) in COMESA, and introduction of a customs union (by 2010), a joint market (by 2015) and a single currency (by 2018) in SADC, it is proposed to provide technical assistance (TA, including the dispatch of experts and the introduction of public-private initiatives) to improve various policies and systems in these RECs. It is important to ensure consistency between the implementation schedule of the abovementioned measures in RECs and the timing of CBTI development.

Strategy 2: Development of the agro-processing industry, promotion of the export of primary agricultural products, and demand stimulation

As shown in Chapter 1, the key industry of Sub-Saharan Africa is agriculture. About 60-70 % of the working population is engaged in agriculture, and primary agricultural products are the major export items in many countries in the region. As discussed in Section 5.2, especially in East Africa, in addition to traditional export items such as coffee, tea, and tobacco, horticultural products such as flowers and fresh vegetables have been promoted as a major trade promotion measure, and the export of such products has been rapidly growing. (Horticultural products have become the biggest export items of Kenya.)

²¹ For details, see World Bank (2008), “Transport Prices and Costs in Africa – A Review of the International Corridors.”

²² A Ugandan business owner stated in an interview with the Study Team that “Government officials and politicians are always involved in the Kenyan transport industry, without exception, and it has become a hotbed for cartels and a major cause of high transport costs.”

Regarding the strategic export of these agricultural products, as stated in Section 5.2, there are many adverse business factors in terms of price setting and access to market information for small-scale farmers who mainly produce such products, because such items do not acquire high added value through the processing steps in countries such as Kenya (except for some items for which processes of large-scale production, processing, distribution, and export have been established with the aid of foreign capital²³) and distribution routes are very complicated with many middlemen (intermediaries). In particular, distribution infrastructure such as access roads to markets and cold chains with refrigerated/chilled trucks and equipment are not well developed,²⁴ which has become the biggest disincentive to further expansion of exports.

Considering these issues, in this study the following policies coupled with CBTI development will be proposed. Note that it will also be worthwhile to consider the effective linkage between CBTI development and agro-processing industry promotion, given that this industry has not only been positioned as a strategic export industry in the region but that it also contributes to achievement of “pro-poor” growth.

Basic Policy

Provide comprehensive support with a view to a value chain from input, production to processing, distribution and export, and promote the export of strategic agricultural items through effective linkages with CBTI development. (Provide support that will contribute to the addition and maximization of value at each stage of the value chain.)

- (i) **Production phase:** Provide support to enhance access to market information. In particular, develop mobile phone and information technology (IT) infrastructure (including wireless-LAN facilities) in rural areas along corridors and secondary roads. (taking public-private initiatives/cooperation into consideration.)
- (ii) **Processing phase:** Provide support concerning techniques for agro-processing and packaging. (Enhanced processing techniques will help to keep products from deteriorating during transport and therefore resolve various problems related to quarantine issues.)
- (iii) **Distribution phase:** Improve distribution systems. (Build secondary roads feeding main corridors, developing a cold chain along a corridor, and fundamentally improving the distribution system by building Agro-Processing EPZ/SEZs (to be described later) (taking public-private initiatives/cooperation into consideration).)
- (iv) **Distribution/export phase:** Support quality control/management and product tracking/traceability management.
- (v) **Processing/distribution/export phase:** Construct an EPZ/SEZ near a mode junction (port) or a border to draw agro-processing businesses, and develop it as a core of processing and distribution systems. In addition, stimulate the demand of businesses

²³ For example, most Kenyan roses are produced in foreign-owned large farms, and processes from production to transport and export are centrally managed through the use of a cold chain developed by such foreign-owned companies. The business model has been almost established, and regarding the export promotion of roses, it does not seem that there is much room for Japanese ODA except for value addition to products. (Reference: Ministry of Agriculture, Forestry and Fisheries (2007), “Basic Research Report on Consistency in Policy-Making for ODA and Trade of Agricultural Products – Roses and Tea”)

²⁴ Source: Ministry of Agriculture, Forestry and Fisheries (2007) “Basic Research Report on Consistency in Policy-Making for ODA and Trade of Agricultural Products”, (in Japanese)

related to agriculture and service industries, with a view to including related service industries (e.g., microfinance and other finance businesses, logistics, retailing)(take public-private initiatives/cooperation into consideration.)

Figure 5.3.2 depicts the development of the agro-processing industry along the value chain and enhancement of export competitiveness.

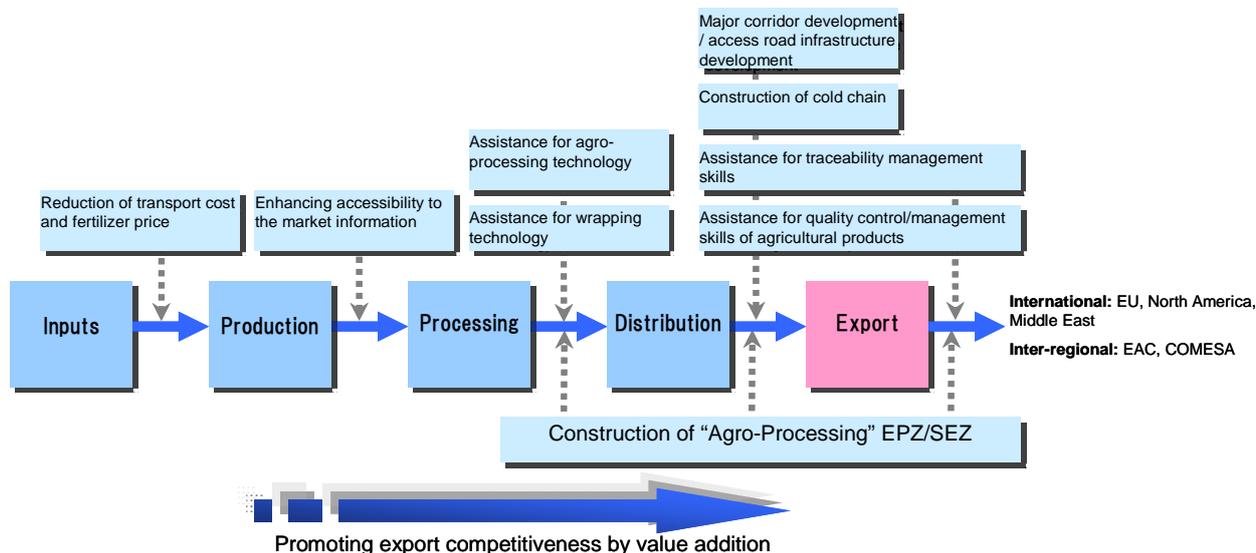


Figure 5.3.2 Development of Agro-Processing Industry along the Value Chain and Enhancement of Export Competitiveness

In addition, as stated in Section 5.2, expansion of production and intraregional distribution of staple foods (rice in West Africa, potatoes in Central Africa and maize in East and Southern Africa) is important in terms of food security and poverty reduction, and it is urgently needed to improve productivity, which has extremely low compared with other regions such as Asia. Along with introduction of the New Rice for Africa (NERICA) initiative, which was discussed at TICAD-IV, and development of small-scale irrigation facilities, the adjustment of high fertilizer prices may be an effective policy and CBTI development may indirectly help lower fertilizer prices because it reduces transport cost and freight prices. (To achieve additional effects, the transport/distribution industry in the region needs to be further deregulated and transport price cartels need to be eliminated, as already explained.)

Strategy 3: Linkage with mineral resources development

Considering the adjustment of relative prices of primary and industrial products mentioned in Section 5.3.2, and the current situation of resource development in Sub-Saharan Africa, this study will propose the following actions in coordination with CBTI development to secure mineral resources:

- (i) One such action is the building of access infrastructures in specific mine development projects (e.g., construction of roads to inland mines, upgrading of embarkation ports), based on cooperation with mining juniors/minors (especially targeting rare and non-ferrous metals);
- (ii) Considering that the targeted region is Southern Africa, which has a large amount of rare and non-ferrous metal deposits (the region is more promising in terms of the type and scale of deposits than East Africa), coal and iron ore deposits along the Mtwara Corridor and

nickel mines in Burundi could be the targets in East Africa, although such metals are not abundant in the subregion.

- (iii) Coordination of CBTI development with other TICAD-IV commitments (e.g., support to infrastructure development for electricity, water, sewage), for example by combining development of electric power resources and that of mines and of related infrastructure.

Sub-strategy: Development and employment promotion of industrial human resources

In this study, the development of industrial human resources and employment promotion will be proposed as a complementary strategy. Targeting the logistics and transport industries addressed in Strategy 1 and the agro-processing and distribution industries addressed in Strategy 2, concrete actions are recommended as follows:

- (i) Development of industrial human resources for the logistics and transport industries: Support forwarders and logistic service providers in customs clearance, border crossing procedures, and the like.
- (ii) Capacity building among customs officers: Strengthen the JICA Technical Cooperation Project (TCP) scheme.
- (iii) Development of industrial human resources for the agro-processing and distribution industries: Transfer processing technologies, support processing business owners in business management techniques, and provide technical support related to distribution quality control and traceability management, among other measures.
- (iv) Capacity building for quarantine officials: Conduct capacity building using the JICA Technical Cooperation Project (TCP) and other schemes (especially for the quarantine of agricultural products for strategic export).

The summary of the above strategies and the direction of actions in detail are shown in Figure 5.3.3. Box 5.3 presents a candidate agro-processing EPZ/SEZ project, while Box 5.4 assesses the possibility of sea transport of cut flower exports.

Strategy	Strategic Directions	Induced Impacts (Anticipated)
Strategy 1: Reduction of physical and institutional barriers for trade promotion	Through CBTI development, improve transport speed and reliability, and reduce transport cost	Improve company earnings and business environment, expand regional market, accelerate regional division of labor and increase in production level
	Indirectly support the market integration and currency unification in RECs -Support for policy making and institutional development (through public private initiatives)	Improve the environment for trade and investment promotion Accelerate regional market integration
	Support the promotion of deregulation of the transport/distribution industry in the region	Increase flexibility of freight rates Lower freight rates
Strategy 2: Development of the agro-processing industry, export promotion of primary agricultural products and demand stimulation	Comprehensive support along the "value chain" of agricultural products	
	Production Phase: Enhancing accessibility to the market information -Dissemination of mobile phone along the corridor, and provision of Information Technology (through public private initiatives)	Enhance small scale farmers' accessibility to the market information, and facilitate them to obtain market information
	Processing Phase: Technical assistance for agro-processing technology -Support for adding more value by the introduction of wrapping technology	Keep products from deteriorating during transport by enhanced processing techniques Resolve various problems related to quarantine
	Distribution Phase: Improvement of distribution system -Development of main corridor and access roads -Development of a cold chain (cold storage warehouses, etc) along a corridor	Reduce travel time for distribution, improve quality of products by developing a cold chain, diversify and newly develop potential export markets
	Distribution / Export phase: Technical assistance for quality control / management skills of agricultural products, and for traceability management skills of them	Respond to the requirement of export market, such as European standard of EUREP-GAPP) Develop new export markets
	Processing / Distribution / Export phase: Construction of "Agro-processing EPZ/SEZ" -As a major centre of processing and distribution of agricultural products -Demand stimulation through introducing related service industries	Drastically improve distribution system, enhance efficiency of value chains as a whole, promote employment generation and induce synergy effect by attracting other industries to EPZ/SEZ
	Assistance for poverty reduction and food security issues	
Reduce fertilizer transport cost by CBTI development (Through deregulation of the transport/distribution industry) Lower fertilizer prices	Expand production and domestic distribution of staple food (rice, potato and maize) and enhance food security	
Strategy 3: Linkage with mineral resource development	Build access infrastructures in specific mine development projects based on cooperation with Mining Juniors/Minors (through public private initiatives) Target region: Southern Africa Target minerals: Rare metals, Non-ferrous metals	Facilitate optimal risk allocation between public and private sector in mine development Induce secondary spillover effects (attraction of other industries, promotion of regional development, etc.) by the development of access infrastructure such as roads and railroads
	Effective linkage between CBTI development and other TICAD-IV commitment of the Government of Japan -Combination of development of electric power resources and that of mines and of related infrastructures	Comprehensively improve business environment for other potential projects and related business in the region Facilitate optimal allocation of mining risks
Sub-strategy Development and employment promotion of industrial human resources	<ul style="list-style-type: none"> - Development of industrial human resources for the "logistics and transport industries": Support forwarders and logistic service providers in customs clearance, border crossing procedures etc. - Capacity building among customs officers - Development of industrial human resources for the "agro-processing and distribution industries": Transfer processing technologies, and provide technical support related to distribution quality control and traceability management, etc - Capacity building among quarantine officials 	

Figure 5.3.3 CBTI Development and Industrial Development/Trade Promotion Strategies

**Box 5.3 Candidate Agro-Processing EPZ/SEZ –
Development of Horticultural Product Processing EPZ/SEZ
at the Border between Kenya and Uganda**

The biggest rose producing area in Kenya is around Lake Naivasha, and as stated in Section 5.3, they are mostly produced in large foreign-owned farms through centrally managed processes from production to processing, transport and export. Also for tea, a traditional export item, an original product chain has already been established in the country. Regarding promotion of the exports of such “mature” agricultural items, room for Japanese ODA seems very limited. However, other horticultural products including fresh vegetables and fruit are grown and produced by small-hold farmers²⁵ with a few exceptions,²⁶ and distribution systems for such products (cold chains and other infrastructure) are not well developed and quality control issues remain.

With the purpose of promoting the export of such vegetables and fruits, it can be considered to develop a Horticultural Product Processing EPZ/SEZ near the border between Kenya and Uganda and to develop it as a major center for horticultural product processing and distribution systems in this cross-border region, mainly targeting the horticultural commodity producing areas in western Kenya and eastern Uganda. The possible benefits of developing such an EPZ/SEZ in this region are as follows:

- ✓ Current serious problems such as the electricity shortage and rising costs in Kenya can be addressed by supplying the necessary electricity from Uganda, which produces a surplus. (In an EPZ development project near the border between Laos and Thailand, electricity was supplied from Thailand.) It is also close to the Bujagali hydropower plant in Uganda, which will start operation in 2010.
- ✓ Electric power supply between Uganda and Kenya has a long history. Additional investment for infrastructure related to electric transmission can be reduced by using existing cross-border transmission lines. (Japanese ODA can productively be provided to build access roads between producing areas and the EPZ/SEZ, and to develop distribution infrastructure including cold chains and related infrastructure such as water supply and sewerage facilities.)
- ✓ Eldoret Airport in Kenya can be used for the export of horticultural products. (Regular airfreight service provided by Emirates Airlines can be used on a short-term basis.) Alternatively, Kismu Airport, which was designated an international airport in 2008, could also be used. ODA can be provided to build facilities necessary for air transport. (Alternatively, rehabilitation and expansion of Eldoret Airport by with yen loan assistance can be considered.)
- ✓ Employment will be increased in rural areas along the border of the two countries with many labor-intensive agro-processing industry enterprises to be located at this EPZ/SEZ. This job creation will contribute to a reduction of poverty among low-income residents living in the vicinity of the border.
- ✓ Through cooperation with EAC’s horticulture research and test center, located at Soroti (Uganda), R&D for seed development and quality control can be effectively conducted

²⁵ About 95% of Kenyan farmers are small scale and 90% of the horticultural products are for domestic use. The number of small-hold farmers involved in export is only 16,000. (Source: Ministry of Agriculture, Forestry and Fisheries (2007), “Basic Research Report on Consistency in Policy-Making for ODA and Trade of Agricultural Products – Vegetables and Fruits”,

²⁶ French beans are a typical export cash crop in Kenya. Domestic consumption is small and they are mostly exported to British supermarket chains (e.g., ASDA, TESCO, Sainsbury’s) by air freight services of British Airways and other carriers. A consistent network from production to retail has been established for this item. (See above source.)

using existing knowledge. (This is an example of cross-border R&D. It will also be effective to move the center itself into this EPZ/SEZ.)

- ✓ Cooperation with the OSBP in Malaba (e.g., customs clearance in the EPZ/SEZ) will contribute to efficiency improvement of intraregional and domestic transport of agricultural consumer products.
- ✓ Logistic systems can be improved by adding to the EPZ/SEZ a transit dry port function for goods heading for Juba in southern Sudan.
- ✓ A positive impact on other regions may be expected through a “demonstration effect”.

In addition, as proposed in Section 5.3, demand for businesses related to horticulture and associated service industries can also be stimulated with a view to including associated service industries (e.g., microfinance, other financial businesses, retail) when developing such EPZ/SEZs. As a possible negative impact, employment issues for brokers and employers who have been involved in the local production and distribution systems in the region must be considered. A feasibility study will be carried out before the development of such EPZ/SEZs, but it is necessary to have a broad perspective (for close examination of types and degree of economic benefit in Kenya and Uganda) in making investment decisions.

Box 5.4 Possibility of Sea Transport for Cut Flower Exports

One of the priority matters for the export of cut flowers is quality control including temperature control. All exporters struggle to preserve freshness at a certain level. Therefore, air transport is generally chosen as the most appropriate means of transport because it is quickest, but again, the bottleneck is high transportation costs. (Another reason for the high utilization of air transport in Kenya is to effectively use air cargo on the way back to Europe.)

In fact, air cargo is not necessarily the best choice as there are issues such as difficult temperature control and complicated work processes up to shipment. In consideration of these issues, possibilities of sea transport are currently being sought as an alternative to air transport. The Basic Research Report on Consistency in Policy-Making for ODA and Trade of Agricultural Products issued by the Ministry of Agriculture, Forestry and Fisheries of Japan in 2007 (in Japanese) shows a record air transport of cut flowers between the Netherlands and the United States*, and concluded as a result of interviews, that technically it is possible to maintain quality for about two weeks, and therefore sea transport can be an option if the date of sale is known. The report also states that possibilities of air transport from South Africa and Kenya to the Netherlands are being studied and it is estimated that the transport operation including customs clearance will take about three weeks.

Regarding the cost comparison with air transport, the report also found transport costs can be reduced by about 75% compared with air transport. If this is correct, a dramatic change may happen in the transport system for export of cut flowers over the medium and long term. Since the strategic position of flowers and other horticultural products in Kenya, Uganda, and Tanzania is likely to remain unchanged, it can be envisaged that the importance of upgrading the Northern and Central Corridors will become even more important and, as production scale increases, the efficient utilization of the Ports of Mombasa and Dar es Salaam will seriously be considered. This may become the best example of harmonization between CBTI development and trade promotion /industrial development.

※ The report states that the transport from the Netherlands to the United States took about 10 days in total (6 days for travel and 3–4 days for customs clearance) and there was no quality control issue (quality was well maintained when the temperature of the refrigerator on the ship was kept at 0.5 degrees C under low-oxygen conditions).

5.4 Views on Future Prospects for Public-Private Initiatives for Cross-Border Transport Development

5.4.1 Background of Public Private Initiatives/Cooperation and Past Actions

Since the United Nations announced the Global Compact, measures to promote public-private initiatives/cooperation in development projects, especially cooperation between European and United States aid agencies and local private companies has been increasing. In Japan, although the importance of public-private initiatives/cooperation in ODA projects have been insisted on mainly by trading companies and manufacturers against the background of the effectiveness of “Japanese-style” public-private partnerships in the economic growth of Asia, the government has been slow in acting in contrast with the private sector, due to questions about fairness and transparency guarantees concerning support to one company (i.e., utilization of public funds for a particular private company).

On the other hand, triggered by the increased importance attached to national interests in providing ODA, starting in 2000, the abovementioned moves in Europe and the United States, and also the recent attitudes of China and India toward assistance regarding African mineral resources, public-private initiatives/cooperation emerged as a major topic at TICAD-IV in May 2008. About the same time many recommendations regarding private-public initiatives/cooperation were presented one after another by Keidanren (Federation of Economic Organizations), an ODA expert panel, and other parties, and eventually the search for ODA projects based on proposals from private Japanese companies received an official “green light”. In November 2008, the government started to accept proposals for public-private initiatives/cooperation projects from private companies, and many such proposals for Consultation Services for Public-Private Initiatives/Cooperation were developed by relevant ministries and JICA.²⁷ Moreover, in February 2009, the ODA expert panel of the Ministry of Foreign Affairs recommended to the government the resumption of JICA’s investment and loan scheme, which had been abolished in 2001; the panel noted the necessity of strengthening public-private initiatives/cooperation to promote private investments and trade.²⁸

Table 5.4.1 shows schemes and achievements regarding public-private initiatives/cooperation carried out by Japanese, European, United States, and international organizations.

²⁷ A total of 63 proposals had been submitted as of January 2009, of which 35 are for Africa. Such proposals are vmostly for infrastructure development and technical cooperation projects. (Source: Document of International Cooperation Bureau, Ministry of Foreign Affairs – “Our Country’s Roles in International Cooperation and Progress of Public private initiatives/cooperation” (a handout for an open seminar held on January 20, 2009).

²⁸ The purpose of this recommendation is to resume JICA’s investment and loan scheme is to reduce the risk of investments and loans by Japanese companies involved in development of mines and infrastructure, especially in Africa. Considering the impacts of the serious financial crisis starting in late 2008, the recommendation called for redevelopment and/or active utilization of some schemes to reduce the risk of private investments and loans for ODA. On the other hand, JICA’s investment and loan scheme was deeply discussed in the context of ensuring accountability for investments and loans made by public-interest corporations and demarcation with the then-existing JBIC when there was a trend of rationalization and streamlining of public corporations; the Japanese Cabinet decided to abolish this scheme in 2001. In consideration of such history, it seems that there may be many “twists and turns” regarding the resumption and redevelopment of this scheme.

Table 5.4.1 Public-Private Initiatives/Cooperation by Developed Countries

Agency	Country	Name	Year	Type of Services	Performance Results	Target Countries / Regions	Private Company Participants
USAID	U.S.A.	Global Development Alliance (GDA)	2001	Grant Aid/TA	<ul style="list-style-type: none"> 6 billion US\$ in total since 2001 (US\$1.4 billion from public sources and US\$4.6 billion from private sources) Formulated more than 500 alliances with 1,800 private partners 	Africa (35%), Central and South America (25%), Asia (15%)	Starbucks Coffee, Mars, Coca Cola, Cisco Systems
USAID	U.S.A.	Development Credit Authority (DCA)	1999	Risk Guarantee	<ul style="list-style-type: none"> Implemented 110 projects in 42 developing countries 	Developing Countries	
DFID	U.K.	Emerging Africa Infrastructure Fund (EAIF)		Loan	<ul style="list-style-type: none"> Specialized in the development of infrastructure in Sub-Saharan Africa Provided long-term loans (both in Euro and US\$) to private companies Jointly established by Swedish and Dutch governmental agencies 	45 countries with 12 projects in Sub-Saharan Africa	SPM Ghana, MTN, AES Sonel, etc.
DFID	U.K.	Public Private Infrastructure Advisory Facility (PPIAF)	1999	TA	<ul style="list-style-type: none"> Implemented projects relating to policy matters in energy, water, infrastructure, and multi sectors 	65 developing countries	
GTZ/ KfW/ DEG	Germany	Public Private Partnership	1999	Loan/TA	<ul style="list-style-type: none"> Contributed 299 million Euros in total, for variety of sectors such as environment, health, trade, energy, etc. Invested about. 60% of the total from private companies 	More than 90 countries with 771 cases in total, including South Africa and India	Daimler, Volkswagen, Deutsche Telecom, etc.
IFC/ World Bank	-	Private Participation in Infrastructure Database	1984	TA	<ul style="list-style-type: none"> In cooperation with PPIAF from 1990 to 2007, provided information of more than 1,500 PPP projects in 150 countries Included PPP projects in energy, telecommunications, transport, and water/sewerage sector 	Many, especially in East Asia, Central and South America, and Sub-Saharan Africa	

Agency	Country	Name	Year	Type of Services	Performance Results	Target Countries / Regions	Private Company Participants
UNDP	-	Growing Sustainable Business (GSB) Initiative	2002	TA	<ul style="list-style-type: none"> Financed various projects from small scale (with approx. 0.2 million US\$) to middle scale (2.3 million US\$) 	166 Countries	Ericsson, Unilever, and many others
UNIDO	-	AfriPAnet	N/A	TA	<ul style="list-style-type: none"> Established “Investment Promotion Agency” in 27 African countries and in operation 	African Countries	
MOFA/ MOF/ METI/ JICA	Japan	Public-Private Partnership for Boosting Growth in Developing Countries	2008	Grant Aid/TA/ Loan/ Others	<ul style="list-style-type: none"> Received 65 proposals from Japanese private companies up to Jan. 2009 Currently reviewing proposals to select potential projects 	Developing Countries	Not known
<i>JICA</i>	<i>Japan</i>	<i>JICA Investment and Loan Scheme</i>	<i>2009?</i>	<i>Investment and Loan</i>	<ul style="list-style-type: none"> <i>In February 2009, recommended by an ODA Expert Panel to resume (although it was decided to remove through Cabinet approval in 2001)</i> <i>For private Japanese companies involved in high-risk and/or less-profitable projects such as mining and related infrastructure, to provide investments and loans</i> 	<i>All the Developing Countries?</i>	<i>Not known</i>

Source: Study Team (prepared from various materials and internet sources). *Italics* show programs under current consideration.

As shown in the above table, European and United States development partners commenced public-private initiatives/cooperation around 2000, and have accumulated considerable experience to date, including cooperation with Corporate Social Responsibility (CSR) activities and the development of infrastructure. In contrast, Japan is about 10 years behind in public-private initiatives/cooperation.²⁹

5.4.2 Basic Concept

This study has paid attention to the recent development assistance trend of “going back to infrastructure”³⁰ and “the role of infrastructure development in reducing poverty which

²⁹ It is not that JICA has taken any actions, but it has been studying USAID’s Global Development Alliance (GDA) and other initiatives through personnel exchange with this United States organization.

³⁰ The move to reconsider development in Africa based on the successful experience of Japanese ODA in Asia (especially the role that infrastructure development played in the region’s economic growth) is the fruit of a series of lobbying activities by the Government of Japan through the TICAD process and others. The growth model that links economic growth in Asia and trade investment in Africa, led by both the internal and external private sectors, is

contributes to pro-poor growth.” Possibilities of coordination with CBTI development strategies in Africa are considered in respect to each of the public-private cooperation models presented by Keidanren, the ODA expert panel, and other parties in early 2008.

Keidanren stated in its recommendation³¹ that traditionally Japan raised increased private investment after preparing the investment environment in developing countries through yen loan assistance. However, in order to promote Japanese companies’ business expansion in Africa and enhance the effect of the country’s assistance to Africa, Japan should establish a scheme to complement and support private sector led projects through yen loans, technical assistance, and grant aid. Keidanren further stated the hope that the government would provide support to improve systems and organizations, to upgrade related infrastructure, and to develop human resources, especially when private companies work on a project that will help secure a stable supply of energy and mineral resources. Keidanren’s recommendations regarding public-private cooperation is presented in Box 5.5.

Moreover, the ODA expert panel presented similar proposals to those of Keidanren, including (i) development of supporting infrastructure for private investments, (ii) Public-Private Partnerships (PPPs), and (iii) improvement of the trade investment environment.

Box 5.5 Keidanren’s Recommendations regarding Public-Private Cooperation

(“Ideal International Cooperation in the Future”, issued on April 15, 2008³²)

Priority areas and policies

1. Economic growth (further reinforce economic relations with eastern Asia; handle huge demand for infrastructure. contribute to Africa’s economic growth.)
2. Resources and energy (the public and private sectors will reinforce relationship with countries with resources; develop resources (utilizing ODA, other official flows/OOF, and trade insurance).
3. Global environment issues (secure financial resources through a “new financial mechanism”; promote clean development mechanism/CDM projects and other international cooperation activities for the environment.)

Examples of methods for public-private initiatives/cooperation

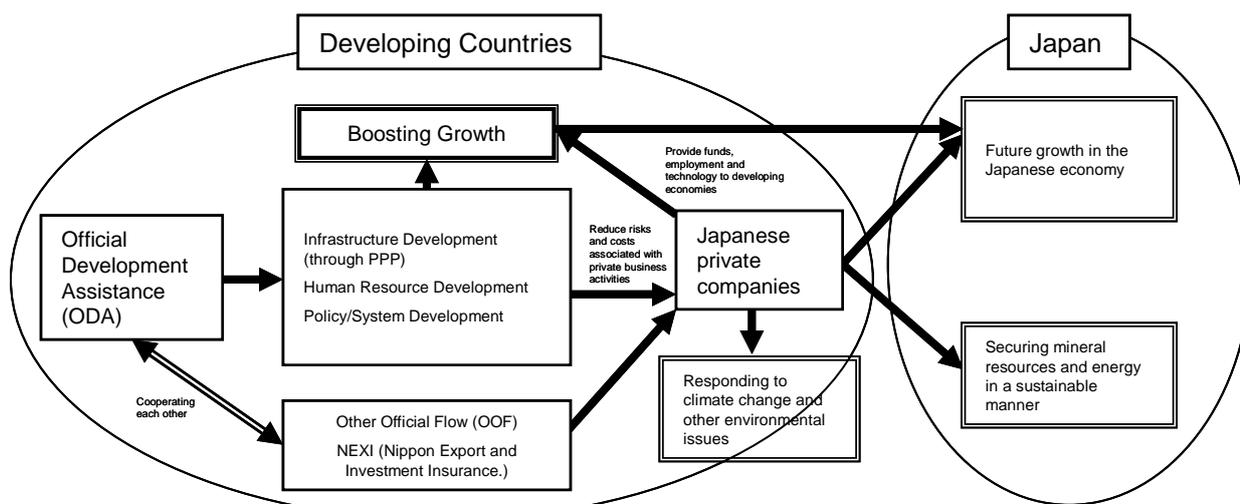
1. Development of supporting infrastructure related to private investments
2. PPPs (public-private partnerships)
3. Intergovernmental dialogues and monitoring of policies and institutional systems
4. Utilization of knowledge and knowhow of private companies where industrial human resources are well developed.
5. Generation of synergistic effects through cooperation with CSR and ODA
6. Cooperation between yen loans and private finance
7. IT environment development in developing countries utilizing advanced IT technologies

Figure 5.4.1 presents an overall schematic of public-private partnerships for increasing economic growth in developing countries.

drawing great interest in the international aid community, including at the World Bank. The Study Team considers that effective utilization of this “fruit” is also required for CBTI development in Africa. (In Asia, Japanese ODA played a major role in economic infrastructure investment, leading to employment increases, backed up by the growth of manufacturing and other basic industries of both internal and external (including Japanese) capital. Combined with the improvement of the business environment, such factors helped the region to achieve rapid economic growth.)

³¹ For details, refer to the Keidanren website: <http://www.keidanren.or.jp/japanese/policy/2008/019/index.html>.

³² See the source in the previous footnote.



Source: International Cooperation Department, MOFA “Current Status of Public-Private Initiatives - Japan’s Role in International Cooperation” (in Japanese)

Figure 5.4.1 Overall Schematic for Public-Private Partnership for Increasing Growth in Developing Countries

In the abovementioned context, this study proposes application of the following six perspectives for public-private initiatives/cooperation in CBTI development: (i) development of surrounding infrastructure related to private investment (in terms of both “hardware” and “software”), (ii) implementation of economic infrastructure projects through PPPs (public-private partnerships), (iii) intergovernmental dialogues and monitoring for improvement of policy making and institutional development (in particular, improvement of the trade investment environment), (iv) coordination of ODA with private companies’ CSR activities and BOP (bottom of pyramid)-targeted businesses, (v) coordination between yen loans and private finance, and (vi) others (e.g., utilization of the knowledge and knowhow of private companies where industrial human resources are well developed). Regarding each of these six models, strategic directions for public-private initiatives/cooperation are shown as follows, from the viewpoint of coordination with CBTI development.

In fact, Japan already has experience in (i) to (iii) above through ODA projects. For example, the ODA projects related to the construction of the second East-West Corridor in the Greater Mekong Sub-region (GMS) falls into Category (i).³³ Another example is SEZ development through public private initiatives/cooperation, currently envisaged in the development of Nacala Corridor to connect Mozambique, Malawi, and Zambia, or other similar plans in East Africa. Also, regarding improvement of trade investment environment, mentioned in the (iii) above, Japan has had experience in providing assistance to Vietnam for institutional improvements to promote private investment,³⁴ although this was not be directly related to corridor development. Moreover, some private companies and other entities are showing interest in corridor

³³ The former JBIC (now part of the new JICA) is working on a program to transfer experience and knowledge from the GMS 2nd East-West Corridor development to the development of the Mozambique Nacala Corridor.

³⁴ The Ishikawa Project (officially called the “Study on the Economic Development Policy in the Transition toward a Market-Oriented Economy in the Socialist Republic of Vietnam), led by Shigeru Ishikawa, Professor Emeritus of Hitotsubashi University, was carried out in three phases from August 1995 to March 2001 as a JICA development research project, following an agreement in the Japan-Vietnam Summit in April 1995. It was conducted as a collaborative research project between Japan and Vietnam, with major topics including: (i) development of agriculture and agricultural communities, (ii) industrial and trade policies, (iii) fiscal and monetary policies, and (iv) government-run company policies (Source: website of National Graduate Institute for Policy Studies: <http://www.griips.ac.jp/forum/ishikawa.htm>). It is widely considered a good practice for public academic cooperation in policy-support-type ODA.

development itself.³⁵ Along with CSR activities (e.g., as Toyota's HIV prevention activities and Sumitomo Chemical's Olyset Net), such moves need to be closely reviewed as an approach to public-private initiatives/cooperation.

Box 5.6 summarizes public-private initiative/cooperation models proposed in this study.

Box 5.6 Public-Private Initiative/Cooperation Models Proposed in This Study

1. Development of surrounding infrastructure related to private investment (in terms of both physical and institutional aspects)
2. Implementation of economic infrastructure projects through PPPs (public-private partnerships)
3. Intergovernmental dialogue and monitoring of improvement of policy making and institutional development (in particular, improvement of the trade investment environment)
4. Coordination of ODA with private companies' CSR (corporate social responsibility) activities and BOP(bottom of pyramid)-targeted businesses
5. Coordination between yen loan and private finance
6. Others (e.g., utilization of knowledge and knowhow of private companies where industrial human resources are well developed)

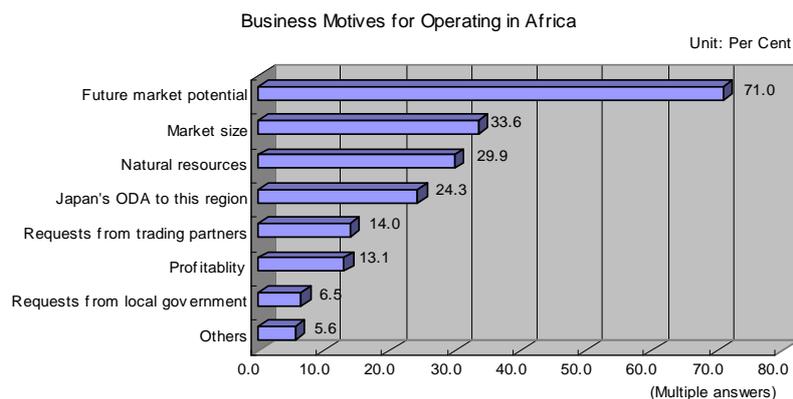
5.4.3 Strategy Development Issues

As stated in Chapter 1 and the previous section, the key for recent investments in Africa is "mineral resources," and the need for oil development and rare metal mine development is especially high among major trading companies, mining companies, and construction equipment companies in Japan. (For example, see Figures 5.4.2 and 5.4.3 present by JETRO in its 2007 Field Survey of Japanese Companies Operating in Africa.) The needs and issue awareness of the private companies are centered on "how much the government will mitigate risks," especially because, for such development, private companies' decision making for investment largely depends on the magnitude of mining risks. For example, a geothermal power generation project (yen loan) in the Philippines where the government has hedged mining risks is a good example of public-private initiatives/cooperation, from a private company point of view.

In addition, for EPZ/SEZ development along the previously-mentioned corridors, the private sector considers it best if the public sector takes charge of the development of supporting infrastructure for risk allocation. Especially in East Africa, transport and communication infrastructure is not well developed, development of access infrastructure (e.g., roads and railways), EPZs/SEZs, and utilities (electricity, water supply and sewage) is probably what private companies seek most through public private initiatives/cooperation.³⁶

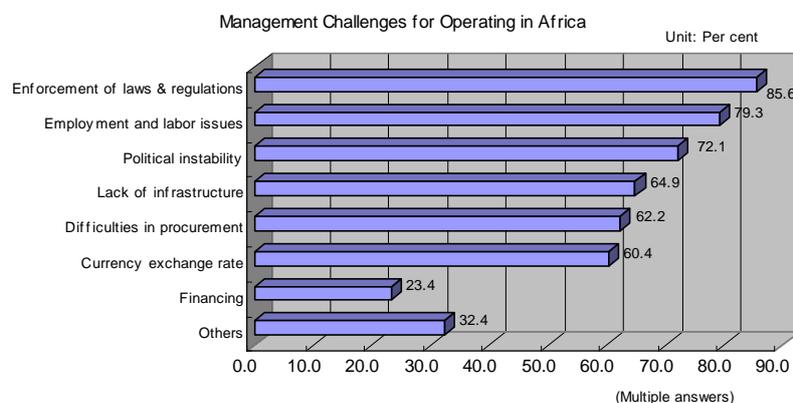
³⁵ On May 21, 2008, the Kyodo News Service reported that West Nippon Expressway Company (Osaka) would start construction and maintenance of expressways and general roads in Africa. The company stated that it is part of the international contribution for technology transfer to Africa and human resource development, and that it is also looking to accumulate knowhow with a view to starting business operations overseas in regions such as North America and Asia. The company will probably establish a new department in charge of overseas operations in July 2008 to consider details of the business. The targeted area is Sub-Saharan Africa. The company has started discussions with the Ministry of Foreign Affairs and JICA, and will soon start negotiations with the African side as well. The plan is to dispatch about 20 people including engineers to foster human resources while continuing the road business. The aim of this cooperation is that Africans will be able to carry out all road construction and maintenance activities by themselves in about 20 years. (Source: Report by Kyodo News Service, May 21, 2008)

³⁶ Electricity shortages are becoming obvious in Kenya, as stated earlier. The most effective actions for improving the region's business environment include providing support for electricity supply from Uganda to Kenya, following

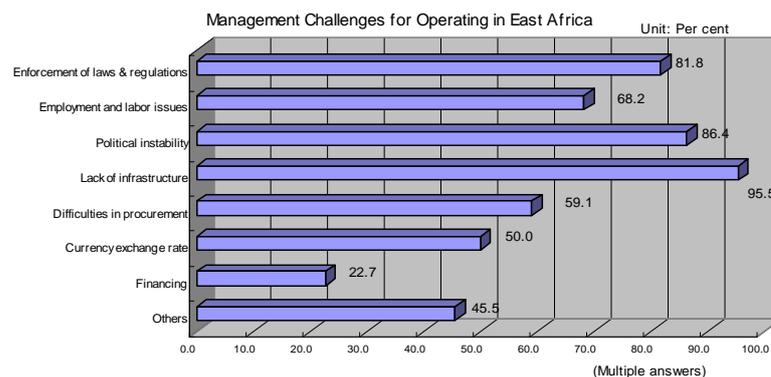


Source: JETRO (2008), "Field Survey on Japanese Companies Operating in Africa 2007" (in Japanese).

Figure 5.4.2 Business Motives of Japanese Companies Operating in Africa (N=107)



In Whole Africa (N=111)



In East Africa (N=22)

Source: JETRO (2008), "Field Survey on Japanese Companies Operating in Africa 2007" (in Japanese).

Figure 5.4.3 Management Challenges for Japanese Companies Operating in Africa

the start of operation of the Bujagali Hydro Power Plant in 2010, and further support through ODA for a cross-border power supply system known as the East Africa Power Pool (which was committed by the Government of Japan government at TICAD-IV).

Public-private initiatives/cooperation through private finance initiative (PFI)/PPP has been a major trend in infrastructure provision since the late 1990s, but all good PPP projects, such as an expressway project for the Maputo Corridor, seem to have already been identified by European and American companies. Therefore, in the context of CBTI development in Sub-Saharan Africa, infrastructure development through PFI/PPP should only be seen as one tool for public-private initiatives/cooperation.

Due to financial crisis that emerged in late 2008, public-private initiatives/cooperation for mine development are becoming difficult in the short term at least, as mining giants/majors and others are making drastic reduction in their mine-related investment.³⁷ However, considering that a steep increase in resource prices is likely unavoidable over the medium and long term and that it is vital for Japan to secure mineral resources as mentioned in Section 5.1, action should still be strategically focused on mine development through public-private initiatives/cooperation.

5.4.4 Strategic Directions

Table 5.4.2 shows, with respect to each model, directions of public-private initiatives/cooperation for CBTI development combined with the industrial development and trade promotion measures presented in Section 5.3.

Table 5.4.2 Directions of Public-Private Initiatives/Cooperation for CBTI Development and Constraints

Type	Details of Type/Possible Approaches from Public Side	Directions of Public Private Initiatives/Cooperation Linked with CBTI Development	Notes/Case Examples/ Typical Constraints
Supporting Infrastructure Development	<ul style="list-style-type: none"> ✓ Develop supporting infrastructure to assist private companies involved in the development of industrial parks, Special Economic Zone (SEZs), and mineral resources ✓ Suitable for projects that are less profitable and not feasible by private investment only 	<ul style="list-style-type: none"> ✓ Develop supporting infrastructure (e.g., electricity, water, sewerage, ports, access roads and railways) for EPZ/SEZ construction at transportation nodes and national borders ✓ Develop access roads and railways (cross-border) in mine development ✓ Develop physical distribution infrastructure (e.g., cold chain) 	<ul style="list-style-type: none"> ✓ Seems to be the most feasible approach for linking to CBTI development in Sub-Saharan Africa ✓ One of the typical approaches of Japanese ODA in Asian countries (e.g., the Southern Thailand Coastal Development Project) ✓ Case example: Tamasina Port project in Madagascar ✓ Provided yen loan for refrigerated/chilled facilities development for the horticultural industry in Kenya

³⁷ Source: Japan Oil, Gas and Metals National Corporation (JOGMEC) (2009) "Current Topics Vol. 09-03 -Review on World Mining Industry 2008-"

Type	Details of Type/Possible Approaches from Public Side	Directions of Public Private Initiatives/Cooperation Linked with CBTI Development	Notes/Case Examples/ Typical Constraints
Public-Private Partnerships (PPPs)	<ul style="list-style-type: none"> ✓ Provide yen loans for the construction of physical infrastructure (with a separation of service provision) under “two-tired public-private partnership” approach 	<ul style="list-style-type: none"> ✓ Apply for port operation under PPPs (for Mombasa and Dar es Salaam Ports) ✓ Apply for construction projects for a cross-border bridges ✓ Apply for operation and maintenance, and service delivery of infrastructure projects ✓ Building capacity for government officials in charge of PPP projects 	<ul style="list-style-type: none"> ✓ Feasible projects have already been identified by private Western companies (e.g., a toll road construction project in the Maputo Corridor). ✓ Very difficult to achieve optimal risk allocation between the public and private sectors
Policy Making and Institutional Development	<ul style="list-style-type: none"> ✓ Based on private sector’s knowledge and experiences, provide recommendations on policies and system improvements in order to facilitate trade and investment environment 	<ul style="list-style-type: none"> ✓ Assist RECs in establishing a customs union, free trade zone, and monetary union ✓ Collaborate among industry, government, and academia to implement the above ✓ Improve inspections related to food safety standards and the quarantine system (responding to EurepGap, an internationally recognized set of farm standards) ✓ Assist deregulation of the transport/distribution industry 	<ul style="list-style-type: none"> ✓ Case example: Japanese ODA projects in Indonesia and Vietnam (e.g., the “Ishikawa Project”) ✓ JICA (and formerly JBIC) has been providing program loans and dispatching specialists for improving the legal system and investment environment
Corporate Social Responsibility (CSR) and Bottom of Pyramid (BOP)	<ul style="list-style-type: none"> ✓ Assist private sector business activities relating to Corporate Social Responsibility (CSR) and Bottom of Pyramid (BOP) enterprises 	<ul style="list-style-type: none"> ✓ Support CSR activities of private companies located in EPZs/SEZs ✓ Provide projects linking One-Stop Border Post (OSBP) development and HIV prevention ✓ Assist SME/NPO activities for the fair trade of primary agricultural products (especially of main export products of each country) ✓ Provide market information for agricultural products (e.g., through the development of mobile phone network and wireless LAN system) 	<ul style="list-style-type: none"> ✓ Case examples of CSR, HIV prevention activities for employees of Japanese automobile company such as Toyota South Africa ✓ Case example of BOP: Providing technical assistance for quality improvement of East African cut flower companies to promote exports to Japan ✓ Need to facilitate a more thorough discussion on the necessity of public spending for CSP activities of specific private companies

Type	Details of Type/Possible Approaches from Public Side	Directions of Public Private Initiatives/Cooperation Linked with CBTI Development	Notes/Case Examples/ Typical Constraints
Public Financing	<ul style="list-style-type: none"> ✓ Joint operation for yen loans and private finance ✓ Utilize financial engineering of private sector 	<ul style="list-style-type: none"> ✓ Risk sharing between public and private sectors in high risk projects like mine development 	<ul style="list-style-type: none"> ✓ Case example: Geothermal development project in the Philippines (yen loan)
Others	<ul style="list-style-type: none"> ✓ Utilize private sector knowledge and experience for industrial human development ✓ Assist and facilitate NGO/NPO activities 	<ul style="list-style-type: none"> ✓ Through public private cooperation, develop human resources in distribution industry and assist business management of domestic distribution companies ✓ Assist to secure human resources for private companies located in EPZ/SEZ (through the provision of short term vocational training, etc.) ✓ Support NPO/NGO which involves in agriculture development / trade promotion projects 	<ul style="list-style-type: none"> ✓ Alternative NGOs/NPOs for possible collaboration: the Bill & Melinda Gates Foundation and Rockefeller Foundation are now implementing assistance projects for rural and agriculture development in Sub-Saharan Africa.

For node junctions (ports) and EPZ/SEZ development along borders, provision of ODA and OOF for supporting infrastructure development utilizing the experience in Asia is the most feasible option. In the case of mine development in relation to industrial development, mining risk allocation between public and private sectors is the biggest need among the private sector, and public sector cooperation for developing access railways/roads and financing mining costs³⁸ is sought. PPP/PFI projects may be difficult because, as noted, there are only a small number of good projects in Sub-Saharan Africa and private companies in the European Union and the United States are already involved in the few good projects. However, possibilities of participation by Japanese companies through PPP can be considered for such projects as improvement of port container terminals and the construction of cross-border bridges.³⁹

³⁸ There are five types of risks associated with mine development projects: (i) risks at the stage of mining, (ii) risks at the stage of construction preceded by the “green light” decision from the evaluation result of trial excavation, (iii) risks at the stage of production of mine products, (iv) market risk, and (v) political risk as external factors. Among these risks, Japanese private companies mainly desire to hedge the mining risks, implying a need to improve the existing investment support program of the Japan Oil, Gas and Metal Corporation (JOGMEC), Japan Bank for International Cooperation (JBIC) and Nippon Export and Investment Insurance (NEXI) and to redesign JICA’s loan and investment program as previously mentioned.

³⁹ Transport infrastructure is generally recognized as not very suitable for PPP projects since it is basically not very profitable (because of large initial investment costs compared with the low willingness to pay/affordability of users), and the relatively long project lives. Moreover, other common challenges in PPP projects in the transport sector in developing countries are reported as (i) the poor capacity of various institutional systems for delivering PPP projects, and (ii) the lack of administrative capacity of governmental officers in the local government. [Source: JICA (2005), Research Study on Public-Private Partnership (PPP) Projects (in Japanese)]. Especially in Africa, in addition to the low willingness to pay and immature implementation system of local governments, there are many other critical problems such as the very limited locations suitable for profitable projects mainly due to the low density of traffic demand in this region, as mentioned in Chapters 1-3. In view of the foregoing, based on learning from success projects such as the Maputo Corridor (i.e., the benefits of designing comprehensive, integrated projects including transport, telecommunications, and other private investment projects and sharing the development and growth vision by providing information to domestic and foreign investors through Bankable Packages), the possibilities of

Moreover, in conjunction with the trend of market integration in many RECs, technical assistance through public-private initiatives/cooperation regarding policy making and legal systems, as well as support to improve the investment environment through partnership among industry, government and academia utilizing the experience of Vietnam may also be effective.

Public support for CSR activities may be effective, although it is not directly related to CBTI development. In particular, public support in the form of grant aid or technical assistance for the CSR activities of private companies located in EPZs/SEZs (e.g., the government dispatch of specialists to assist HIV prevention activities following the model of Toyota South Africa) would meet the needs of private companies.

With regard to the linkage between BOP enterprises and ODA, there are many possibilities and alternatives in coordination with the previously-mentioned strategy to develop agro-processing industry and the export promotion of primary agricultural products. Recent research has shown the effectiveness of mobile phone services for providing market information of primary agricultural products to small-scale farmers.⁴⁰ Thus, in collaboration with mobile phone companies, the diffusion⁴¹ of mobile phone services to small-scale farmers may be a possible options under this approach, with concurrent construction of access/feeder roads in rural areas through ODA.

introducing PPP projects to Africa in the following areas should be considered: (i) cross-border bridges for which a certain level of demand can be expected e.g., where there are no routes, as in the case of the Kazungula Bridge project; and (ii) port operation where risks for the private sector can be minimized.

⁴⁰ The success story of Grameenphone Ltd. in Bangladesh is widely acknowledged.

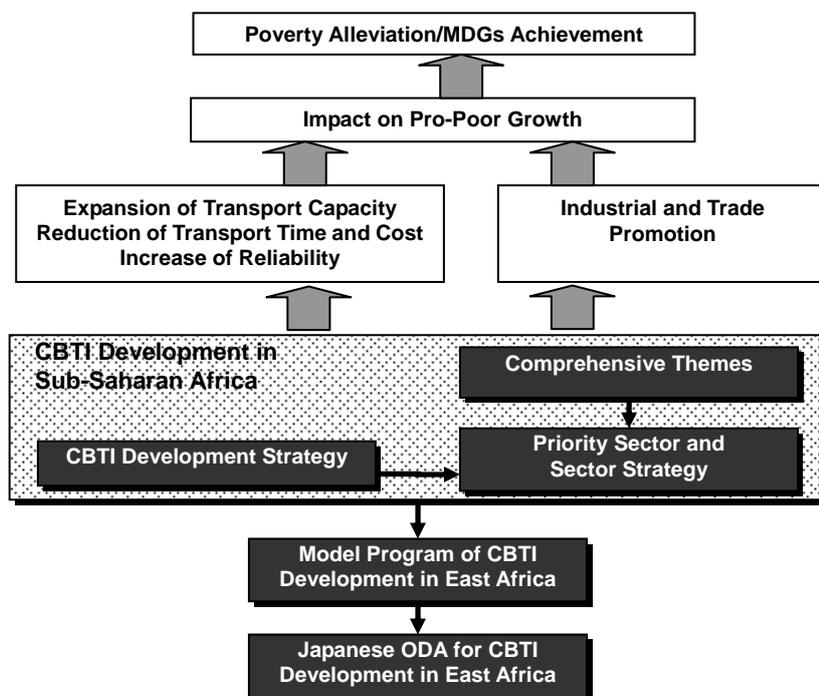
⁴¹ It will be more beneficial to also provide technical assistance (TA) for the development of application software for delivering delivers market information utilizing short message services (SMS).

Chapter 6 Strategy for Cross-Border Transport Development in East Africa

6.1 Directions for CBTI Provision in Sub-Saharan Africa

As shown in Chapter 2, accelerating pro-poor growth is an essential element in achieving poverty reduction and MDGs in Sub-Saharan Africa, and this aim can be facilitated by industrial and trade development, and overall economic vitalization. High transport costs, including time costs and related economic costs, represent one of the largest barriers to economic vitalization. In this respect, CBTI development is critically important to enable efficient cross-border transport with reduced transport costs. However, various complex barriers prevent efficient cross-border transport in the region. Since a piecemeal approach will have only a marginal impact in achieving overall improvement in cross-border transport, it is imperative to adopt a comprehensive program approach, including development of CBTI projects from the viewpoint of the entire cross-border transport system, to prepare effective measures beneficial for the poor, and generate economic multiplier effects, through the promotion of industry and trade and the establishment of partnerships with the private sector.

This chapter presents future directions for CBTI development. First, poverty reduction and the achievement of MDGs through pro-poor growth are established out as the ultimate goals of CBTI development in Sub-Saharan Africa, while two comprehensive themes are set out to provide direction for CBTI development toward pro-poor Growth. Further, four CBTI development strategies are proposed to achieve these goals; they are then disaggregated into sector strategies under cross-cutting thematic perspectives. Base on these strategies, a model program for CBTI development in East Africa has been prepared, and fields where Japanese Official Development Assistance (ODA) may be most suitable are proposed. The whole framework is illustrated in Figure 6.1.1 below



Source: The Study Team

Figure 6.1.1 An Overall View of CBTI Strategic Development

6.2 Comprehensive Themes for CBTI Provision

A comprehensive transport sector strategy embracing CBTI needs to be built on a subtle balance of satisfying multiple national mandates (e.g., national prestige; the interests of trade associations; assurance of equity for parties concerned; the building of an infrastructural network from a long-term perspective; responding to the region's urgent tasks of disaster recovery and poverty alleviation, the priority of which is very often driven by political motivations). Therefore, it is imperative that the CBTI strategy of each country manifest itself as one of the country's goals and objectives. The present study proposes to establish a CBTI development strategy under two thematic tiers: (i) Regional Integration of Sub-Saharan Africa, and (ii) Collaboration of Sub-Saharan Africa with the rest of the world, and proposes that assistance be extended in accordance with this framework. These two themes have been formulated accounting for the fact that most of African countries are isolated from the regional and the world markets, and suffer from the small size of their domestic markets.

(1) Integration of Sub-Saharan Africa

The first theme envisages the economic and social integration of Sub-Saharan African countries through provision of seamless and efficient transport services over an integrated transport network through the strategic development of CBTI. It will contribute to pro-poor growth and poverty reduction in Sub-Saharan Africa, by means of market vitalization and economic growth, with enhanced human interactions, reduced economic gaps between and among Sub-Saharan African countries, and improved international relationships.

In order to accelerate Sub-Saharan Africa's integration, it is imperative to provide CBTI in the corridors or regions to facilitate trade among the region's nation states. For example, road and railway corridors connecting state capitals and major economic centers are necessary. In addition, it is essential to simultaneously develop and promote industries to serve intraregional markets within Sub-Saharan Africa.

As shown in Chapter 4, many regional economic communities (RECs) have been established in Sub-Saharan Africa and are actively promoting regional integration. However, as the composition of these communities are very complicated (the "spaghetti bowl" problem), many countries joins several communities at the same time. Also some communities such as the EAC, COMESA, and SADC are seeking further integration through merger of existing RECs. While it may be practical to integrate within RECs in the first stage, the ultimate goal of integration should entail the integration of all of Sub-Saharan Africa.

(2) Linkage between Sub-Saharan Africa and the Rest of the World

The second theme envisages facilitating Sub-Saharan Africa's efficient interaction with world markets, which will eventually become a single global market served by seamless and efficient transport systems through the strategic development and provision of CBTI. It will contribute to pro-poor growth and poverty reduction in the region through the industrial development and trade promotion, and it will assist in reducing import prices and enhancing export competitiveness through enhanced collaboration with the world market(s).

To promote interregional trade, it is essential that corridors connecting landlocked countries with seaports be developed. Many densely populated agglomerations in the 15 African landlocked states are disadvantaged geographically with respect to industrial and trade development. Therefore, the development of corridors that connect landlocked countries with seaports shall be accorded a high priority.

6.3 CBTI Development Strategy for Sub-Saharan Africa

6.3.1 CBTI Development Strategy

In order to materialize the two aforementioned comprehensive themes, the study proposes four CBTI development strategies to provide direction for the development of CBTI.

- **Perspective as a System:** A systematic approach to developing CBTI projects should be taken through assessment of interrelated factors and their priority for achieving overall efficiency in an integrated system.
- **Coordination with Regional Economic Communities:** The development of CBTI should be implemented in collaboration with improvements in soft infrastructure undertaken in the context of the RECs.
- **Effective Linkage with Trade and Industrial Development:** CBTI should be developed in association with trade and industrial development.
- **Introduction of Public-Private Partnerships:** CBTI should be developed based on private sector needs and in a manner that will reduce private sector business risks.

Details are elaborated below.

(1) Perspective as a System

The analysis of CBTI in East Africa in Chapter 3 identified major obstacles increasing transport cost and time in corridors in the Subregion. These costs were found to be greater than originally envisaged, even while substantial time savings from improved border crossing procedures have been observed. The analysis showed that specific parts of the overall distribution process require improvement in view of their impacts on overall efficiency of corridor transport systems. It has also been identified through field interviews that issues relating to intangible soft infrastructure present additional burdens on freight transport operators, e.g. with bond guarantee requirements, inefficient operations at checkpoints, and decreased reliability due to delays when crossing borders.

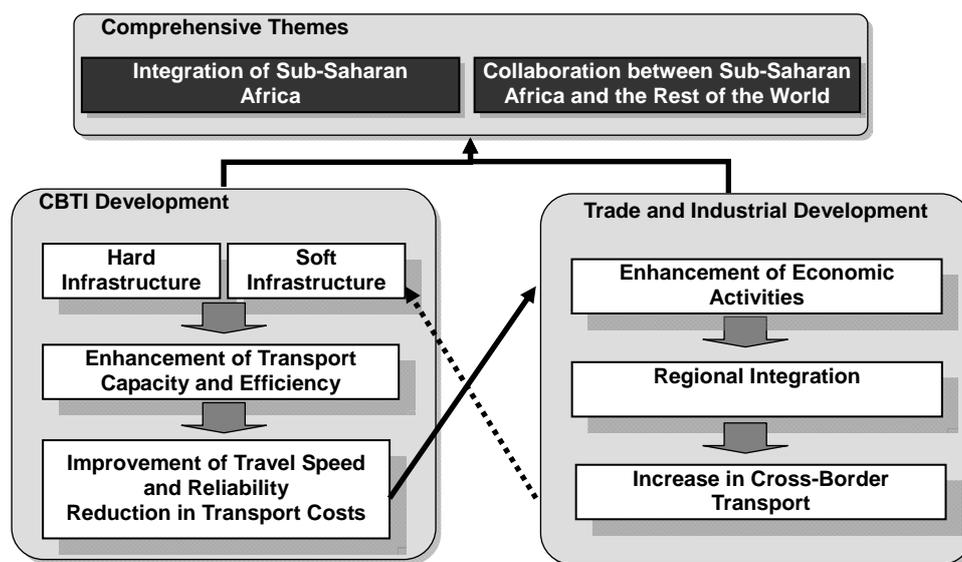
Therefore, it will be important to implement specific CBTI projects/measures that will reduce the costs and risks borne by private operators, in addition to leading to benefits from time and cost savings. In particular, a program approach is recommended, focusing on one or two corridors and/or RECs, by implementing a diverse set of measures for achieving corridor transport efficiency based on an analysis from a regional or corridor-wide perspective.

(2) Coordination with Regional Economic Communities

Soft infrastructure plays a critical role. In particular, it is essential to introduce a multilateral legal framework that will facilitate cross-border procedures, including a common bond guarantee system and other cross-border procedural improvements. Across Sub-Saharan Africa RECs been established to, among other things, provide for harmonized international regulations. Accordingly, in the short-term perspective, substantial benefits can be expected from developing CBTI within existing REC structures. In particular, improving institutional arrangements related to CBTI within the EAC, ECOWAS, SADC, and COMESA should be aggressively pursued. Moreover, strengthening corridor coordination agencies will be important; these include the Northern Corridor Transit Transport Coordination Authority and the Central Corridor Transit Transport Facilitation Agency in East Africa.

(3) Effective Linkage with Trade and Industrial Development

As the ultimate goal of CBTI development is to promote economic growth by increasing trade and industrial development through reduced transport costs and enhanced reliability of transport, it is important to create a robust growth cycle generating new transport demand via trade and industrial development, which in turn will create the need for more and better CBTI. However, in Sub-Saharan Africa, with its weak industrial base, poor trade competitiveness, and relatively low traffic demand, solely developing CBTI will be insufficient to trigger trade and industrial development; therefore, the development of CBTI should be coupled with trade and industrial development measures, as illustrated in Figure 6.3.1.



Source: The Study Team

Figure 6.3.1 CBTI Provision Coupled with Trade and Industrial Development

(4) Introduction of Public-Private Initiatives

Private sector initiatives are key to successful implementation of the development of CBTI as well as to trade and industrial development. The public sector in Sub-Saharan Africa lacks the resources to achieve economic growth without involvement of the private sector. In this context, CBTI system development should aim to provide for private participation based on private sector needs.

6.4 CBTI Sector Development Strategy in Sub-Saharan Africa

6.4.1 Sector Development Strategy in View of the Comprehensive Themes and CBTI Development Strategy

The foregoing sections have proposed four CBTI development strategies to be applied in providing CBTI under two comprehensive themes. Since the development of CBTI involves many sectors, this section examines the priority of each sector as well as strategies by sector, based on CBTI development strategies under the two comprehensive themes, which are shown in the form of 2x4 matrix and summarized by priority development sector.

(1) Development Strategy 1 – A Perspective as a System

Comprehensive Theme 1 – Integration of Sub-Saharan Africa

Considering that corridor development contributes to intraregional trade development in Sub-Saharan Africa, the road subsector should be accorded the highest priority. Not only does this subsector already serve a majority of intraregional traffic volumes in the region, but the sector also can deliver benefits from international trunk corridors to poor areas in the hinterland, thereby promoting pro-poor growth.

Measures to improve road freight traffic have two aspects: (i) the development of hard infrastructure (e.g., road development) and (ii) soft infrastructure such as improving laws and regulations related to cross-border transport. However, each region has its priorities. For example, in East Africa, the development of hard infrastructure and the implementation of one-stop border posts (OSBPs) are farthest along compared to other parts of Sub-Saharan Africa. However, improvements are still required, e.g., in weighbridge and checkpoint operations, as these pose heavy burdens on transport operators. On the other hand, hard infrastructure is considered relatively less developed in West Africa, and accordingly should be given a higher priority in that subregion.

Comprehensive Theme 2 – Linkage between Sub-Saharan Africa and the Rest of the World

Facilitating trade with the rest of the world requires development of transport corridors that connect inland areas and landlocked states with international seaports. In particular, improving the links between targeted 15 landlocked states in Sub-Saharan Africa (which are geographically disadvantaged with respect to interregional trading) and seaports in African coastal states will greatly contribute to poverty reduction. In view of the need for an integrated transport system, the port sector is considered a critical bottleneck, with insufficient port capacity requiring an urgent solution. In addition, the railway sector is important as railways provide a low-cost means of accessing inland areas and landlocked states. Existing railway network potential is not well exploited in Sub-Saharan Africa, due partly to operations issues. Moreover, customs clearance, quarantine, bond guarantee, and checkpoint issues, all of which represent hindrances to an integrated transport system, need to be addressed.

(2) Development Strategy 2 – Coordination with Regional Economic Communities

This strategy relates to both of the comprehensive themes.

In the short term, it is important to proceed with both the hard and soft aspects of CBTI improvement in collaboration with the ongoing regional integration processes undertaken by the RECs. In particular, it is recommended to assist regulatory reforms such as the improvement of cross-border transport and customs regulations undertaken by SADC, ECOWAS, EAC, and COMESA. Moreover, it is necessary to implement road, port and railway sector improvements, as these are priority (sub)sectors as mentioned above, together with required legal and institutional improvements. Over the long term, CBTI development should be expanded from the member countries of the RECs to the whole of Sub-Saharan Africa.

(3) Development Strategy 3 – Effective Linkage with Trade and Industrial Development

Comprehensive Theme 1 – Integration of Sub-Saharan Africa

It is important that CBTI and industrial development be implemented simultaneously, with the latter targeted at the intra-Sub-Saharan African regional market with subsistence farm

production and consumption goods, which contribute to sustainable growth and poverty reduction. In particular, industrial development with a pro-poor perspective is essential in delivering benefits from CBTI.

Comprehensive Theme 2 – Linkage between Sub-Saharan Africa and the Rest of the World

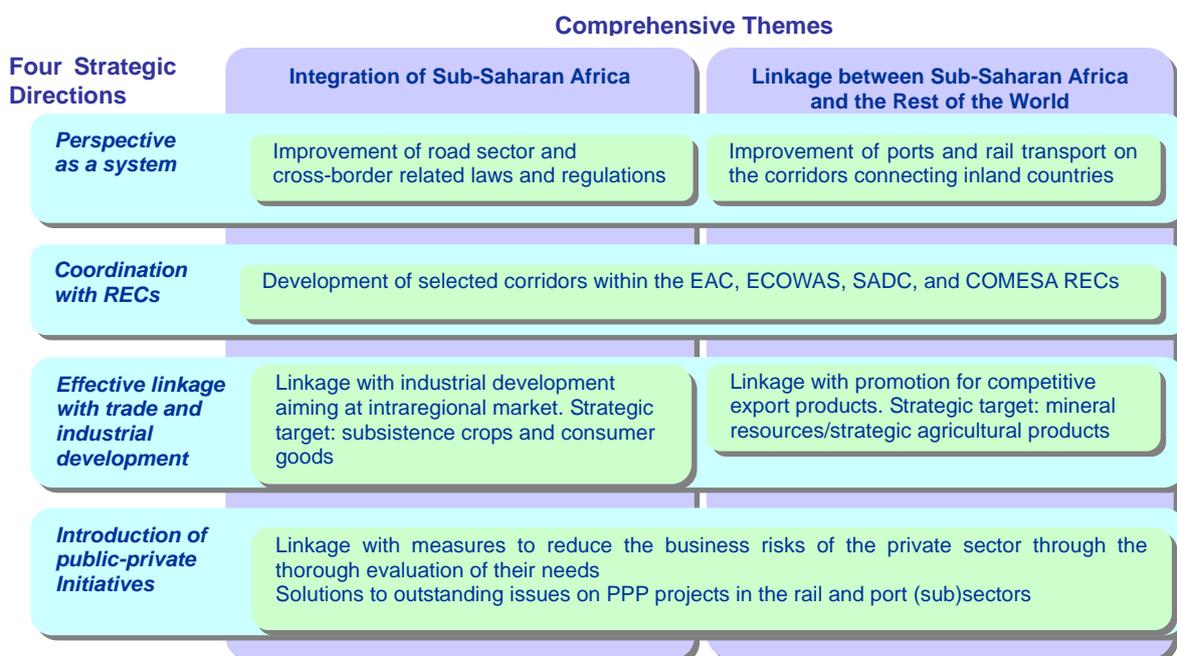
This linkage is centered on the promotion of export industries, targeting markets outside of the Sub-Saharan Africa and the attraction of foreign direct investment. In particular, it is critical that CBTI and industrial development proceed concurrently focusing on competitive mineral resources and strategic agro-products.

(4) Development Strategy 4 – Introduction of Public-Private Initiatives

This strategy relates to both two comprehensive themes.

Public-Private Initiatives should be promoted for infrastructure development, as well for industry and trade promotion. Although the implementation of PPPs (Public-Private Partnerships) for infrastructure development is farthest along in the port and railways (sub)sectors, this implementation has been far from smooth, and therefore a number of obstacles need to be addressed. At the same time, it will be essential to reduce the business risks faced by the private sector in promoting trade and developing industries, and accordingly it will also be important to understand private sector needs. The target private sector includes African enterprises as well as foreign business enterprises that have invested or intend to invest in Africa (e.g., Japanese firms).

Based on the above analysis, Figure 6.4.1 presents priority sectors for CBTI in Sub-Saharan Africa. The following sections summarize strategies in each sector, including directions of CBTI development as well as improvement measures in each sector.



Source: The Study Team

Figure 6.4.1 Priority Sectors for CBTI Sub-Saharan Africa

6.4.2 Hard Infrastructure

(1) Port (Sub)Sector

Among the Sub-Saharan African transport subsectors, the port subsector is the one with the highest priority. Particularly lacking is international ports (both in number and capacity) with a high handling capacity. Therefore, it is essential to increase the handling capacity of existing international ports, particularly those linked to international corridors. It is important to improve these ports both in terms of hard and soft infrastructure.

In particular, it is critical to strengthen and expand container ports as container handling capacity is undersupplied, incapable of accommodating rapidly growing container demands. However, since a large-scale international container hub port can only be formed based on either a huge freight demand or a very advantageous geographical location (e.g., as at Singapore or Salalah, Oman), it may be difficult to justify establishing a new large-scale hub port in Sub-Saharan Africa in addition to the existing large-scale port at Durban. However, developing a medium-scale international hub port supplementing Durban may be necessary as the port of Durban's capacity is reaching its limit as was indicated in Chapter 2. Candidates for such medium-scale ports include Mombasa, Lagos, and Abidjan, which would need to be equipped with facilities capable of handling and accommodating 4,000-TEU class container vessels with a berth water depth of more than 15 m. It is recommended to increase the capacity of other ports connected with international corridors to accommodate Panamax (2,000 TEU class) container vessels, considering the growing demand of routes directly connecting Sub-Saharan African port with ports in the rest of the world.

Further, intermodal transport connectivity improvements will be vital for transshipping freight between port and railways, and/or between port and roads. As in the case of Mombasa, where the time spent waiting for cargo trains can amount to two months, the full benefits from integrated CBTI systems cannot be generated simply by port capability improvements. It is imperative to concurrently strengthening road/railway capacity, commensurate with the improved freight handling capacity of the port.

Hard Infrastructure

- Port capacity and efficiency improvements in terms of yard space, number and length of berths, and loading/unloading facilities of major international ports
- Improving ports connected with international corridors to achieve world-class standards
- Improvements in intermodal connectivity with railways and roads, and development and strengthening of ICDs

Soft Infrastructure Supporting the Hard Infrastructure

- Assistance for moving to a "landlord" model of port operation (involving concessions to private operators)
- Improving port operation efficiency through single-window port procedures, electronic forms submission, simplified port procedures, certification of clearance and forwarding agents, and other measures

(2) Railway (Sub)Sector

Railway transport, in general, is more advantageous than road transport in terms of per unit weight costs and for long-distance haulage. As shown in Chapter 3, railway transport costs in some instances are as low as half of road transport costs. In particular, landlocked states can derive significant benefits from a reduction in transport costs from railway haulage of freight

transshipped to/from ports, realized via a modal shift from road transport, which carries a disproportionately light cargo on backhauls.¹ Transporting bulky mineral resources such as coal, copper ore, and iron ore (except for rare metals) entails development of railway systems as they offer an advantage for hauling heavy cargo.

As was pointed out in Chapters 2 and 4, many railway systems in Sub-Saharan Africa suffer from deteriorated infrastructure and weak management/operation (even after privatization). Therefore, a serious under-capacity remains, leading to longer port dwell times. As a result, the potential benefits that the railway transport system can provide are currently unavailable.

A short-term strategy of strengthening railways would include improvement of the capacity of lines connecting inland states with ports and lines associated with mineral resources development sites. In particular, it is urgently necessary to implement rehabilitation and improvements of tracks, rolling stock, and other facilities/equipment on such lines suffering from long port dwell times due to limited operating capacity. It is also urgently needed to address operation and management issues, e.g., by contracting out operation concessions, for which technical assistance is recommended.

Hard Infrastructure

- Rehabilitation of facilities and track
- Strengthening of rolling stock capacity
- Improving intermodal connectivity, and developing transshipment facilities
- Building a regional railway network with a unified track gauge

Soft Infrastructure Supporting the Hard Infrastructure

- Improving railway management, operation, and the management and services
- Addressing concession issues, and improving the means and modality of privatization

(3) Road (Sub)Sector

Regarding the development of road infrastructure, it is essential to eliminate missing links in the trunk road network by paving/improving paved roads with the assistance of international development partners. Moreover, provision of rural roads is critical for delivering the benefits from CBTI to poor rural areas. For example, provision of roads linking poor areas with trunk roads will reduce transport costs and therefore reduce consumer prices in the areas.

In addition, connectivity of the road network with other transport modes is critical. It is important to improve connectivity with railway, port, and airport hubs. ICD and freight terminal development are also recommended in order to create an efficient, integrated transport system.

Further, it is important that further assistance be provided for maintenance and management institutions and capacity strengthening, through careful assessment of the results of the World Bank assisted Road Fund initiative.

Since it is understood that soft infrastructure is major bottleneck in the road sector, the standardization and harmonization of legal aspects of the cross-border transport system should be undertaken in association with work by the RECs. Assistance from international development partners is required.

¹A Ugandan logistics operator informed the Study Team that it would switch all of its traffic to the railway if the dwell time could be eliminated, since railway haulage offers more or less the same transport time and a cheaper cost.

Hard Infrastructure

- Developing international corridor networks connecting key international ports with inland areas
- Developing a branch (feeder) road network that connects key cities, production sites, trunk roads, and key railway stations.
- Developing rural roads that link poor areas with trunk roads
- Developing ICDs at strategically important points of large cities, railway stations, seaports, and airports.

Soft Infrastructure Supporting the Hard Infrastructure

- Improving regulatory aspects associated with the cross-border transport system (e.g., weighbridges, checkpoints, escorts)
- Harmonizing traffic rules and transport institutions (e.g., third-party transport insurance, axle load control, driving on the right or left side of the road)
- Strengthening operation and management institutions for roads and bridges and securing funds
- Strengthening contractors' competence and capability
- Introducing a participatory road traffic policy
- Human health measures, in particular, measures against HIV/AIDS at international borders

(4) Air Transport (Sub)Sector

Air transport hauls smaller volumes compared with maritime transport and is suited to the transport of light, high-valued goods including perishable food products. Therefore, it is recommended to implement improvement of the air transport sector concurrently with the development of industrial products suited for air transport. For example, in Kenya horticulture products are exported to Europe and fish caught in Lake Victoria is also exported by air. Some private mining firms have developed airports near their mines to transport gold by air. Moreover, air transport development policy requires additional attention by landlocked countries because of advantages vis-à-vis seagoing vessels and land transport, in terms of transport time and cost. As shown in Chapter 4, an all African-wide liberalization of the air transport sector is being undertaken.

Hard Infrastructure

- Extension of runways
- Expansion of airport terminals
- Developing and strengthening of airport storage and warehouse

Soft Infrastructure Supporting the Hard Infrastructure

- Liberalization and privatization of air transport services
- Improving air transport regulations
- Strengthening air traffic safety

6.4.3 Supporting Measures for CBTI - 1: Trade Promotion and Industry Development

The strategies concerning trade promotion and industrial development should target agriculture since it is a major industry in Sub-Sahara Africa. Accordingly, there is a focus on the agro-processing industry (agrotechnology), which is especially relevant to export promotion and also contributes to pro-poor growth as stated above. Further, measures that relate to expansion of

production and distribution of subsistence crops such as rice² and maize also contribute to food security and poverty reduction and should therefore be implemented.

Regarding the linkage between CBTI development and mineral resources development that has been taken as another pillar of the strategies, it must be noted that there is a wide variety of mineral resources in Sub-Saharan Africa, and they tend to be unevenly distributed across the region. Accordingly, the Southern African subregion, where potential reserves of rare and nonferrous metals are abundant, should be selected as the highest-priority area for this aspect of the strategy, and resources development in East Africa (e.g., the coal and iron ore reserves in the Mtwara Corridor, nickel deposits in Burundi) could be considered as a “second option”.

(1) Reduction of Institutional Barriers Contributing to the Expansion of Interregional and Intraregional Markets

- Deregulation of transport/distribution industry
- Support for integration of interregional and intraregional markets

(2) Development of Agriculture and Agro-Processing Industry, Export Promotion of Agricultural Products, and Demand Stimulation

- Comprehensive support along the “value chain of agricultural products” (refer to Figure 6.4.2)
 - **Production Phase:** Enhancing accessibility to market information, dissemination of mobile phones along the corridor, and provision of information technology (through public-private initiatives)
 - **Processing Phase:** Technical assistance for agro-processing technology and for adding value through the introduction of wrapping technology
 - **Distribution Phase:** Improvement of the distribution system, development of main corridor and access roads, and development of the “cold chain” (e.g., through cold storage warehouses) along the corridor
 - **Distribution/Export Phase:** Technical assistance for quality control/management of agricultural products, including tracking
 - **Processing/Distribution/Export Phase:** Construction of Agro-processing Export Processing Zones/Special Economic Zones (EPZs/SEZs) as centers for the processing and distribution of agricultural products, and demand stimulation through introduction of related service industries
 - **Other:** Assistance for food security and poverty reduction (reduction of transport cost and wholesale fertilizer prices by the development of CBTI)

² Rice is also cultivated as a cash crop in some subregions of Sub-Saharan Africa.

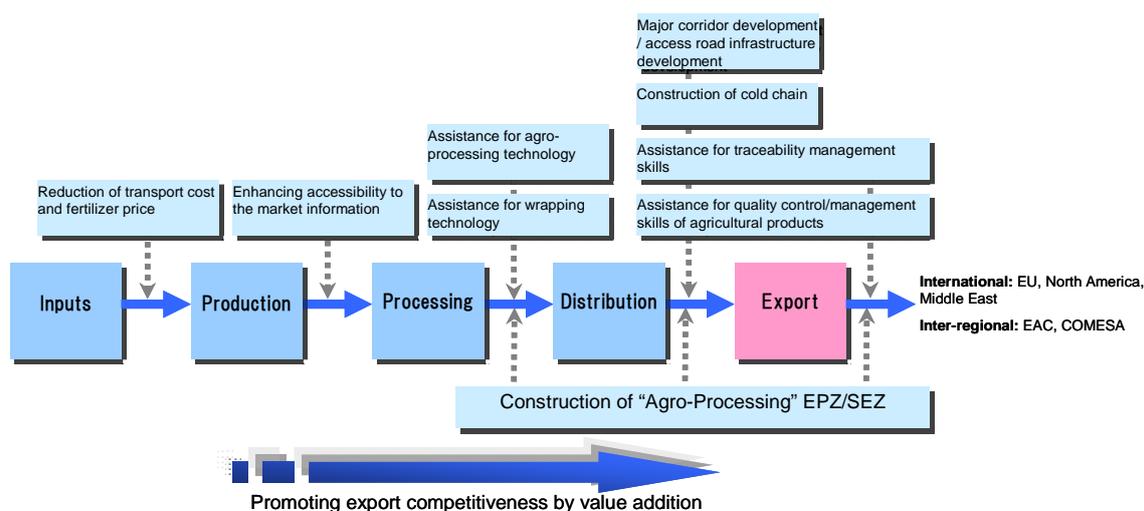


Figure 6.4.2 Development of Agro-Processing Industry along the Value Chain and Enhancement of Export Competitiveness

(3) Linkage with Mineral Resource Development

- Development of specific mines in collaboration with small mining companies and provision of road and rail access infrastructure (through public-private initiatives)
- Coordination of CBTI development and the TICAD-IV commitment by the Government of Japan, for all-in-one packaging of power resources development, mineral resources development, and related infrastructure development

(4) Development and Employment Promotion of Industrial Human Resources

- Industrial human resources development for agro-processing and distribution industries

6.4.4 Supporting Measures for CBTI - 2: Public-Private Initiatives

As stated in Section 5.4, public-private initiatives are an indispensable scheme to provide effective linkages between trade/industry development and CBTI development. In principle, public sector thinking needs to consider “what types of policies/measures are most desirable in order for the public sector to pull and promote private investment in Sub-Saharan Africa, and to what extent the public sector can support the wide range of activities by the private sector”.

With the current global financial crisis intensifying, it is envisaged that private sector interests in entering into the market in Sub-Saharan Africa will decline substantially. The following comprehensive measures to reduce the risks faced by the private sector are urgently needed. Especially as outlined in Section 5.1, securing a stable supply of mineral resources is a lifeline of the economy of a trading nation such as Japan. Accordingly, bold government support for private sector investment should be provided to secure mineral resources in this region.

(1) Surrounding Infrastructure Development

- Development of supporting infrastructure for EPZ/SEZ construction at transport nodes and international borders
- Construction of road and rail access infrastructure for mine development
- Development of physical and institutional distribution system

(2) Public-Private Partnership (PPPs)

- Application of PPPs to port operation
- Application of PPPs to large cross-border bridge construction projects
- Application of PPPs to operation and maintenance, and the service delivery of infrastructure projects
- Capacity building of a PPP institutional mechanism

(3) Policy Making and Institutional Development

- Assistance for establishing a customs union, free trade zone, and monetary union
- Assistance for improving the food safety standards and quarantine system
- Assistance for deregulating the transport/distribution industry

(4) Corporate Social Responsibility (CSR) and Bottom of the Pyramid (BOP)³

- Support for the CSR activities of private companies moving into EPZs/SEZs
- Linkage between One-Stop Border Post (OSBP) development and HIV measurements
- Assistance for small and medium enterprise (SME)/non-profit organization (NPO) activities for the fair trade of primary agricultural products
- Provision of market information on agriculture products

(5) Financing

- Risk sharing between the public and private sectors for high-risk projects such as mine developments

(6) Others

- Development of human resources in the distribution industry and assistance for business management of domestic distribution companies
- Assistance to secure human resources for private companies moving into EPZs/SEZs
- Support for NPOs/NGOs involved in agricultural development/trade promotion projects

6.5 Model Program for CBTI Development in East Africa

Among the required CBTI measures/projects listed above, short-term measures (i.e., implementation desirable within 2–3 years) and medium-to-long-term measures (i.e., implementation desirable thereafter) specifically in East Africa were identified as set out below. While all of these measures are necessary for CBTI development in East Africa, they include some that are not eligible for Japanese official development assistance (ODA).

6.5.1 Development of Hard Infrastructure**(1) Port (Sub)Sector**

It is essential to conduct a detailed study of the Dar es Salaam port and the Mombasa port, both of which have mixed issues of both hard and soft aspects as well as railway operation issues.

Short-Term Measures

- Introduction of a single-window electronic submission system that enables consolidated form inputs by trading firms and/or by customs clearing agents (e.g., as Kenya is introducing with its integrated system)

³ The “bottom of the pyramid” is the largest, but poorest socio-economic group.

- Elimination of duplicate and unnecessary procedures (e.g., management and control of submitted forms by random inspection, improved coordination between/among the customs authority and related agencies, strengthened risk management)
- Strengthened coordination by the customs authority with the private sector, introduction of a system of certified importers/exporters (simplified customs clearance procedure applicable for trading agents that have established large-scale transaction volumes)
- Expansion of port capacity and efficiency through the expansion of yards/berths, and the strengthening of freight handling facilities and equipment, targeting Dar es Salaam Port (strengthening of Mombasa Port is underway with yen loan financing)
- Moving toward the landlord port model, assisting Mombasa and Dar es Salaam Ports in building public-private partnerships for port operations by private container terminal operators on a competitive basis, including the dispatch of expatriate specialists in port management and operations

Medium- and Long-Term Measures

- Improvements of intermodal transshipment facilities and equipment: Targeting Mombasa and Dar es Salaam
- Development and provision of ICDs to Supplement Port Capacities: Targeting Mombasa and Dar es Salaam

(2) Railway (Sub)Sector

As one of the most serious issues in physical distribution along the Northern and Central Corridors is the deterioration and insufficient capacity of railway infrastructure, assistance is required for rehabilitation. However, since this problem has been exacerbated by poor operation and management capacity under concession schemes, sustainable improvement of the railway systems cannot be achieved without addressing concession issues. Therefore, the current concession problems should be focused on urgently, followed by improvements in hard infrastructure.

Short-Term Measures

- Assistance to address the concession problems: Assist TRC and RVR in solving managerial issues related to their concessions. Assist TRC and RVR in establishing efficient and rational relationships between the governments and the private railway management companies, including rational risk sharing between the public and private sectors, and securing a sound business environment that affords a private business base⁴
- Maintenance of facilities and tracks: Needed is urgent maintenance for railway infrastructure in Tanzania, Kenya, and Uganda
- Strengthening railway operation and management: Improving capacity to manage and operate track and rolling stock, inclusive of strengthening the capacity and providing technology transfer in the areas of mechanical, civil, and electrical engineering

Medium- and Long-Term Measures

- Capacity expansion of locomotives and freight wagons: Targeted at TRC, KRC, and URC
- Rehabilitation of the Lake Victoria wagon-ferry line: present ferry transport capacity has been substantially decreased due to the aging ferry fleet, which was unable to carry past freight traffic volumes (up to 2003) (half of Ugandan railway freight traffic was routed from the Central Corridor via ferry services connecting Mwanza with Port Bell near Kampala)

⁴ World Bank, *Sub-Saharan Africa – Review of Selected Railway Concessions*, Report No. 36491, June 2006.

- Rehabilitation of Ugandan rail lines currently out of service
- Expansion of the rail network: Developing a new line serving Isaka–Bujumbura–Kigali, over the long term
- Harmonization with systems with other gauges: While most East African railways have a meter gauge (1,000mm), TAZARA and DRC railways are of narrow gauge (1,076mm). There is a plan to integrate all African railways into standard gauge (1,435mm). While any such effort would be costly and time consuming, gauge unification required due consideration from the (very) long-term perspective of an Africa-wide rail network.
- Upgrading of railway service: Necessity to enhance financial efficiency in the railway sector and to develop capacity to serve market demand, adoption of unified railway technical standards by respective states, and introduction of relevant guidelines.⁵

(3) Road (Sub)Sector

As mentioned earlier, while improvement of most road sections along major corridors have been committed by development partners, it is important to continuously assist the required road improvements through continuous monitoring and evaluation of the project implementation. In addition, it is important to realize area-wide benefits through the development of feeder roads and subsequently rural roads; pro-poor development of the road sector is essential, in particular development targeting upgrading of poor areas near the border.

Imminent major bottlenecks relate to soft infrastructure issues, including the establishment of maintenance and management institutions, checkpoint administration, and legal and regulatory institutions for cross-border transport. While the World Bank has taken the lead in assisting introduction of road funds for maintenance and management, there remains the issue of enhancing the capacity of road maintenance contractors. Considering the progress with the development of hard CBTI components in the road subsector (i.e., physical infrastructure), complementary soft components should also receive attention.

Short-Term Measures

- Developing feeder roads and rural roads: Improvement of access to the major road corridors. Delivering CBTI development benefits over a wider area, in particular providing areas of with high proportions of poor people with improved road access.
- Improving weighbridge operation: Implementation of the following measures such as (a) weighing vehicles only at the point of loading, (b) use of weigh-in-motion rather than static weighbridges; (c) regular calibration of weighbridges by joint (multinational) teams to assure the accuracy and reliability of weighing equipment and create confidence in weights registered by respective countries along the corridor; (d) providing vehicles carrying containers with a certificate of compliance at the originating weigh station, after which they should not be subject to further weight controls until exiting the country; (e) operating axle load controls on private contract management, as has been done in Tanzania, with specification of fair and enforceable contract condition; and (f) levying user fees rather than fines for a criminal offense, thereby reducing delays by avoiding court proceedings, as also has been instituted in Tanzania.⁶

⁵ CPCS, *East African Railways Master Plan Study*, Interim Report, prepared for the East African Community, January 2008, Appendix C, pp. 50–52; and The East and Central Africa Global Competiveness Hub/Bearing Point (Harold Kurzman and others), *Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region*, Final Report, April 2005, Chapter 5, Chapter 10.

⁶ The East and Central Africa Global Competiveness Hub/Bearing Point (Harold Kurzman and others), *Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region*, Final Report, April 2005, Chapter 4.

- Third-Party Motor Insurance: Assistance in implementing the COMESA Yellow Card⁷ scheme including computerization of Yellow Card operations, with the national bureaus to link their databases to monitor the use of the card along transport corridors; and harmonization of Yellow Card coverage between/among counties so that insurance coverage is uniform.⁸
- Harmonization of Axle Load Controls: In view of disparities in maximum gross vehicle weight allowable in the SADC and EAC/COMESA RECs, and disparities in tolerance levels for axle loads allowable in Uganda and Tanzania, measures may include implementation of uniform legislation provisions, operational procedures, and rules by the EAC partner countries.⁹
- Road Transport and Health: Assistance in providing measures to alleviate the health impacts of cross-border road transport, including development of a multisectoral framework to combat the spread of HIV/AIDS, focusing on long-distance truck drivers; and a move towards the use of more environmentally friendly fuels.

Medium- and Long-Term Measures

- Strengthening Road Maintenance Capacity: Strengthening maintenance contactors' capacity, implementing necessary assistance through review and monitoring of outcomes from the Road Fund programs.
- Developing Trunk Routes other than the Central/Northern Corridors: Coordination among development partners, as many are involved in the development of trunk routes. Candidate trunk routes include; Nairobi–Kenya/Ethiopia border, Nairobi–Juba (Sudan), Kampala–Juba, Mombasa–Arusha, and Mombasa–Dar es Salaam.
- Harmonization of road traffic rules and regulations: Generally, the East African countries have not acceded to latest international conventions, including the Convention on Road Traffic (Vienna, 1968) and the Convention on Road Signs and Signals (Vienna, 1968). Therefore assistance is needed to harmonize traffic rules and regulations among the EAC partner states, including consideration of the right-hand drive/left-hand drive issue.

(4) Air Transport Sub(Sector)

Developing airports and improving air transport service is vital. Currently, facility improvement at Jomo Kenyatta International Airport in Nairobi with funding by the World Bank and liberalization of airport transport service is on-going. Specifically, provision of air shipment facilities and equipment for industrial promotion targeting at horticulture produce are warranted.

Medium- and Long Term Measures

- Liberalizing Air Transport Services: Assistance: (i) to complete the Yamoussoukro Decision (YD) legal and institutional framework, including adoption of common competitive regulations, adoption of guidelines/procedures/implementing provisions for the competitive regulations, and establishment of the executing agency; (ii) to agree on a permanent framework for external relations, and (iii) to agree on a YD implementation timetable and on

⁷ Refer to details on the Yellow Card Scheme presented in Section 4.2.4(2).

⁸ Refer to http://about.comesa.int/attachments/059_yellow-card-compendium.pdf; and the Chapter 5, the East and Central Africa Global Competiveness Hub/Bearing Point (Harold Kurzman and others), Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region, Final Report, April 2005.

⁹ Ministry of Transport, Kenya, East African Trade and Transport Facilitation Project, Status Update on Components, undated, p. 5.

an awareness campaign in the regional economic communities and member states for political commitment for full implementation of the YD.¹⁰

- Air Transport Regulatory Reform: Assistance to set up a two-tier regulatory system, consisting of an independent civil aviation authority and a policy formulation bureau and strengthening capacity to formulate policies through laws/regulations and the negotiation of international agreements (including bilateral air services agreements).¹¹
- Reconditioning and rehabilitating existing cold storage facilities at the airports and their periphery, with respect to air shipment exports of cut flowers and horticultural produce, to be installed at Jomo Kenyatta International Airport and Eldoret Airport (which presently lacks a cold storage facility) as well as at Kilimanjaro International Airport near Arusha.

6.5.2 Soft Infrastructure

This section presents candidate measures for improving regulatory, legal, and management institutions, for which the assistance of development partners is envisaged, based upon the assessment of priorities of soft CBTI set out in Chapter 4.

(1) International Collaboration with the Regional Economic Communities

Short-Term Measures

- Assisting Regional Integration of Multiple Economic Communities: Assistance for the establishment of a free trade area (The Africa Free Trade Zone, AFTZ) encompassing the 26 states that are members of the EAC, COMESA, and SADC.¹²
- Assistance to the EAC countries in their pursuit of the interests in the transport sector, including their adoption of a uniform approach in various international organizations such as COMESA, SADC, and NEPAD. Comprehensive guidelines for a common transport policy should be adopted sooner rather than later.¹³
- Assistance for the Central Corridor Transit Transport Facilitation Agency: Assistance to establish a stakeholder consultation process for corridor management.¹⁴
- Assistance for Internalizing International Commitments into a National Legal Framework: Assistance to help the customs officers and police understand and apply the new regulations, documentation, and formalities and strengthening of the capacity to put in place an effective monitoring and enforcement mechanism to assure adherence to agreed measures and timings.¹⁵

¹⁰ For instance, refer to http://www.icao.int/icao/en/atb/meetings/2008/Sympo_Nigeria/Docs/SADC.pdf [Air Transport Liberalization Process in SADC, 2008], and http://siteresources.worldbank.org/INTAIRTRANSPORT/Resources/514573-1117230543314/050617-East_Africa_Air_Transport_Survey_Revision_2.pdf [East Africa Air Transport Survey, 2005].

¹¹ E.g., the negotiation of bilateral air services agreements is a complex exercise, as the rights exchanged may not have the same economic value to the respective parties. http://siteresources.worldbank.org/INTAIRTRANSPORT/Resources/514573-1117230543314/050617-East_Africa_Air_Transport_Survey_Revision_2.pdf [East Africa Air Transport Survey, 2005], p. 35.

¹² On 22 October 2008 in Kampala the heads of state of the EAC, COMESA, and SADC approved the establishment of a free trade area.

¹³ See CPCS, *East African Railways Master Plan Study, Interim Report*, prepared for the East African Community, January 2008, C-22

¹⁴ See source in previous footnote, p. C-14 and Yao Adzigbey, Charles Kunaka, and Tesfamichael Nahusenay Mitikiu, *Institutional Arrangements for Transport Corridor Management in Sub-Saharan Africa*, Sub-Saharan Africa Transport Policy Program, SSATP Working Paper No. 86, p. 6 and pp. 6–8 and 20.

¹⁵ See p. C-19, CPCS, *East African Railways Master Plan Study, Interim Report*, prepared for the East African Community, January 2008.

Medium- and Long-Term Measures

- Assistance for Accession to Major International Conventions: In the longer term, accession to and implementation of the major international transport facilitation conventions (including the Convention on International Transport of Goods Under Cover of TIR Carnets, the so-called TIR Convention, Geneva, 1975) should be undertaken.

(2) Customs and TransitShort-Term Measures

- One-Stop Border Posts (OSBPs): Assistance in the establishment of a regional convention to provide a basis for an international framework for OSBPs, e.g., covering: (i) institutional arrangements, (ii) site configuration, (iii) status of the land of the control area, (iv) status of the infrastructure and equipment, (v) modality of the inspection process, (vi) status of expatriate staff, (vii) extraterritorial jurisdiction, and (viii) miscellaneous facilitation measures.
- Measures to Reduce Corruption: Assistance for: (i) reducing the level of bureaucracy by streamlining and simplifying clearance procedures and making them transparent; (ii) establishing a code of conduct for both customs officers and clearing and forwarding agents (CFAs), which should include standards for customs clearance in terms of duration as well as a provision of appeals of customs decisions; (iii) capacity enhancement, including information technology (IT) solutions, which will reduce documentation requirements and increase transparency, and workshops for CFAs, so that they can more effectively handle clearance documentation procedures; and (iv) implementation of anti-corruption campaigns.
- Assistance to Sensitize Frontline (Border) Officials: Assistance to sensitize frontline officials in understanding the problems faced by the private sector, and frontline officials.

Medium- and Long-Term Measures

- Customs Bond Guarantee: Assistance for making the COMESA Regional Customs Transit Guarantee (RCTG) fully functional (the RCTG is being developed with the support of USAID to bond goods on a regional basis instead of country by country), with the ultimate goal remaining accession and implementation of the major international transport facilitation conventions (including the TIR Convention).

(3) Cross-Cutting IssuesShort-Term Measures

- Assistance for Introducing Performance Measures to Monitor Transport Facilitation and Other Non-physical “Soft” Measures to Improve Transport Efficiency: Assistance for developing performance measures can support, analyze, and assess decisions in corridor management.
- Enhancement of Technical and Managerial Capacity for the Facilitation of Cross-Border Transport: Capacity strengthening including train-the-trainer exercises, e.g., provision of private sector associations (e.g., freight forwarders’ associations) with training to strengthen their capacity to articulate the costs of logistics inefficiencies on their business and investment prospects.¹⁶

¹⁶ See Chapter 15, The East and Central Africa Global Competiveness Hub/Bearing Point (Harold Kurzman and others), Strategy for Implementing Harmonized Transport Policy Reforms and COMESA Facilitation Instruments in the Northern Corridor Region, Final Report, April 2005

Medium- and Long-Term Measures

- Harmonizing Respective National Laws and Regulations with those of Regional Agreements: Assistance for partner states of respective regional conventions in harmonizing domestic laws and regulations, including close review and due diligence work; regional agreements to be reviewed may include the Northern Corridor Transit Agreement (1985), the Central Corridor Transit Transport Facilitation Agency Agreement (2006), and the Tripartite Agreement on Road Transport between the Government of the Republic of Kenya, the Government of Uganda and the Government of the United Republic of Tanzania (2001).

6.5.3 Supporting Measures for CBTI - 1: Trade Promotion and Industry Development

(1) Reduction in Institutional Barriers

Even if a reduction in transport costs can be achieved through CBTI development, induced effects based on actual transport prices charged in the market may not occur due to the current inflexible structure of the transport industry, which is controlled by transport carriers/forwarders. In order to address problems stemming from industry cartels in the transport sector in region and subregion, it is necessary in the immediate term to move toward deregulation of the transport/distribution industry to lower freight rates. Moreover, over the medium to long term, new entrants to the transport market should be assisted to provide for a more competitive industry structure, although political difficulties may be expected.

Short-Term Measures

- Promoting deregulation of transport/distribution industry in Kenya, through the provision of technical assistance for transport-related agencies, the Kenya Transport Association (KTA), and the Northern Corridor Transit Transport Coordination Authority (NCTTCA), among others.

Medium- and Long-Term Measures

- Incubation of private sector enterprises in the distribution industry

(2) Development of the Agro-Processing Industry and Promotion of Primary Agricultural Product Exports

As stated in Section 5.2, the environment for small-scale farmers in East Africa is unfavorable, in part due to distribution system problems (e.g. an excessive excess number of intermediaries or “middleman”, the complexity of sales channels). It will therefore be important to rebuild the physical and institutional system of distribution in the subregion. More precisely, comprehensive support along the value chain of primary agricultural products is urgently required, e.g., support for enhancing the accessibility of small-scale farmers to market information (i.e., at the phase of production), support for adding value with the introduction of wrapping technology (i.e., at the phase of processing), and construction of a major processing center for the agro-processing industry (i.e., at the phases of processing, distribution, and export).

Over the medium and long term, it may be effective to tackle issues of quality control and tracking management of primary agricultural products, considering the emphasis on consumer demands for higher food safety standards, e.g., in developed countries such as those of the European Union. In addition, it is also necessary to continuously strengthen the food security system, although recent decreases in food prices have lessened the urgency of this requirement.

Short-Term Measures

Comprehensive support along the value chain of agricultural products:

Production Phase: Enhancing accessibility to market information for small-scale farmers in Kenya, Uganda, and Tanzania who are cultivating traditional primary products (e.g., coffee, tea, cacao, tobacco, horticultural products and subsistence crops), through the dissemination of mobile phones and the provision of information technology (IT)

Processing Phase: Technical assistance for agro-processing technology (mainly wrapping technology) for horticultural products in Kenya, Uganda, and Tanzania

Distribution Phase: E.g., construction and rehabilitation of feeder roads to the Northern and Central Corridor, introduction of refrigerated (chilled) trucks and reefer (refrigerated) containers, development of the “cold chain” at inland container depot (ICD)s

Processing/Distribution/Export Phase: Construction of an Agro-processing EPZ/SEZ as a major center for the processing and distribution of agricultural products. Candidate sites include: Mombasa, the Nairobi suburbs, the Kenya–Uganda border, the Kenya–Tanzania border, Dar es Salaam, and Isaka, where ICDs are located. It is necessary to conduct a feasibility study in the short run.

Medium- and Long-Term Measures

- Comprehensive support along the value chain of agricultural products

Distribution/Export Phase: Technical assistance for quality control/management skills for horticultural products (responding to the European Retailer Produce Good Agricultural Practice or Eurep-GAP standard), and for tracking management skills of horticultural products (e.g., to introduce the same management system of the World Bank project that utilizes Global Positioning System technology).

- Assistance to contribute to food security and poverty reduction: To promote cross border movement of the main food products of East Africa (e.g., rice, maize), and to enhance the food security system in the subregion.

(3) Linkage with Mineral Resource Development

As stated in Chapter 5 and the previous section, there is a wide variety of mineral resources in Sub-Saharan Africa and they are unevenly distributed across the region. Available evidence is that deposits in East Africa are not particularly promising. Therefore, in the short run CBTI development strategy linking with mineral resource development in the Subregion may be focused on the coal and iron ore reserves along the Mtwara Corridor and on the nickel deposits in Burundi, through public-private initiatives (to be elaborated later).

Short-Term Measures

- Potential mineral resources: e.g., the coal and iron ore reserves along the Mtwara Corridor, nickel deposits in Burundi

(4) Development and Employment Promotion of Industrial Human Resources

It is necessary to have a medium- and long-term perspective when fostering industrial human resources for the agro-processing sector. Especially, providing training courses for the top management in this sector in order to improve management skills and quality control/assurance technology important.

Medium- and Long-Term Measures

- E.g., provision of training courses for the top management of the agro-processing industry in Kenya, Uganda, and Tanzania; capacity building for industrial human resources in the distribution sector in this area; assistance to upgrade tracking management skills.

6.5.4 Supporting Measures for CBTI - 2: Public-Private Initiatives

As pointed out in the previous section, it is urgently needed to deregulate the transport/distribution industry in East Africa, and is very important to rebuild the physical and institutional system of distribution in the subregion. In this connection, comprehensive support along the value chain of primary agricultural products is urgently necessary. Possible priority public-private initiatives may include: (i) utilizing the private sector's knowledge and experience for deregulation of the transport/distribution industry, and (ii) provision of ODA funds for the development of supporting infrastructure such as "cold chains".

Regarding the initiatives linked with mineral resource development, it is essential to introduce a mechanism for substantially hedging the mining risks of the private sector through public-private operation, e.g., regarding the coal and iron ore reserves along the Mtwara Corridor and the nickel deposits in Burundi.

(1) Development of Supporting InfrastructureShort-Term Measures

- Development of distribution infrastructure in relation to horticultural products through the application of grants and yen loans.
 - There is a past record of "cold chain" development for the horticultural industry with yen loans. However, post evaluation results showed that facility utilization ratios have been poor, due to competition with private reefer companies. Thus, care should be taken that such projects do not compete with other "cold chain" developments financed by foreign investment, i.e., to secure coherence with similar private sector projects.

Medium- and Long-Term Measures

- Development of "agro-processing" EPZs/SEZs: E.g., construction of supporting infrastructure such as power plants, water supply and sewerage systems, ports, access roads and railways, telecommunication facilities, in Mombasa, the Nairobi suburbs, the Kenya-Uganda border, the Kenya-Tanzania border, Dar es Salaam, and Isaka, where ICDs are located.
 - Since Kenya is experiencing a power crisis, it would be effective to construct a new power transmission line connecting Kenya and the new Bujagali Hydropower Plant in Uganda, which will commence operations in 2010.
 - Securing industrial water as a lifeline for the development of EPZs/SEZs is also recommended, considering that the agro-processing industry consumes a large amount of water. When utilizing underground water, environmental considerations should be taken into account.

(2) Public-Private Partnership (PPPs)Short-Term Measures

- Application of PPPs to port operation: For Mombasa and Dar es Salaam Port.
- Application of PPPs to operation and maintenance, as well as the service delivery of infrastructure projects: Introduction of performance-based contracts for operation and

maintenance activities for the high-standard highways to be developed along the Northern and Central Corridors

Medium- and Long-Term Measures

- Strengthening PPP institutional capacity: Capacity building of government officials of transport-related agencies in each country in terms of PPP institutional mechanisms

(3) Policy Making and Institutional Development

Short-Term Measures

- Assistance for the deregulation of the transport/distribution industry: Policy making support through a collaborative relationship among industry, government, and academia

Medium- and Long-Term Measures

- Indirect support for promoting the elimination of tariffs, establishing a monetary union, and other endeavors of the EAC and COMESA, through a collaborative relationship among industry, government, and academia (such as the “Ishikawa Project” in Vietnam, i.e., the Study on Economic Development Policy for the Transition toward a Market-Oriented Economy in the Socialist Republic of Vietnam).
- Assistance for improving inspection related to food safety standards and the quarantine system for horticultural products (e.g., flowers, fresh vegetables).

(4) Corporate Social Responsibility (CSR) and Bottom of Pyramid (BOP)

Short-Term Measures

- CSR activities with public support: Public assistance for CSR activities (such as HIV/AIDS prevention measures) to be implemented by private companies that will move into EPZs/SEZs
- HIV/AIDS prevention measures at OSBP developments: Public support for HIV/AIDS prevention measures at Malaba, Namanga, and other OSBP sites to be developed.
- Enhancing accessibility to market information: Dissemination of mobile phones and IT equipment for small-scale horticultural farmers in Kenya, Uganda, and Tanzania, through public-private initiatives

Medium- and Long-Term Measures

- Assistance for fair trade activities by SMEs/NPOs Public support for SMEs/NPOs that are involved in the fair trade of primary agricultural products in Kenya, Uganda, and Tanzania (especially coffee and tea)

(5) Financing

Short-Term Measures

- Risk sharing between the public and private sectors: Optimal risk allocation in high-risk projects such as mine development (main target: Southern Africa). In East Africa, mining development along the Mtwara Corridor and geothermal power resource development in Kenya are potential projects for this scheme.

(6) Others

Medium- and Long-Term Measures

- Development of human resources in the distribution industry in East Africa, and assistance for business management of private distribution companies in the subregion, through public-private initiatives
- For private companies that will move into agro-processing EPZs/SEZs as called for above, assistance to secure industrial human resources (e.g., to provide short-term vocational training with public support)

6.6 Japanese Official Development Assistance (ODA) for CBTI Development in Sub-Saharan Africa

6.6.1 Roles for Japanese Assistance

(1) Strengths and Weaknesses of Japanese Assistance

An underlying principle that has supported Japan's ODA is "helping [he/she] who helps himself".¹⁷ This principle of Japanese assistance has been remarkably consistent since the outset, while the principles adopted by other international development partners have at least arguably changed every 10–15 years. This consistency indicates a strong domestic consensus in Japan. This principle has led to a few salient features of Japan's ODA relative to that of other international development partners, e.g., the high percentage of the loan portion in Japanese ODA in comparison with that of others and the strong emphasis on human resource development on any project or program supported by Japan. While it has often been claimed that the effectiveness of this principle was verified by the economic take-off of East Asian and Southeast Asian economies that were early recipients of Japanese ODA, this claim is likely an afterthought. Right after the Meiji Restoration (in the latter half of the 19th century), two publications became long-running best sellers in Japan: *Encouragement of Learning* by Yukichi Fukuzawa and *Self-Help* by Samuel Smiles. Valuing self-help is indeed deeply rooted in Japanese cultural tradition. The other side of this tendency is a dislike of charity, and the country's ODA policy is no exception.

Another characteristics induced by the self-help principle has been the "on-request" principle. Japanese ODA is only provided in response to a request by the recipient country. In practice, however, particularly for major recipient countries, an annual consultation with the recipient country provides an opportunity for flexibility and continuity, and actual operation has not been so rigid. Still, in recent years, intensified competition among development partners and growing emphasis on mutual cooperation has eroded this "on-request" principle along with a general recognition in Japan that the "on-request" principle may not be consistent with national interest.

For a long time until recently, responsibility for Japan's ODA policy has been distributed among many governmental ministries and agencies. On the one hand this structure of many players contributed to increased standards due to competition, but on the other hand this structure was not suitable for adopting clear a strategy for selection and concentration of assistance subjects. The effect of this structure still remains strong in present day, and it is often observed that a comprehensive strategy encompasses a large number of fields.

Another salient feature of Japan's ODA has been that it is strongly led by government administration without revisions brought about by political change. It therefore has maintained a high level of consistency. On the other hand, this aspect has the deficiency of being slow in

¹⁷Professor Toshio Watanabe, Economist, Takusyoku University, Tokyo.

adapting to changed environments. In addition, the vast majority of counterparts of ODA projects are also government officials, making it difficult to establish relationships with the private sector except for direct beneficiaries of projects.

(2) Role of Japanese ODA to Africa

The characteristics of Japanese ODA as mentioned above could either be viewed as a strength or weakness.

An important strength of Japanese ODA is that Japan can provide a comprehensive program combining various schemes that as a whole can promote self-help. This kind of assistance is rather unique among development partners.

However, even in such a case, if subject areas, subject fields, and subject targets are spread too thin in a country or a region, and consequently the results of such assistance can hardly be measured or felt except for those immediately involved, the net effect will not be favorable for the recipient (or the development partner).

Japan has consistently given Asian countries its assistance with the message of supporting their economic growth in a visual manner by heavily investing in visible infrastructure. The success of Japanese ODA to Asia has largely been due to the effect of this clear governmental message to the private sector, giving them a kind of psychological security. This has resulted in inducing foreign direct investment of a magnitude far larger than the official assistance itself.

Considering that the density of economic activities in Africa is generally much lower than that in Asia, it is important to select good “subjects” for assistance and to avoid spreading aid too thin. It is also probable that in order for a “subject” to be successful it could well be several countries grouped together, unlike in Asia where the “subject” has almost always been the individual country.

6.6.2 Japanese Assistance for Developing CBTI in East Africa

In providing assistance for CBTI development, it is necessary to focus on areas where Japanese advantages and strengths can be best employed, in coordination with other development partners. Since it is apparent that that remains to be done regarding legal/regulatory and institutional issues, it is important to provide effective assistance through a variety of programs, combining hard and soft infrastructure. Regarding a suitable portfolio for Japanese assistance for the development of CBTI in East Africa, drawing upon Section 6.4, the following are prioritized areas where Japan’s experiences and know-how could be particularly effective and well received in the subregion.

(1) Port Development

Concurrent with the ongoing Mombasa Port expansion project, which is financed by a yen loan, assistance in improving port clearance procedures and intermodal connectivity with trunk railway and road links is necessary. For Dar es Salaam Port, which suffers from worse traffic congestion than Mombasa port, it is also urgently needed to facilitate efficient port processing coupled with yard expansion.

(2) Railway Operation Improvement

In order to assist improvements in the operation and management of Tanzania Railway Corporation (TRC) and Rift Valley Railways (RVR), mobilization and employment of private Japanese railway company management experience, grants for freight rolling stock (wagons),

and yen loans for track improvement and the purchase of wagon may be considered. It is also necessary to examine the need for urgent assistance to rehabilitate the East Africa's extremely deteriorated rail infrastructure, while concession issues of TRC and RVR may perhaps be best being assisted by the World Bank.

(3) Cross-Border Systems Improvement

Along with assistance for OSBPs, the efficiency of transit freight management system should be improved through IT solutions including computerization of the customs transit system, improvement of weighbridge operations and police checkpoint administration, and introduction of a truck tracing system with the use of GPS and IC (integrated circuit)-tags. Considering that pilot projects undertaken by the World Bank have not yet realized the level of performance expected, Japanese technology could likely be productively employed in this field and indeed a similar pilot project funded by Japan has already been implemented in the Greater Mekong Subregion (GMS) of Southeast Asia.

(4) Assistance in Industry Development

It is necessary to assist agro-processing industry development, mineral resource development, human resource development, and the construction of EPZs/SEZs at ports and at nodes of regional corridors in coordination with CBTI development.

6.7 Issues of JICA Assistance

Issues of further JICA assistance for developing CBTI in Sub-Saharan Africa are summarized below.

(1) Needs for CBTI Project Formation in East Africa

This study prepared a model program for East Africa including priority sectors and measures. Based on this program, additional studies are required to formulate projects in East Africa. As mentioned, ports, railways, border crossing facilities and systems, and industrial development are proposed as CBTI development initiatives that can be productively assisted by Japanese ODA. It is important to proceed with scoping studies and detailed surveys/analysis to realize project implementation as early as possible.

(2) Studies of CBTI in Sub-Saharan African Subregions Other than East Africa

The results of this study of CBTI development strategies focused on the case of East Africa. However, it is acknowledged that the situation and conditions of the transport sector and transport infrastructure may differ among subregions of Sub-Saharan Africa. For example, in other subregions of Sub-Saharan Africa longer times may be required for border crossing and road conditions may be worse. Therefore, it is necessary to undertake CBTI development studies to identify projects and priority sectors for each subregion.

Specifically, further CBTI studies may be implemented regarding the Nacala Corridor of Mozambique in the SADC Region, as well as the Nigeria–Cameroon Corridor and the Mali–Senegal Corridor of the ECOWAS Region, for which JICA assistance is ongoing.

(3) Examination of Risk Sharing between the Public and Private Sectors, and Private Sector Needs

As developing Sub-Saharan African CBTI requires proceeding with public-private partnerships as well as industrial development and trade promotion, it is necessary to better understand the

needs of the private sector, and to develop risk-sharing schemes between the public and private sectors.¹⁸ In particular, it is essential to establish institutional arrangements that enable quick decisions in response to demands by the private sector.

(4) Response to Operation and Management Issues of Ports and Railways

It is imperative to establish an institutional arrangement capable of delivering advice on appropriate countermeasures and responding to operational and managerial issues confronting the railway and port (sub)sectors, which are of vital importance regarding CBTI in Sub-Saharan Africa. In particular, it is deemed essential for JICA to accumulate additional expertise on privatization issues.

(5) Studies of (Sub)Sector Issues

It is important for JICA to conduct sector studies to formulate individual CBTI projects based on a CBTI development program. Specifically, it is necessary to conduct further studies in subsectors in addition to the railway and port subsectors mentioned above, including road transport, air transport, trade and industrial development, and public-private partnerships, feedback these studies into the CBTI development program. For example, the railway studies may cover cross-boundary facilities and associated institutions, and trade and industry studies (e.g., addressing agriculture and mining) may analyze the required CBTI; the study results may then be made available for future CBTI planning.

(6) Assessment on Regional Impacts from CBTI Development

It is essential to assess the regional impacts of CBTI development, which are expected to include benefits such as poverty alleviation, and trade and industrial development. It is also important to assess negative impacts induced by CBTI development, including possible adverse effects on income disparities between/among the regions affected, induced income gaps, and environmental impacts; this knowledge should also be used for future CBTI planning. For example, the effort can commence with training programs on regional impacts of CBTI development for transport-related officials in several countries in the region to raise awareness of the regional benefits of CBTI development.

¹⁸ Although suitable risk sharing between the public and private sectors may differ by project, generally it is necessary for the public sector to take considerable risk in PPPs for transport infrastructure projects with very low demand such as usually the case in Africa. For example, it is desirable that the public sector provide risk money (subsidy) for toll road projects because toll levels should remain low to ensure reasonable traffic volumes in view of the low affordability (and willingness-to-pay) of users.

Appendix on East African Railway Concessions

Tanzania

1. General Conditions

Item	Comment
1. Date of Agreement	3 September 2007
2. Parties	RELI Asset Holding Company Limited (Authority) and Tanzania Railways Limited (Concessionaire) – Government has 49% stake, RITES of India 51%.
3. Concession Activities	<ul style="list-style-type: none"> • Use, manage, operate, maintain, and develop the concession assets • Provide rail transport services on the railway network
4. Delegation of Concession activity Rights	Yes, subject to RAHCO consent
5. Third-Party Access	Trans Africa Railway Company (TARC)
6. Concession Term	25 years (from date of commencement, which is determined by completion of <i>conditions precedent</i> and shall not be greater than 180 days from date of the agreement)

2. Responsibilities of the Concessionaire

- Accepts all risks and benefits associated with concession assets (taken as is, where is, and with all apparent and latent defects) and undertakes to support all expenses related to those responsibilities, from its own resources, ensuring that they are maintained in good repair, condition, and working order so as to facilitate the provision of the required railway Transport Services
- Maintains infrastructure
- Prepares separate maintenance plans for moveable and immovable assets
- Submits an investment plan to RAHCO every five years – a total investment required of USD 364.37 million
- Conducts railway operations in accordance with applicable requirements and meets base passenger service requirements as specified in the agreement, with freedom to conduct business on a commercial basis (special provision for third-class passenger fares)
- At its own discretion, selects and employs ex-Tanzania Railways Corporation (TRC) employees with TRC responsible for all costs associated with those employees not so selected
- Achieves local participation by the sale of shares to Tanzanian investors
- Pays to RAHCO a fixed (USD 6-14.5 million p.a. inflation adjustable) and variable (5.0 and then 7.5% of gross revenue) concession fee
- Maintains appropriate books of accounts and financial statements, which are subject to oversight and review by the authority
- Adheres to base passenger service requirements as specified in concession agreement schedule 8
- Establishes a performance bond

3. Responsibilities of the Authority

- Owns the infrastructure
- Responsible for modernizing/upgrading infrastructure and developing new lines (including signaling and communications infrastructure)
- Provides warranty for past contractual liabilities but after commencement date the concessionaire succeeds TRC to contracts
- Responsible for collection of trade debts and settlement of all liabilities of TRC
- Promotes and ensures the concessionaires access to assets and network
- Assists concessionaire with employment issues
- Assists concessionaire with commercial issues as necessary
- Establishes an escrow account

4. Observations

- Currently estimated that freight shipments amount to some 600,000 tons per year with a breakeven requirement for 2 million tons, which is not anticipated to met until 2011; this will require a subsidy
- Rail network at the outset of the concession (October 2007) was found to be in much poorer condition than was anticipated under the concession agreement
- The World Bank assisted the concession by the provision of loans of USD 36 million for track improvements (USD 8.5 million disbursed to date) and USD 44 million for rolling stock (USD 14 million disbursed to date)
- Railway freight customers have been lost due to delays in rehabilitating the lines to the extent that many of those ex-customers have made alternative transport arrangements focusing on roads or other ports – but note the bottleneck situation at Mombasa port
- Wagon availability is currently the major operational constraint but speed limits are also significant constraints on capacity
- Congestion at the port is also a constraint on railway operations but Dar es Salaam port has been rehabilitated for the last 30 years by external support and still the problems persist so no speedy, effective solution can be envisaged
- Development of inland clearance/container depots (ICDs) is ongoing but benefits will only be realizable once rolling stock requirements have been met
- Ferry facilities across Lake Victoria are also constraining freight development
- There is significant potential for rail-based freight ranging from nickel and paper products through to transit traffic to central African countries and particularly to the Democratic Republic of Congo – but the current reappearance of military conflict there presents further difficulties
- Gauge standardization is a further ongoing issue, which demands heavy investment and has not been resolved to date
- The TRL line is also dependent on links with TAZARA, which is in turn currently the focus of concession proposals restricted to Chinese companies as Tanzania has not repaid the Chinese credit used to build TAZARA in the 1970s
- Passenger traffic is not profitable with three passenger trains to/from Dar es Salaam per week
- About 40% reductions in staff numbers in terms of pre/post concession status' the current staffing level is 3,200

5. Conclusions

- Track conditions and wagon availability are the major constraints at present although a broad range of operational difficulties are contributing further to lack of profitability
- Operational costs are significantly above target due to the operational constraints noted above
- Efforts to resolve the constraints are in hand but seem to be slow in implementation as witnessed by disbursement levels on existing loan facilities
- Technical assistance does not seem to be a high priority except perhaps in the area of marketing
- While the concession has only been effective for just over one year to date, it is too early to draw definitive conclusions but clearly much remains to be done

Uganda and Kenya

Note: Separate concessions applicable to the two countries have been granted, with a combined concession “over the top”; for this reason and given that there is a common network, comments for the two countries are presented together with country-specific observations as necessary.

The two countries agreed to undertake a joint concession of Kenya and Uganda railways to a single concessionaire – Rift Valley Railways (RVR) being the subsequent winning bidder. The joint concession was awarded through a bidding process governed by the laws of Kenya and Uganda. The concession covers more than 3,000 km of rail network across Kenya and Uganda, and will run for 25 years for freight services, and five years for the long-distance and commuter services in Kenya (Uganda has no passengers services).

The concession legal structure entails two national concession companies registered in each country (for revenue and expenditure accounting), and owned 100% by a Holding Company (HC). In December 2003, harmonization work was concluded and joint restructuring agreed by the Joint Steering Committee in a Memorandum of Understanding (MOU) between the Governments of Kenya and Uganda. Further, the establishment of a joint railway commission for harmonization of regulations was envisaged. An interface agreement for cross-border issues and inter-governmental agreement to further harmonize regulations and operations was signed.

Financing

The value of the infrastructure assets of Kenya and Uganda railways jointly was estimated at USD 184 million. The value of the rolling stock able to provide services was estimated at USD 120 million (almost 50% of registered rolling stock items was regarded as scrap). About USD 120 million will be required in form of deferred maintenance so that all rolling stock assets are running again. The total value of equipment assets was estimated at USD 53 million (including USD 25 million for the marine vessels in Uganda). The total value of the real estate assets was estimated at USD 166 million (this includes value of operational buildings estimated at USD 38 million and the value of land at USD 128 million).

The concession’s long-term investment in Kenya (25 years) was estimated at USD 250-300 million (with USD 30-40 million in the first five years). The long-term investment for the concession in Uganda was estimated at USD 54 million, and USD 18 million for the short-term investment for the first five years.

The European Union (EU) is financing the repairs of the Nile Bridge, new culverts, and construction of 30 km of new track along the main Kampala-Malaba railway line in Uganda.

The proposed joint concession shareholding structure (transaction configuration) entails the formation of a Holding Company (that will comprise two national companies, one registered in each country). The Lead Investor is required to take at least 35% of the Holding Company. Specific targets were set for at least 20% Kenyan ownership and at least 20% Ugandan ownership of the Holding Company. A total of 40% of shareholding is reserved for local ownership is open to both public and private ownership with equal opportunity.

The concession fee structure entails:

- (i) an upfront fee of USD 3 million in Kenya and USD 2 million in Uganda;
- (ii) a variable annual fee for each concession for 25 years: 5% of annual gross revenues for the first five years; 7% of annual gross revenues thereafter;
- (iii) a fixed annual fee for each Concession for each of the 25 years: amounts may vary from one year to the other; and
- (iv) a fixed annual concession fee for each of the 7 years for the Kenya passenger services (the amounts may vary each year)

A performance bond by each concession company was prepared to cover penalties for non-performance of obligations and cap liquidated damages for concessionaire default. Core infrastructure and existing assets (and their rehabilitation) remain owned by the Governments of Kenya and Uganda. New investment in infrastructure remains the responsibility of the governments.

1. General Conditions

Item	Comment
1. Date of Agreement	November 2006
2. Parties	Rift Valley Railways (concessionaire), Authority (Separate for individual countries and as a unit)
3. Concession Activities	Definition not available
4. Delegation of Concession Activity Rights	Definition not available
4. Third-Party Access	Definition not available
5. Concession Term	25 years for freight, 5 years for passenger activities

2. Observations

- The operations of Rift Valley Railways are poor; a consultant found that the existing meter gauge track can serve Uganda and the Democratic Republic of Congo, but they need to modernize locomotives and wagons, and undertake track rehabilitation. The concessionaire is required to start track rehabilitation and procure new locomotives and wagons but these requirements have not been met to date.
 - Existing management is poor in relation to both the concessionaire and authority entities.
 - The International Finance Corporation (IFC) of the World Bank Group and Kreditanstalt Für Wiederaufbau (KfW, the German Development Bank) not disbursed funds to Rift Valley Railways yet due to covenants and due diligence shortfalls (conditions precedent).

- There has been some restructuring of shareholding (although the current structuring is not available in detail).
- Current freight traffic is 1.7 million tons per year as compared with theoretical network capacity of some 7 million tons.
- Cross-border processes are a continuing constraint.
- The concession agreement envisaged capitalization of USD 30 million but now the concessionaire estimates actual need is in the region of USD 190 million over the first five years.

3. Conclusions

From the data and status information available on these concessions, it is apparent that they suffer from very similar difficulties. It is also clear that such experience is not restricted to the East African region, but rather is a common feature of sub Sahara Africa-experience.

The World Bank has identified¹ four core problem areas together with appropriate remedies and these are reproduced here for purposes of illustration and comparison with the situations encountered in the current focus countries.

Problem No. 1:

Limited capacity and/or willingness of private operators to finance track renewal.

The true cost of track renewal needs to be acknowledged upfront. This cost should be carefully assessed to ensure full value extraction from the existing assets, and factored into the realities of the business. The fees for the concession should be modulated accordingly. Solutions that have the advantage of limiting up-front cost to governments while keeping the financial liability of the planned investment squarely on private operators need to be explored and, if feasible, favored even at the expense of lower concession fees..

Problem No. 2:

So far, railway concession financial returns have been low.

National transport policies that explicitly recognize the critical linkages between direct/indirect road user subsidies and railway concession financial returns, need to be defined. This could be done with the help of international donors and organizations such as the Sub Saharan Africa Transport Program (SSATP). Private operators also need to be realistically compensated for the financial risks associated with the operation of loss-making passenger trains, as Governments often fail to honor their subsidies commitments to these operations.

Problem No. 3

Effective and efficient regulation of private rail operators is needed.

Better enforcement of concession contract rules by regulatory bodies is needed in order to make private rail operators more accountable. This could be done by strengthening concessionaires' contractual, financial and operational information disclosure requirements, strengthening regulatory bodies' capacity as well as imposing annually independent financial and operational audits as part of concession contracts.

¹ World Bank, *Sub-Saharan Africa – Review of Selected Railway Concessions*, Report No. 36491, June 2006.

Problem No. 4

Government behavior vis-à-vis railway concessionaires needs to be more consistent, and in line with good business practices to promote efficiency and economies of scale.

Government-appointed oversight committees that are properly staffed, skilled and financed are necessary to ensure effective concessioning. Such committees must be politically and legally robust to protect private railway operators from unpredictable and arbitrary changes in their business environment that are often sought by disparate Ministries and other agencies. The members of these committees should meet on a regular basis with their counterparts from other railway concessions in order to share ideas, experience and information.

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