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TRANSPORT INFRASTUCTURAL DEVELOPMENT IN KENYA TOWARDS ENHANCED REGIONAL INTEGRATION: A CASE OF EASTERN AFRICA REGION.

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Declaration

I, Ombara Isaac hereby declare that this project is my original work and has not been submitted to any other college or university for academic award.

Signed: _____ Date: _____

Ombara Isaac

This project has been submitted for examination with my approval as university supervisor

Signed: _____ Date: _____

Gerrishon K. Ikiara

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Dedication

This work is dedicated to my wife and son: Juliet Susan ‘Sue’ Dani and David Collins Siwa Jnr., for the unconditional love, support and encouragement.

Abstract

The structural gap in transport infrastructure is not only a serious handicap to growth and poverty reduction in Kenya but to the entire Eastern Africa region at large. Transport connectivity has a direct link to any country's competitiveness since it weighs on the cost of doing business and living. Kenya's former President Mwai Kibaki invested heavily in the development of infrastructure in order to encourage economic growth. President Uhuru Kenyatta's manifesto during the 2013 general elections campaign pledged to sustain the development of infrastructure to improve the country's competitiveness in the external environment[1].

Kenya has continuously played a leading role in the region due to its strategic location on the East African coast. For a long time it has been one of the most important outposts for the transcontinental trade between Europe, the Indian sub-continent, the Arab world and the Far East. It has also been the gateway for many countries in the hinterland and landlocked, with a relatively well developed transport infrastructure. Kenya is the transport hub of East Africa with its capital Nairobi as the base for an extensive regional trucking business, international airlines, and airfreight services, among other ventures. Greater regional integration will further strengthen its position as a hub, but with the rising regional trade volumes, inadequacy in infrastructure is a major impediment to greater integration.

The purpose of this study is to examine Kenya's transport infrastructural development through the assessment of strengths, opportunities, challenges and the proposed projects to either enhance the existing system or mitigate the infrastructural gap towards more connectivity, mobility and reduced costs. Up on realization of optimum levels of economic and social

[1] Odhiambo, A. Transport and Infrastructure billions set to propel growth *http://www.businessdailyafrica.com/Transport-and-Infrastructure-billions-set-to-propel-growth/-/539546/1839878/-/vkv4h3/-/index.html,* May 2, 2013, accessed June 2, 2013.

connectivity as a result of an upgraded transport system in Kenya, greater Eastern Africa regional integration will be a reality.

In order to cut the region's over-reliance on Kenya's existing port of Mombasa, the recently commissioned Lamu Port-Southern Sudan-Ethiopia Transport (LAPSSET) project, among other initiatives aims at intensifying trade and opening up northern Kenya and surroundings, a vast area whose enormous economic potential has not been fully tapped because of infrastructural challenges.

List of acronyms and abbreviations

ADF	African Development Fund
AfDB	African Development Bank
AUC	African Union Commission
BOO-BOOT	Build, Operate, and Own or Build, Operate, Own, and Transfer
BWG	Business Working Group
CAGR	Compound Annual Growth Rate
CCCC	China Communications Construction Company
CDF	Constituency Development Fund
CIA	Central Intelligence Agency
COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of the Congo
EAC	East Africa Community
ECOWAS	Economic Community of West African States
EIB	European Investment Bank
ERS	Economic Recovery Strategy
GDP	Gross Domestic Product
ICA	Infrastructure Consortium for Africa

ICT	Information and Communications Technology
IEA	Institute of Economic Affairs
IGAD	Intergovernmental Authority on Development
IMF	International Monetary Fund
InfraCo	Private Infrastructure Development Group
JICA	Japan International Cooperation Agency
JKIA	Jomo Kenyatta International Airport
KAA	Kenya Airports Authority
KCAA	Kenya Civil Aviation Authority
KCC	Kisumu City Council
KLM	Koninklijke Luchtvaart Maatschappij N.V
KNBS	Kenya National Bureau of Statistics
KPA	Kenya Ports Authority
KR	Kenya Railways
LAPSET	Lamu Port-Southern Sudan-Ethiopia Transport
NCTIP	Northern Corridor Transport Improvement Project
NEPAD	The New Partnership for Africa's Development
NGOs	Non-governmental organisations
NIC	Newly Industrialized Country

NPCA	NEPAD Planning and Coordinating Agency
PADECO	Japanese International Development Consulting Company
PhD	Doctor of Philosophy
PIDA	Program for Infrastructure Development in Africa
PPI	Private Participation in Infrastructure
PPPs	Public-Private Partnerships
RVR	Rift Valley Railways Consortium
SADC	Southern Africa Development Community
SEZs	Special Economic Zones
SOEs	State Owned Enterprises
SQMS	Safety and Quality Management System
SSA	Sub Sahara Africa
TEU	Twenty-foot Equivalent Unit
UK	United Kingdom
UNECA	United Nations Economic Commission for Africa
US	United States
WTO	World Trade Organization

List of Tables

List of Figures

Table of Contents

Definition of Key Terms

These are terms constantly applied during the researcher's study and are also reflected in the study topic. They align the researcher to the study and they are defined as follows;

A **region** is a broad geographic area distinguished by similar features. It is also a specified area or territory of interest or activity,[1] and in this study the territory is the Eastern Africa region, the context of examination for the key factor of the activity which is integration.

Integration is the act of combining or adding parts to make a unified.[2] The study envisages Eastern Africa countries combining into a regional bloc.

Infrastructure is the stock of fixed capital equipment in a country that includes roads, among other initiatives, considered as a determinant of economic growth.[3] The study examines how transport infrastructure development in Kenya will facilitate the unification of Eastern Africa countries.

Economic Growth is the increase in the amount of goods and services produced by an economy in a particular time or period. It is conventionally measured as the percent rate of increase in real gross domestic product.[4] It is also seen as a long-term expansion of the productive potential of the economy**.** The study strives to establish how this production could substantively be increased among Eastern Africa countries through integration as a result of an upgraded transport system in Kenya.

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[1]Merriam Webster Dictionary online, *http://www.merriam-webster.com/netdict.htm* accessed on April 23, 2013.

[2] Collins English Dictionary, (Harper Collins Publishers, Glasgow, 2000).

[3] Collins English Dictionary, (Harper Collins Publishers, Glasgow, 2000).

[4] Kendrick J., *Productivity Trends in United States,* (Princeton University Press, New York, 1961).

Development is the act or process of growing, progressing or developing.[5] In this study as used in the topic it refers to the upgrading of Kenya's transport infrastructure.

Economic diplomacy as used in the study is the use of the diplomatic influence held by states to promote their economic interests in international Markets. Transport infrastructure is an enormous and expensive venture that calls for direct and concerted governments' involvement as means to accessibility and intended profitable convergence.

[5] Collins English Dictionary, (Harper Collins Publisher, Glasgow, 2000).

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Chapter one provides the introduction to the study by presenting the basic information underlying the study. It lays the foundation for the subsequent discussions and analysis of the issues surrounding the research problem.

1.1.1 General information on Kenya

The republic of Kenya is a country in Eastern Africa with an estimated area of 580,000 km^2 and a population of 43.18 million.[6] It represents 42 different peoples and cultures, and got her independence from Britain in 1963 with the capital Nairobi as a regional commercial hub. Kenya's economy is the largest by an estimated Gross Domestic Product (GDP) of US $ 37.34 billion in East and Central Africa.[7] In the past decade, infrastructure has contributed an estimated 0.5 % to Kenya's annual per capita GDP growth.[8] The country's GDP per capita has been stable since 2007 as shown in table 1 and figure 1 below;

Table 1: Kenya's GDP - per capita in $

Country	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Kenya	1,600	1,500	1,000	1,020	1,000	1,100	1,100	1,200	1,700	1,600	1,600	1,600	1,800

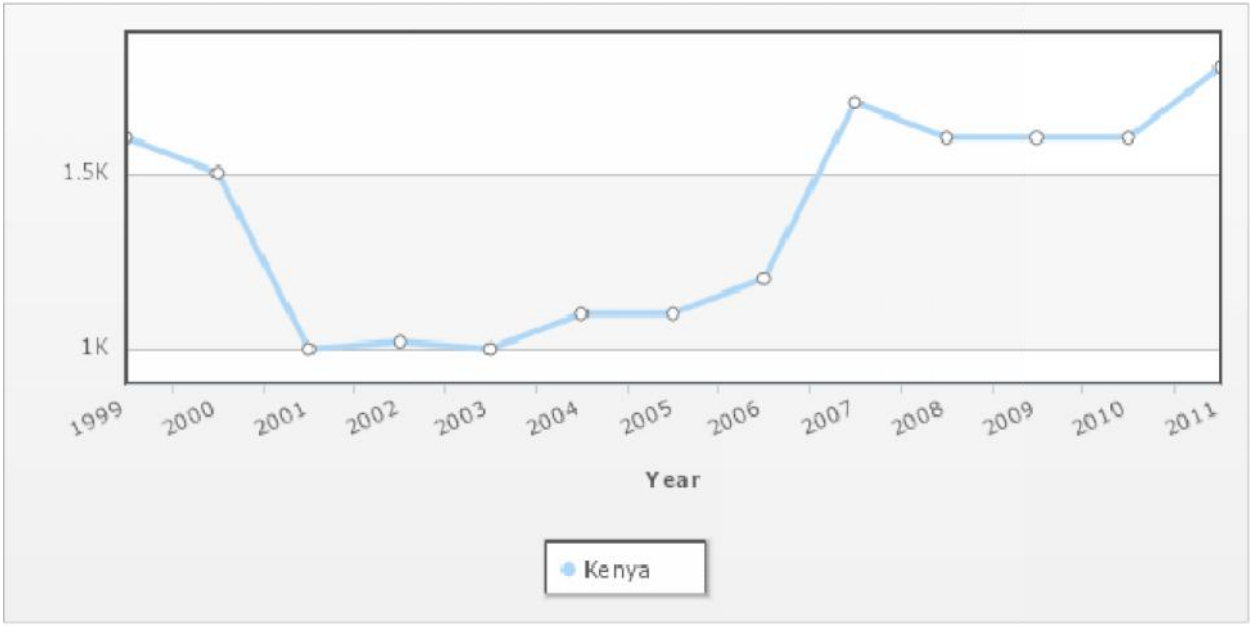
Source: CIA World Fact book

[6]World Bank data 2012; *http://data.worldbank.org/country/kenya*, accessed September 17, 2013.

[7]World Bank data 2012; *http://data.worldbank.org/country/kenya*, accessed September 17, 2013.

[8]World Bank eLibrary; Kenya's infrastructure: A continental perspective, *http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-5596,* accessed on May 20, 2013.

Figure 1: Kenya's GDP - per capita in $



Source: CIA World Fact book

Raising the country's infrastructure endowment equivalent to that of Africa's middle-income countries could increase that contribution by 3%.[9]

Agriculture is a major employer and the country traditionally exports tea, coffee, and more recently fresh flowers to Europe. The service industry is a major economic driver, mostly the telecommunications sector which contributes over 60 percent of GDP.[10] The trend has been similar for the last decade as the services sector accounted for a staggering 65% of the country's total GDP in 2004.[11] Kenya also produces world class athletes and is a member of the East

[9] World Bank eLibrary; Kenya's infrastructure: A continental perspective, *http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-5596,* accessed on May 20, 2013.

[10] Capital Digital Media; Business and Tech, October 24, 2012, http://www.capitalfm.co.ke/business/2012/10/services-sector-propelling-kenyas-economy/, accessed on 21/10/2013

[11] I23 Independence Day.com; Economy: Economy of Kenya, http://www.123independenceday.com/kenya/economy.html, accessed on 22/9/2013.

Africa Community (EAC), and has maintained remarkable stability despite changes in its political system and crises in neighboring countries.

1.2 Statement of the problem

Roads, bridges, rail lines, ports and associated formations deliver economic and social benefits by connecting individuals and firms to national, international and regional markets, among other assorted targets. When transport infrastructure is broken, congested or inadequate, it no longer performs its intended connective functions, and thus the economy suffers as essential transactions and movements are hampered, delayed or disrupted resulting into high transport cost. In order to attain the connective power of transport infrastructure at its optimal level, new infrastructure must be built and old infrastructure enlarged or improved.

However, infrastructure development is expensive as it requires huge investments to build highways, railways, ports and associated formations. This calls for careful planning due to the great costs involved and considering that investments in infrastructure have a long horizon since once built they stay around for many decades. Based on insufficient targeted research by universities to feed transport infrastructure policy and investment in Kenya towards regional integration, this study aims at analyzing the state of transport infrastructure in Kenya and make recommendations to inform planning and financing of more substantial investments required to achieve desired levels of economic and social connectivity towards regional integration. This study builds on earlier works and aims to go beyond by providing policy makers and financiers with transport investment information specific to Kenya's needs.

Previous studies on transport infrastructure have offered generalized findings that didn't adequately cater for the specific needs of Kenya. In 2009, JICA and others conducted research on cross-border transport infrastructure on Sub-Saharan Africa,[12]a region with great need to maintain and rehabilitate the transnational infrastructure connecting ports and 15 landlocked countries. The study also included a focus on the systems and infrastructure in East Africa. Professor Tsuneaki Yoshida of the Department of International Studies, Graduate School of Frontier Sciences, University of Tokyo, was the technical advisor. The research group consisted of staff from the Economic Infrastructure Development Department of JICA and the study team leader was Yuichiro Motomura of PADECO CO., Ltd. of Japan; a Japanese international development consulting company. The methodology of the research comprised of discussions held in five research group meetings, field surveys, literature research in Japan, and discussions between the research group and relevant agencies as key informants on the study. A public symposium based on the study's findings was also held. However, the far-fetched context of the study did not provide for Kenya's specific needs as the focus was on East Africa in general and even the literature research is alienated and conducted in Japan.

1.3 Purpose of the Study

The purpose of this study is to examine Kenya's transport infrastructural development as a key factor to inform relevant planning and programming geared towards enhanced Eastern Africa regional integration.

[12]JICA; The Research on the Cross-Border Transport Infrastructure: Research Report 2009; Phase 3 *http://www.jica.go.jp/english/our_work/thematic_issues/transportation/pdf/research_cross-border01.pdf,* accessed on 12/10/2013.

1.4 Objectives of the Study

The objectives of the study are as follows;

a. To evaluate the current state of Kenya's and Eastern Africa regional transport infrastructure
b. To examine the milestones in Kenya's transport infrastructural development in the last decade
c. To determine whether the on-going and proposed Kenya's transport infrastructural development projects would enhance regional integration.

1.5 Research Questions

The researcher seeks to find out the current state of Kenya's transport infrastructure, the progress made so far in the last decade and the impact of the planned projects on Eastern Africa regional integration. To obtain responses for this study, the following questions are asked;

a. What is the current state of Kenya's transport infrastructure?
b. What have been the milestones in Kenya's transport infrastructural development in the last decade?
c. How would Kenya's transport infrastructure development enhance regional integration?

1.6 Hypotheses of the Study

This study is guided by the following hypotheses;

a. That the current state of Kenya's transport infrastructure is adequate to support regional integration.
b. That Kenya's transport infrastructural development in the last decade has registered little progress

c. That the planned transport infrastructural development projects in Kenya may not impact on regional integration.

1.7 Significance of the Study

This study is an assessment of Kenya's transport infrastructural development and associated systems to establish its state, opportunities, challenges and future programming whose findings will feed into recommendations to inform planning and financing of substantial investments required in order to achieve desired levels of connectivity towards regional integration. This study builds on earlier works and aims to go beyond by providing policy makers and financiers with transport investment information specific to Kenya's needs. Kenya can do even better as a front runner in the region with an upgraded transport system.

1.8 Justification of the Study

Kenya has natural advantages over its counterparts in the Eastern Africa region given its strategic geographical location. Unlike some of its landlocked neighbors, the correct utilization of the ports of Mombasa and Lamu with an appropriate upgraded accompanying inland transport system could help demonstrate Kenya's immense potential and economic influence within the Eastern Africa region. This study strives to examine how a strengthened transport infrastructure system in Kenya would help realize the common interests of national groups and people living within and beyond its borders.

The findings of the study will inform evidence based planning and interventions by governments in Eastern Africa region\with the aim of strengthening transport infrastructure system which will in turn ensure base connectivity and mobility towards regional integration. The study will also enlighten development partners and public private partnership arrangements

on the transport needs and discrepancy in the region to subsequently direct the kind and magnitude of support required to achieve tangible transport infrastructure at both country and region levels. This study sets the foundation for future studies to build on in the protracted quest for a productive and sustainable transport infrastructure.

1.9 Scope and Assumptions of Study

The research addresses the topic "Transport infrastructural development in Kenya towards enhanced regional integration: A case of Eastern Africa region". The study is limited to examining Kenya's transport infrastructure development as a driver towards enhanced regional integration.

Assumptions of the study;

This study makes the following assumptions;

a. That the current state of transport infrastructure in Kenya is not adequate for greater integration of the region
b. That Kenya's transport infrastructural development has recorded progress in recent years, and;
c. That Kenya's transport system has the potential to grow the region even more with planned and on-going related projects.

1.10 Organization of the Study

The study is organized in five chapters as follows; Chapter one provides the introduction to the study by presenting the basic information underlying the study such as background of the study and statement of the problem. It also provides the purpose, objectives, questions,

hypotheses, significance, justification, scope, assumptions and the organization of the study. The chapter reviews literature related to the study with an entrenched theoretical framework explaining the use of the big push theory. It also describes the methods and procedures to be used for data collection and analysis.

Chapter two gives an overview of transport infrastructure development and competitiveness in Africa with focus on Africa's pronounced transport infrastructure deficit and planned transport infrastructure development projects in selected countries in Africa.

Chapter three covers the state of transport infrastructure in Kenya and the correlating major challenges in transport infrastructural development in Kenya

Chapter four highlights an overview of transport infrastructural development in Kenya and Eastern Africa regional integration with focus on Development of 'basic industries' and the related multiplier effect, Government partnerships towards an upgraded transport network, milestones in Kenya's transport infrastructural development in the last decade and Major projects to enhance Eastern Africa regional transport network. It also covers other ventures towards enhanced Eastern Africa regional integration with focus on Vision 2030 and Economic diplomacy.

Chapter five is a summary of the study's conclusions and recommendations that details the summary of key findings, recommendations, prospects of further studies and the conclusion.

1.11 Literature Review

Relevant literature relating to the study is reviewed and with the support of the available literature, theory on the subject of study is reviewed. A theory on infrastructural development is also presented.

1.11.1 Management of transport infrastructure network in Kenya.

Roads

The World Bank in its country report on Kenya's infrastructure (2010),[13] highlights the population of Kenya and agricultural activities as being mainly in the southern half of the country, running along the corridor linking Mombasa to Nairobi and then further west to Kisumu and into Uganda. The report further shows that the country's infrastructure backbones including the main road artery follows this route. To the contrary, the northern part of the country is sparsely populated and characterized by fragmentary infrastructure coverage. Kenya's infrastructure networks are largely isolated from those of its neighboring countries and while there are some transport links with Uganda and Sudan, road connections to Ethiopia, Tanzania, and Somalia are scanty and of very low quality. Therefore there is need to provide a basic level of connectivity to the north of the country.

According to the Delegation of the European Union to Kenya under Regional Economic Integration by means of Transport Infrastructure (2013),[14] it observes that roads are the main means of transport for people and freight in Kenya and remain the only access means to rural areas. The length of the existing trunk road network provides the basic connectivity for trade, investment and general movement. The country has an established system for financing road maintenance of the road network with accompanying remarkable institutional reforms; however the country still suffers a huge rehabilitation backlog that should be addressed for the trunk

[13] Briceño-Garmendia, C.M, and Shkaratan, M.; Policy Research Working Paper, Kenya's Infrastructure: A Continental Perspective (Africa region, 2011), *http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5596*, accessed 24/8/2013.

[14] Delegation of the European Union to Kenya; Regional Economic Integration by means of Transport Infrastructure *http://eeas.europa.eu/delegations/kenya/eu_kenya/tech_financial_cooperation/transports/index_en.htm*, accessed on 10/11/2013.

network to stay in the preferred maintainable condition. The situation has been aggravated by road investments in the country having low rates of budget provision.

Air transport

Nevertheless, Kenya has registered mixed fortunes by realizing substantial achievements in its transport infrastructure management on one hand and on the other still experiences a number of challenges within the transport sub-sector. The successful innovative public-private partnership (PPP) in air transport with a strategic investor KLM (Koninklijke Luchtvaart Maatschappij, N.V), the Royal Dutch Airline has made the national carrier Kenya Airways a top airline in the region with Jomo Kenyatta International Airport being a major gateway to Africa. The partnership should urgently address pressing and evident capacity constraints and security issues at the facility.

Railway

According to the Northern Corridor Infrastructure Master Plan (2011),[15] the rail passage stretching from the shores of the Indian Ocean in Mombasa to Malaba on the Kenya-Uganda border and further beyond into Rwanda and Burundi is of strategic importance to the region. But owing to the deterioration of the rail network, freight traffic has declined showing a relatively poor performance compared to other railways in the region. This calls for a combination of track rehabilitation measures and improved operational performance and the rail port interface in order to boost traffic volumes.

[15]Berger, L.; Northern Corridor Infrastructure Master Plan Final Report, (Paris, 2011) *http://www.ttcanc.org/documents/The%20Northern%20Corridor%20Infrastructure%20Master%20Plan.pdf*, accessed on 29/10/2013.

Port of Mombasa

According to a World Bank country report on Kenya's infrastructure (2010),[16] notes that the port of Mombasa is a major shipping hub in Africa being the second largest port in Sub-Saharan Africa after the port of Durban in South Africa, in terms of tonnage and container handling. The port however needs substantial investment to ease the existing capacity constraints and instigate institutional reforms in order to increase efficiency in its operations. The report shows that the port's container crane productivity stood at 10 containers per hour, which was far behind Dar es Salaam's 20 and Durban's 15. To address the overall infrastructural and associated system deficit, the country requires sustained expenditures of approximately $4 billion annually over the next decade since the country's infrastructural needs are among the highest in Africa. The main source of funding for infrastructure investment which includes transport network development is the government, the private sector and development partners.

1.11.2 Transport infrastructure scenario in Africa

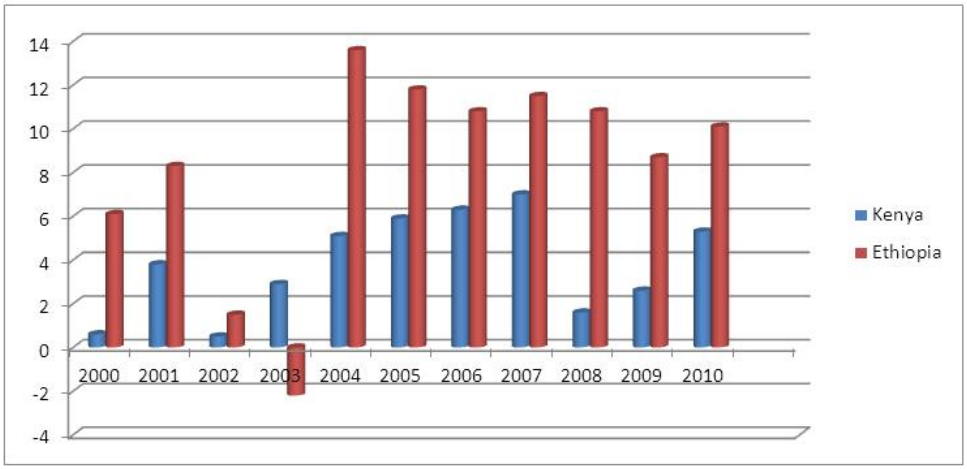
Eastern Africa: Ethiopia

Foster and Morella in Ethiopia's Infrastructure (2010),[17] note that in neighboring Ethiopia infrastructure contributed 0.6 % to its annual per capita Gross Domestic Product (GDP) growth over the last decade, and raising its infrastructure endowment level to that of the region's middle-income countries would raise annual growth by an extra 3 %, similar to Kenya's scenario as shown in the figure below on annual GDP growth rates between 2000 and 2010;

[16] Briceño-Garmendia, C.M, and Shkaratan, M.; Policy Research Working Paper, Kenya's Infrastructure: A Continental Perspective (Africa region, 2011), *http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-5596*, accessed 24/8/2013.

[17] Foster, V. and Morella, E., "Ethiopia's Infrastructure: A Continental Perspective," *Africa Infrastructure Country Diagnostic Country Reports*, (March 2010), *http://www.infrastructureafrica.org/system/files/Ethiopia%20Faso%20ctry%20rpt%20Web.pdf; Pp. 6*, accessed June 25, 2013.

Figure 2. Annual GDP growth rates



Source: World Bank data bank 2012

In the last decade Ethiopia has made significant progress in infrastructure development as its infrastructure indicators compared relatively well with those of its low-income peers such as Kenya. Ethiopia's infrastructure is quite efficient, compared with that of other Eastern Africa Countries. However Foster and Morella (2010)[18] observe that the country's infrastructure deficit calls for a sustained annual expenditure of $5.1 billion over the next decade, well above Kenya's infrastructure expenditure needs. This kind of investment is also well beyond what the country can afford thus presenting one of the most challenging infrastructure situations of any African country.

Foster and Morella maintain that more savings can be achieved by improving road maintenance efforts and eliminating all inefficiencies. Even though, a huge annual funding gap remains which calls for allowing the country more time to attain its infrastructure targets and

[18]Foster, V. and Morella, E., "Ethiopia's Infrastructure: A Continental Perspective," *Africa Infrastructure Country Diagnostic Country Reports*, (March 2010), *http://www.infrastructureafrica.org/system/files/Ethiopia%20Faso%20ctry%20rpt%20Web.pdf; Pp. 6*, accessed June 25, 2013.

prioritize public investments in the short-term. Unless the funding gap is closed, the development of a sound infrastructure platform for the country could be inappropriately delayed for several decades.

Foster and Morella (2010),[19] argue that Ethiopia's infrastructure networks are largely isolated from those of its neighbors with a reasonable road corridor from Addis Ababa to Djibouti providing access to landlocked Ethiopia's major port. There is a rail corridor, although it is presently idle. Ethiopia's infrastructure networks provide no meaningful connectivity with neighboring Kenya, Uganda, Sudan, and Eritrea. Ethiopia has since committed 3% of its GDP to road investments which is one of the highest in Africa, although the absolute value of this spending, approximately $5 per capita annually was similar to what other East African countries are investing. The country's infrastructure investment programs focus mainly on rehabilitation, upgrading, and widening of the trunk network.

Ethiopia being landlocked depends on the Port of Djibouti for its imports and exports and would benefit even more from its improvement. The port is both a major transit port for Ethiopian cargo and a potential major container trans-shipment hub in East Africa. The country is also a regional leader in air transport with a wide network across the continent and remarkable international standards safety record. The Ethiopian Civil Aviation Authority, which manages Addis Ababa Bole International Airport, should improve air traffic control at the facility by providing state-of-art landing and navigation aids, improving communication and upgrading safety equipment on the ground. Ethiopia should implement an ambitious infrastructure

[19]Foster, V. and Morella, E., "Ethiopia's Infrastructure: A Continental Perspective," *Africa Infrastructure Country Diagnostic Country Reports*, (March 2010), *http://www.infrastructureafrica.org/system/files/Ethiopia%20Faso%20ctry%20rpt%20Web.pdf; Pp. 6*, accessed June 25, 2013.

investment agenda in order to meet its infrastructural needs and catch up with other developing countries worldwide. A similar pattern to Kenya's adopted by Ethiopia for financing of transport infrastructure development through fuel levy is rather below the level required for full recovery of road maintenance costs.

West Africa: Burkina Faso and Mali

In West Africa, World Bank Data Indicators (2011),[20] ranked Burkina Faso and Mali among the world poorest countries in terms of per capita income and human development. Each of the countries had a nominal GDP between US$10-11 billion. They are mainly involved directly in agricultural pursuits and informal sector engagement. Many Burkinabe migrate to neighboring countries for seasonal employment, as Malians work in the region or abroad and remittances are valued in both economies. As with many other African countries, the two also share a post-colonial economic dalliance with centralized economic direction.

According to IMF World Economic Outlook Database (2012),[21] gold mining drives overall economic growth, however gold mining alone cannot generate the required employment levels and wider industrial development. Their singular rise has much to do with broader infrastructure limitations.

Briceno-Garmendia et al, in Burkina Faso's and Mali Infrastructure; A Continental Perspective (2011),[22] note that in the two countries infrastructure development and its

[20]World Bank Data Indicators (GDP, 2011): *http://data.worldbank.org/indicator/NY.GDP.MKTP.CD,* accessed December 10, 2012.

[21]IMF World Economic Outlook Database, *http://www.imf.org/external/pubs/ft/weo/2012/02/weodata/index.aspx* accessed June 20, 2013.

[22]Briceno-Garmendia, M. C., et al, "Burkina Faso's Infrastructure: A Continental Perspective," (May 2011) and "Mali's Infrastructure: A Continental Perspective," (June 2011), *Africa Infrastructure Country Diagnostic Country Reports: http://www.infrastructureafrica.org/system/files/Burkina%20Faso%20ctry%20rpt%20Web.pdf; http://www.infrastructureafrica.org/system/files/Mali%20country%20report.pdf,* accessed 10 December 2012.

maintenance remains a major challenge to economic expansion and broad-base growth. Regional rail links are very limited, roads are inconsistent and even the Niger River is only navigable partly at certain times of the year. As a result, transportation costs remain high and are aggravated by any inefficiency in the transit chain such as customs bureaucracy, cross-border delays and logistics costs. Potential interruptions relating to regional political instability are additional complications to the infrastructural gap.

Mali's section of the ECOWAS (Economic Community of West African States) regional road network is in better condition than Burkina's, and provides access to ports at Tema, Dakar and Abidjan. Burkina can also access these ports at Lome and Cotonou, and its location makes it an inland transit hub for ECOWAS transportation corridors. Energy costs are also a significant constraint and weigh heavily on the transport costs of fuel, all of which is imported.

1.11.3 Transport infrastructure on a global perspective

Lawal, in Globalization and Development; The Implications for the African Economy (2006),[23] views globalization as the thought of unification and re-shaping of the world into a global village and the description of the political and economic relations dynamics. Globalization and development are two broad concepts of transformation that similarly transformed East Asia from world's poorest 40 years ago, to a progressive region politically and economically. More explicitly globalization describes a process of increasing economic openness, deepening economic integration and growing economic interdependence between countries.

[23]Lawal, G., Globalization and development: The Implications for the African Economy, *Humanity and Social Sciences Journal 1 (1): 65-78*, (IDOSI Publications 2006).

Third World Economics Trends and Analysis (1997),[24] associates globalization with a phenomenal spread and volume of cross boarder economic transactions, with the organization of economic activities which straddle national boundaries, thus increasing integration of economies through trade and financial flows around the world.

Held et al. in Global Transformation; Politics, Economics and Culture (1999),[25] refers to globalization as the widening, deepening and speeding up of world-wide interconnectedness in all aspects of contemporary social life and is a direct function of national development.

Lawal in his journal Globalization and development: The Implications for the African Economy (2006) views development on the other hand as a complimentary process by which the state reaches the stage of growth when and where it can provide for itself.

Okoh in Political Instability; The basis of African economic underdevelopment (1998),[26] observes that economic development is the proper and adequate utilization of a nation's resources towards efficiently increasing productivity for betterment of the people. African economies cannot adequately take advantage of a globalizing world economy unless certain and prior conditions are met that include a framework of functioning physical infrastructure. These conditions do not readily exist, even though African countries and regions need to integrate themselves into the global economy and shift away from low levels of productivity in order to benefit from growth enhancing features of globalization. This can be achieved through major public investments in infrastructure which are vital for attracting private investments.

[24]Third World Economics Trends and Analysis No. 168 1-15, September 1997.

[25]Held, D. & Megrew, A.; Global, D. & Perraton, J., Global *Transformation: Politics, Economics and Culture,* (California, Stanford University Press, 1999).

[26]Okoh, S.E.E., "Political instability: The basis of African economic underdevelopment", *Benin journal of social science Vol. 6&7 No. 1&2* (1998).

Infrastructure development and the Newly Industrialized Countries: The rise of South Korea and Taiwan; the Asian 'Tigers', 1910-80.

While analyzing East Asia's South Korea and Taiwan deployment of firm infrastructure development approaches that partly led to their industrialization, this study discerns neighboring Sri Lanka which failed to achieve similar status.

Rees in his book History of Modern Korea (1988), states that prior to Japanese colonization in 1910 South Korea was a closed agrarian economy. Amsden in his book Asia's Next Giant (1989),[27] notes that during the Japanese rule South Korea's productive capacity grew gradually as investment in basic infrastructure such as roads increased. The first decade under the Japanese rule saw South Korea initiate infrastructure development projects such as improvement of harbors. Studies such as Agalewatte Tikiri's PhD. Thesis; *Competitive industry policy for economic development in Sri Lanka, Lessons from East Asia* at the School of Economics and Information Systems, University of Wollongong, Australia in 2004, explain the rapid growth by East Asia's Newly Industrialized Countries as greatly attributed to government investing heavily in the requisite infrastructure.

Dalhman and Sananikone in their book Taiwan, China; Economic Policies and Institution for Rapid Growth (1997),[28] write that as colonial rulers, the Japanese also made considerable infrastructural investment in Taiwan.

Adelman in his State and Market in the Economic Development of Korea and Taiwan (1999),[29] notes that during Korea's 1973-6 Sixth four-year plan, sectors that required foreign

[27]Amsden, A., *Asia's Next Giant*, (Oxford University Press, New York, 1989).

[28]Dalhman C. and Sananikone, J. "*Taiwan, China: Economic Policies and Institution for Rapid Growth*," in Leipziger, D.N. (ed.) Lessons from East Asia, (University of Michigan Press, 1997).

investment were identified and thus public investments in physical infrastructure such as roads were increased. Taiwan also implemented its 'Ten Great Projects' in 1974-5 that absorbed about 20 per cent of total investments in 1975 and 1976. The projects were in line with direct government investment in transport infrastructure that included a large shipyard, a freeway, two railways, an airport and two harbors, among other initiatives. The projects increased backward linkages by providing domestic inputs as infrastructure development lowered the cost of transport, encouraged movement and increased regional integration.

The East Asian experiences of South Korea and Taiwan both before and after attaining the Newly Industrialized Countries status by 1980, are relevant to Kenya's quest for transport infrastructural development towards enhanced Eastern Africa regional integration. Although there are differences in other associated factors, the East Asia's initial conditions and economic factors are relevant to Kenya if domesticated.

Infrastructure and development in a developing country: A case of Sri- Lanka

Global Competitiveness Report 20011-2 included Sri Lanka among the 75 most competitive nations for the first time.[30] Its inclusion showed the international recognition that its economy was integrated into the world economy. Sri Lanka being a developing country just like Kenya, its recorded growth can partly be attributed to infrastructure development after the government gave high priority to the development of infrastructure following the economic liberalization reforms of 1977, evidenced by the replacement of prohibitive trade barriers and government regulatory controls with a post liberalization period that witnessed strong foreign

[29]Adelman, I. "*State and Market in the Economic Development of Korea and Taiwan*," in Thorbecke, E., and Wan, H. (eds.) Taiwan's Development Experience: Lessons on Roles of Government and Market, (Kluwer Academic Publishers, London, 1999), p. 306.

[30]World Economic Forum2011; The Global Competitiveness Report 2011-2012: Country Profile Highlights http://www3.weforum.org/docs/WEF_GCR_CountryProfilHighlights_2011-12.pdf, accessed on 2/11/20013.

investment growth and increased level of capital expenditure in the budget. The resultant impact was improved infrastructural development as the national road network expanded by 25 per cent between 1978 and 1993. The reforms were partly the demonstration effects of the East Asian economic success miracle.

However, Tikiri in his PhD Thesis; Lessons from East Asia (2004)[31] observes that for Sri Lanka to achieve Newly Industrialized Country status, the level of its infrastructure was not adequate thus the need to identify priority areas for upgrading such as roads being turned into expressways and railways being strengthened as primary mode of long distance transport for increased efficiency. Similar to the Kenyan scenario, Sri Lanka's rail network estimated at 1500 km, suffered from poor condition of tracks, insufficient and obsolete locomotives, among other limitations that adversely affected the quality of service and the scale of operations. The situation was aggravated by lack of funds to procure new equipment with out-dated administrative and management structures.

Its major and important port of Colombo faced stiff competition from other regional ports and risked losing its hub status, thus it required urgent attention from the government in order to enhance its capacity, efficiency and productivity. It was therefore necessary for the government of Sri Lanka to allocate sufficient funds for the development and improvement of the transport network systems. However, with the prevailing pressure at the time to increase recurrent expenditure, the government cut back capital outlays to keep the budget within manageable parameters. This reduction on capital expenditure for infrastructure development had a serious effect on long-term economic growth of the country.

[31]Tikiri, B.A, Competitive industry policy for economic development in Sri Lanka: *Lessons from East Asia*, PhD. Thesis, University of Wollongong, School of Economics and Information Systems, 2004, P. 211

1.12 Theoretical framework

A theoretical framework is a collection of interrelated ideas based on theories.[32] It is a reasoned set of propositions derived from and supported by data or evidence.[33] A theoretical framework accounts for or explains phenomena. It attempts to clarify why things are the way they are based on theories. A theoretical framework is a general set of assumptions about the nature of phenomena.[34] This study seeks the theoretical support from the big push theory to understand the factors necessary to catapult Kenya and its Eastern Africa neighbours into a unified productive and progressive bloc.

1.13 The Big Push Theory of economic growth

The big push theory as developed by Rosenstein-Rodan suggests that countries will strive to jump from one stage of development to another through a virtuous cycle, as large investments in infrastructure and other sectors complimented by private investments move the economy to a more productive level. This higher productive stage is one characterized by freedom from economic paradigms appropriate to a lower productivity stage.[35] The big push theory is an investment theory which stresses the necessary conditions for take-off and emphasizes a 'big push' notion.

The targeted big investments should be of a relatively high minimum so as to induce the benefits of external economies since only investments in big complexes will result in social benefits exceeding social costs. The theory places high priority on infrastructural and industry development. The current levels of capital spending for the roads sector in Kenya stood at around

[32]Kombo and Tromp, Proposal and thesis writing: *An introduction*, (Nairobi, Paulines Publications Africa, 2006).

[33]Kombo and Tromp, Proposal and thesis writing: *An introduction*, (Nairobi, Paulines Publications Africa, 2006).

[34] Kombo and Tromp, Proposal and thesis writing: *An introduction*, (Nairobi, Paulines Publications Africa, 2006).

[35]Rosenstein-Rodan, P.N., Vol. 53, No. 210/211: Problems of Industrialization of Eastern and South-Eastern Europe. *The Economic Journal*, (UK, Blackwell Publishing for the Royal Economic Society,1943).

1 percent of GDP which was low by regional standards and fell substantially short of what is needed to clear the roads rehabilitation backlog within a reasonable time frame. Therefore there is need for a one-time major push on road sub sector investment to remedy this situation.[36]

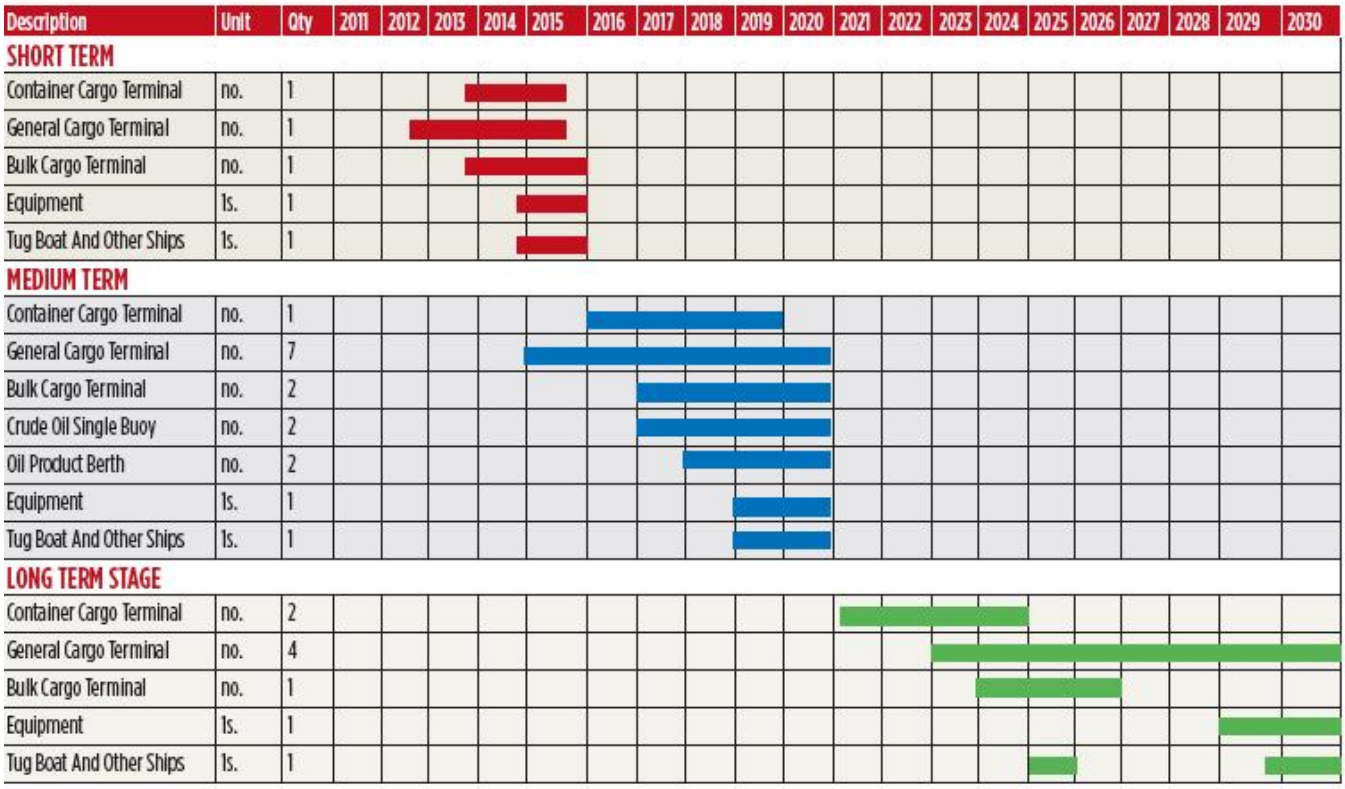
In order to understand the drivers of economic growth in developing countries such as Kenya, transport infrastructure is a key part of the cycle. Increased and sustained funding in transport and related systems would promote business through enhanced efficiency and subsequent minimized investment costs of production. Time management is also of essence in business as it dictates timely deliveries to meet needs promptly. Evidence from enterprise surveys suggest that related infrastructure constraints are responsible for about 30 percent of the productivity handicap faced by Kenyan firms.[37]

The planned acceleration of efficiency improvement measures at the Port of Mombasa and initiate construction of Lamu Port (see project timelines in figure 3 below), by the government of Kenya is a major boost to the economies of the region as this would facilitate faster movement of products with increased volumes dealt and in turn favored income. Other projects for preferential outcome include; the planned construction of a standard gauge railway line from Mombasa through Uganda to Rwanda and the launch of Konza city and associated transport system to create confidence and attract investors to the Eastern Africa region.

[36] World Bank eLibrary, Kenya's infrastructure: A continental Perspective *http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-5596*, accessed on May 20, 2013. Pp. 7

[37] World Bank eLibrary, Kenya's infrastructure: A continental Perspective *http://elibrary.worldbank.org/content/workingpaper/10.1596/1813-9450-5596*, accessed on May 20, 2013. Pp. 3

Figure 3: Figure: Construction time-line for the Lamu Port project



Source. Ministry of Transport, Kenya

Expediting the enactment of the Special Economic Zones (SEZs) Bill,[38] for the establishment of the Special Economic Zones which encompass transport infrastructural development is a key incentive that aims at enticing investors into Kenya. Kisumu airport is also a strategically located installation to integrate Eastern Africa countries, with Kisumu city already playing host to headquarters of various regional bodies. Lake Victoria should also be enhanced as a regional transport causeway by removing the menacing hyacinth weed and developing convenient water routes and harbours. All these infrastructural development initiatives call for large investments that enormously increase government expenditure, consistent with the tenets of the big push theory.

[38] Vision 2030 flagship projects, *http://www.vision2030.go.ke/index.php/projects/economic*, accessed on May 3, 2013

The injecting of public capital in sectors such as airfields and roads, among other related infrastructural improvements, essentially changed the South American region economy, through expanding markets, generating significant external economies, increasing economies of scale and promoting a successive investment stream. These improvements enabled the establishment of conditions that facilitated the breaking free of the region from initial low-income and productivity traps and embarked on rapid postwar industrialization. The same story can be replicated in Kenya and the entire Eastern Africa region with massive common economic gains.

The big push theory[39] emphasizes that underdeveloped countries require large amounts of investments to get on the path of economic development from their present state of backwardness and stagnation. The theory suggests that a 'bit by bit' investment programme would not impact the process of growth as much as is required for developing countries, and that injections of small quantities of investments would merely lead to wastage of scarce resources.

Rosenstein-Rodan, approvingly quotes a Massachusetts Institute of Technology study in this regard;

> "There is a minimum level of resources that must be devoted to... a development programme if it is to have any chance of success. Launching a country into self-sustaining growth is a little like getting an airplane off the ground. There is a critical ground speed which must be passed before the craft can become airborne."[40]

[39] Rosenstein-Rodan, P.N., Vol. 53, No. 210/211: Problems of Industrialization of Eastern and South-Eastern Europe. *The Economic Journal*, (UK, Blackwell Publishing for the Royal Economic Society,1943).

[40] Rosenstein-Rodan, P.N., Vol. 53, No. 210/211: Problems of Industrialization of Eastern and South-Eastern Europe. *The Economic Journal*, (UK, Blackwell Publishing for the Royal Economic Society,1943).

Rodan argues further that the entire industry which is to be created or developed should be treated and planned as a massive entity. He supports this argument by stating that the social marginal product of an investment is always different from its private marginal product.[41]

After Rodan, further contributions on the theory are made by Kevin Murphy et al, in 1989. The analysis of this economic structure encompasses the use of game theory based on examining strategic interactive decision making processes.[42] Under the big push argument, growth in one sector lifts the demand for manufacturers in other sectors directly. This implies that large-scale production thus becomes more attractive in other sectors. The harmony of supporting each other among concurrently industrializing sectors, which is the primary justification in support of a large-scale deliberate industrialization, get enlarged through market size effects. Murphy's findings have a strong resonance in the story of the development of China over the last few decades.

The big push theory may also help in understanding India's initial economic growth prospects if the high GDP growth rates were to be sustained and development trickled down to reach the poor masses residing in the countryside. Similarly to the American South during the inter-war period, rural India required a coordinated push towards investments in roads and associated infrastructure. These investments together with the externalities resulting from them would generate the circumstances that unleashed the latent capability for a long time of mechanized production and services-oriented economic growth. The theory encompasses the classic narrative of economic development that poor countries were caught in poverty traps, out

[41] Nath, S.K. "The Theory of Balanced Growth", *Oxford Economic Papers, Vol. 14, No. 2,* (Oxford, Oxford University Press, 1962).
[42] Myerson, R.B., Game Theory: *Analysis of Conflict*, (Cambridge, Harvard University Press, 1991).

of which they needed a big push involving increased aid and investment, leading to a takeoff in per capita. This was the original justification for foreign aid and it was invoked as a rationale for large foreign aid programs towards balanced growth.[43] One big push would assure sufficient market for incentive to invest. The big push's sudden sharp increase in the rate of investment (capital formation) required large scale government planning and commitment.

To complement the theory is the unbalanced growth scenario[44] that recognizes both backward (inputs create demand for other products) and forward (inputs to other industries) linkages. State support was necessary to initiate large-scale investment in a leading sector such as transport infrastructure development. This would create the necessary external economies to induce supplying and client industries which would in turn stimulate a secondary wave of investment and entrepreneurship within and beyond boarders as shown in figure 4 below;

Figure 4: Backward and forward linkages

Source: Emerald Insight Images 2011

[43]Easterly, W., "Reliving the 1950s: the big push, poverty traps, and takeoffs in economic development," *Journal of Economic Growth, Springer, vol. 11*(4), (2006).

[44] Hirschman A.O., *The Strategy of Economic Development*, (New Haven, Conn, Yale University Press, 1958).

1.14 Research Methodology

1.14.1 Introduction

This study aims at examining how transport infrastructural development in Kenya will enhance regional integration in the Eastern Africa region. The big push theory is used in this study to explore heavy investments in infrastructure that will spur economic growth of developing countries such as Kenya and the entire Eastern Africa region.

1.14.2 Research design

Research design and methodology of the study are described in terms of population, sampling and administration of research instruments, data collection procedures, and the description of technique to be used in data analysis. This study takes a descriptive approach and looks at qualitative data which define and describe information and characteristics about the variables being investigated, namely infrastructure and integration. Data is collected using a self administered questionnaire, face to face interviews, focus group discussions and through analyzing of available literature on the topic of study.

1.14.3 Target Population

Population being the entire group of individuals having common observable characteristics, in this study the population comprises of officers from the Ministry of Transport and Infrastructure, Private sector representatives, regular transport infrastructure users and development partners.

1.14.4 Sampling frame

The sampling frame is drawn from a list of each of the four categories namely; government officers from the Ministry of Transport and Infrastructure, Private sector representatives, regular transport infrastructure users and development partners represented by

the World Bank and African Development Bank. Simple random sampling method is then used to identify the individuals at the management level from each of the categories to be interviewed or questioned, as this method gives each individual an equal chance of being selected to participate in the study. Each of these individuals selected is then interviewed or questioned and information obtained from them analyzed to identify key issues raised by the respondents in relation to the study.

1.14.5 Sample design and procedure

The sample size is determined through four factors namely; how much sampling error can be tolerated, population size, how varied the population is with respect to the characteristics of interest and the smallest sub-group within the sample for which estimates are needed. Estimation of sample size in research is a commonly employed method. The researcher visits the target offices and locations to obtain contacts and book appointments and on the basis of these initial visits subsequent meetings are arranged with specific and selected individuals for succeeding interviews and self administered questionnaires.

The researcher engages a sample size of 32 respondents seen to be large enough and manageable for the study. The respondents evenly represent the four categories earlier mentioned in the sample frame that encompass relevant government officers as infrastructure policy makers and implementers, the private sector and regular transport system users who include the business and investment community and finally, the development partners who provide the financial and technical support for development and maintenance of the infrastructure.

Purposive sampling technique was used to pick the respondents for the focus group discussions so as to provide additional information to the already gathered data through interviews and questionnaires.

1.14.6 Data Collection Procedures and Instruments

Data was collected using four techniques namely; self administered questionnaires, interviews, focus group discussions and through analysis of existing literature on the topic of study.

1.14.6.1 Self administered questionnaire and interviews

Primary data was collected through self administered questionnaire with both open and closed questions developed by the researcher. The questionnaire was pre-tested prior to the commencement of data collection to discover and correct any weaknesses and flaws. An interview schedule with open ended questions was also developed to facilitate further exploration and flexibility on the topic of study.

1.14.6.2 Focus group discussion

Focus group methodology developed as a result of broader shift from quantitative to qualitative research methods was used to combine flexibility and adaptability with rigor and theoretical grounding. In this study, focus group discussions was used to collect information from the participants based on a simple question guide aimed at generating relevant discussions on the topic of study. Two participants were selected from the 32 already picked for the study to represent each of the four broader categories in the sample frame as the researcher guided the discussions towards the research deliverables.

Secondary data for this study is also collected mainly through analysis of relevant related literature on transport infrastructure as inferences are drawn from journals, books, reports and other vital documents, to feed into the findings of the study.

1.14.7 Data Processing and Analysis.

After collecting the data, the researcher went through the questionnaires and notes taken during the interviews and focus group discussions to sieve out incomplete information and inconsistencies. Data was treated through descriptive analysis with the help of the relevant theory and information available on the topic of study to enrich findings.

1.14.8 Ethical consideration

The study was conducted with an ethical approach where rights to self determination, anonymity, confidentiality and informed consent are observed. The prospective respondents agreed prior to participating voluntarily in the study after assimilating the essential information about the study.

1.15 Conclusion

The chapter outlined local, regional and global transport infrastructure scenarios. It also covered the literature reviewed together with the theoretical framework; and gave the overall research design. The next chapter examines the structural gap in transport infrastructure as an impediment to competitiveness in Africa and highlights some of the projects aimed at correcting the bad condition.

CHAPTER TWO

AN OVERVIEW OF TRANSPORT INFRASTRUCTURE DEVELOPMENT AND COMPETITIVENESS IN AFRICA

2.0 Introduction

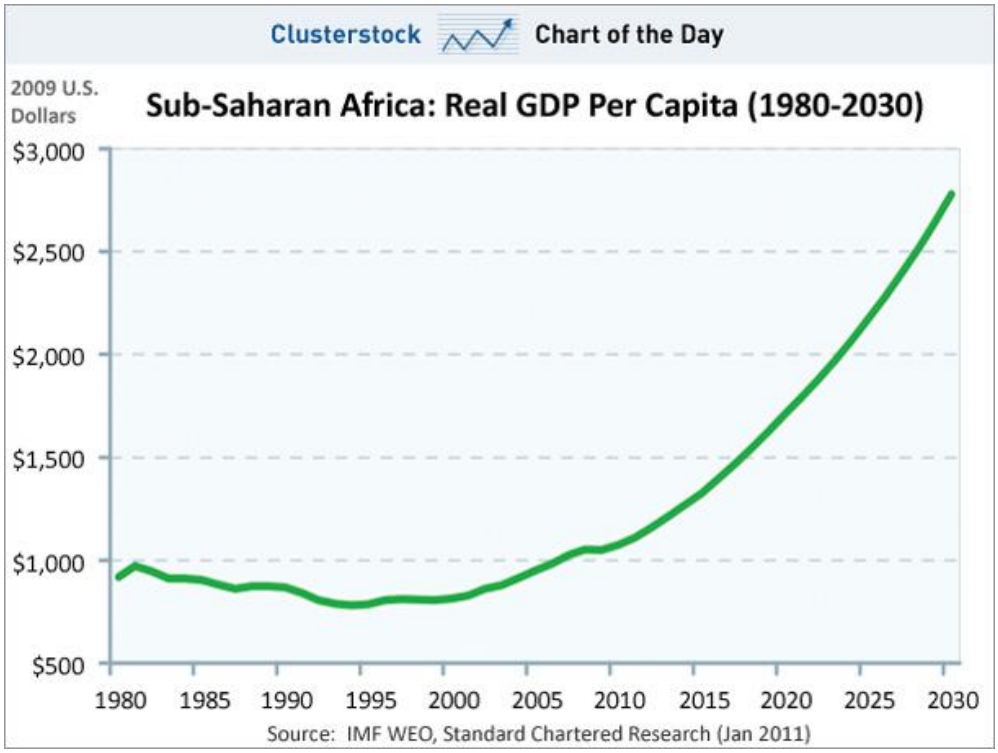
Transport infrastructure is requisite for any viable economic development of a country or region. An efficient transport infrastructure is necessary for any country to compete effectively in today's economy. This chapter gives an overview of the state of transport infrastructure in Africa, its deficit and how it inhibits growth. It also illuminates selected projects aimed at mitigating the structural gap.

2.1 Transport infrastructure in Sub-Saharan Africa

Sub-Saharan Africa refers to the collective name given to the 48 countries in Africa and excluding the five countries of North Africa. Whereas Sub-Saharan Africa accounts for 18% of world's area representative of 24.3 million Kms, and 12% of the world's population at 910.4 million, its GDP is less than 2% of the world's total at US$1.288 trillion, and one-third is accounted for by South Africa. Sub-Saharan Africa's per capita GDP in 2012 was US$1,345, see figure 5 below; and by 2007, 34 of the 48 poorest countries in the world were in Sub-Saharan Africa.[45]

[45]World Bank Data (2012); *http://data.worldbank.org/region/SSA*, accessed on 3/10/2013.

Figure 5: Sub-Sahara Real GDP per Capita (1980-2030).



Source: IMF WEO, Standard Chartered Research (January 2011)

Initial infrastructure development in the region comprising mostly of railways and highways was constructed and established during the colonial period, and have since been providing a major network for trading links between densely populated inland areas and ports. However there are few areas suitable for port development in the region due to natural constraints of water depth and limited number of locations where large containers can be unloaded. Due to the poor maintenance of roads, railways, and ports after independence, most of the region's infrastructure has deteriorated with a big proportion of roads being unpaved and for those that are paved they are degraded, see figure 6 below;

Figure 6: Africa's main road corridors

Source: ICA, 2009. (Infrastructure Consortium for Africa). 2009. *Africa's Maps.* Available at http://www.icafrica.org/fileadmin/documents/ICA_meeting/2009_meetings/2009%20Africa's%20Maps%20by%20ICA_09.03.09.pdf.

The railways, have suffered delayed repair and renewal of rolling stock and track resulting into decreased transport volumes. The shortage of port capacity and low port operational efficiency is also a major problem in Sub-Sahara, with cargo concentrated in the

region's few and congested ports. These inhibiting factors have resulted in high transport costs which in turn has caused decline in competitiveness and increased living costs. Most affected are inland nations that experience longer transport times, higher transport costs, and as a consequence they bare lower GDP growth rates. Therefore, inadequate transport infrastructure is a major cause of intra-regional economic disparities

However, 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 to 4% per capita. Regarding trade structure, many countries in the region export primary commodities, oil and 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 times. The major constraint on the region's industrial development remains to be the high overhead costs that include cost for transportation, energy and security.

By the end of the 1980s sub-Saharan Africa had nearly two million Kms of access roads representing nearly $150 billion of infrastructure assets. However, due to poor infrastructure management and inadequate maintenance practices most of the road asset that represents primary access roads is in deplorable state.[46] In 1991 the World Bank made estimates that in order to restore and sustain that portion of the road network that is economically viable, sub-Saharan Africa will have to spend a minimum of $1.5 billion annually for the next ten years, as shown in figure 8 below;

[46]Heggie, I.G.; Management and Financing of Roads: An Agenda for Reform (World Bank Technical Paper) World Bank Publications; illustrated edition (1995).

Figure 7: Sub Saharan Africa Fundraising and investment, 2008-2012 (US$B)

Source: AWEA project database 2012

Far less this amount is currently being spent on roads in the region as it is politically rewarding for leaders to advocate for new road constructions rather than maintenance of the existing network. But even to aggravate the situation, road maintenance expenditure is consistently being cut back, resulting in fast deteriorating infrastructure and ever increasing road user costs. If sub-Saharan Africa is to have a sustainable transport infrastructure to enable it compete in the world economy, it needs to reform the transport sector and take some drastic measures in the way infrastructure is planned, owned, financed and operated.[47]

2.2 State of Infrastructure in East Africa

East Africa experiences some of the highest transportation costs associated with logistics in the whole world. These costs are mainly attributed to administrative and custom delays at ports and during stoppage at checkpoints and national borders along the transport networks. Acute capacity constraints witnessed at the ports together with extremely lengthy import and

[47]Mbwana, J., Transport Infrastructure in sub-Saharan Africa,(1997). *http://iad.einaudi.cornell.edu/system/files/Transport_infrastrucuture.pdf*, accessed on 8/9/2013.

export bureaucracies and procedures, aggravate significantly the time wasted thus escalating costs of transporting goods in East Africa.[48]

In 2012, the East African Community (EAC) Sectoral Council cleared, endorsed and tabled the legal content of two bills to the East African Legislative Assembly. The bills aim at speeding up customs procedures and regularizing loads ferried by trucks in order to reduce the deterioration of the road system. The Vehicle Load Control Bill strives to establish a standardized vehicle weight/axle load limit applicable for the region and one-stop border posts.

Of all the infrastructure sectors in East Africa, energy production presents the most significant problem as the region has the lowest generation capacity only after Central Africa in the whole of Africa with the lowest per capita generation. East Africa can benefit greatly from intra-regional energy trade and integration which will offer significant win–win opportunities, reduce costs, and guarantee greater reliability of supply. The process will in turn promote business enabling environment and stimulate trade and investment.

2.3 Africa's pronounced transport infrastructure deficit

Africa's prolonged underinvestment in transport infrastructure has led to a dilapidated network and with excluding provision for maintenance; African countries invested 15%-25% in transport infrastructure as compared to India and China at 32%-42% in the period 2005-2012.[49] Infrastructure is the cornerstone of any economy and African governments should step up investment in transport sector in order to alleviate poverty.

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[48] AfDB; 2013 State of Infrastructure in East Africa, Statistics Department Africa Infrastructure Knowledge Program *http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Economic%20Brief%20-%20State%20of%20Infrastructure%20in%20East%20Africa.pdf*, accessed on 10/11/2013.

[49] Ondiege, P. et al., *African Competitiveness Report 2013*, African Development Bank, Developing Africa's Infrastructure for enhanced competitiveness, *http://www3.weforum.org/docs/ACR/2013/ACR_Chapter2.2_2013.pdf*, accessed on 6/8/2013, p.14

Africa suffers from pronounced transport infrastructure deficit compared to other regions of the world. It has a low stock of transport and energy infrastructure. These deficiencies constrain gains in domestic productivity and present a critical hindrance to greater regional integration. Inadequate infrastructure raises the transaction cost of conducting business in most African economies. Today African countries exhibit the lowest level of productivity of all low income countries and are among the least competitive economies in the world.[50] Inadequate infrastructure slashes off an estimated 2% of Africa's annual growth, but when adequate firms in Africa would register productivity gains of up to 40%.[51]

North African countries on average have better transport infrastructure as compared to their Sub-Saharan counterparts with the exception of South Africa. Within the Sub-Saharan region, West Africa is better off while Central Africa is the worst in transport infrastructure development. In South and East Africa, port congestion and shipment delay undermine the ability to achieve imported production inputs thus occasioning production losses and high production costs. Inefficiency and inadequate rail road lead to overuse of road transport with the resultant deterioration road condition. Air transport across the region also need enhancement in terms of amount and quality of relevant infrastructure with an upgraded traffic control and communication system.

2.4 Transport Infrastructure Development and Regional Integration in Africa

Interregional cooperation and integration has been a major issue of focus for Africa as the strive is on integrating economies of neighboring nations and promote the introduction of a

[50] Ondiege, P. et al., *African Competitiveness Report 2013*, African Development Bank, Developing Africa's Infrastructure for enhanced competitiveness http://www3.weforum.org/docs/ACR/2013/ACR_Chapter2.2_2013.pdf, accessed on 6/8/2013, p.1

[51] African Development *Bank, African Development Report 2010,* Ports, Logistics and trade in Africa, (Ney York, Oxford University Press, 2010)

common currency, establishment of custom unions, the creation of common markets and enhance cross-border trading. In the recent past some regional economic communities have conducted research studies on transport corridors involving assessing coordination of maintenance activities in different countries and promoting the signing of various agreements to facilitate intraregional movements of people and goods.

Africa's unique physical, economic and political features expose the continent making it more vulnerable to many challenges regarding economic development and the management public goods shared. Political borders are usually not aligned with economic and natural resources distribution as many countries are landlocked and cut off from vital water fronts. National populations and economies are generally rather small, but they cover large geographic regions with poor connectivity infrastructure. Therefore, regional integration and cooperation provides the best solution to overcome these impediments to being competitive in the dynamic global market.[52]

Many African countries are becoming more aware and recognizing the importance of collaborative actions and regional approaches that are critical in achieving their development goals. The envisaged benefits from pursuing regional integration include; reaping economies of scale or deriving other utilities by acting collectively towards the realization of universal objectives that aim at increasing local supply capacity and further improve access to markets. Regional integration will also integrate or harmonize the handling of trans-boundary issues

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[52] The WB; 2013 Overview, Regional Integration in Africa *http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/EXTREGINI/EXTAFRREGINICOO/0,,contentMDK:22548631~menuPK:7296233~pagePK:64168445~piPK:64168309~theSitePK:1587585,00.html*, accessed on 11/9/1013.

namely; the regulatory frameworks and policies, regional infrastructure, trade and many other cross border matters; and further assist in the management of shared natural resources among countries.

Small countries usually find it difficult and constrained to finance the huge fixed costs linked to major infrastructure development and this makes a regional approach more attractive. Linking small markets can unlock more benefits of agglomeration as it scales economies and spreads opportunities for investment and growth beyond the prevailing centers of development.

2.5 Infrastructure development partnership in Africa: The African Strategic Infrastructure Initiative; a private-sector involvement platform

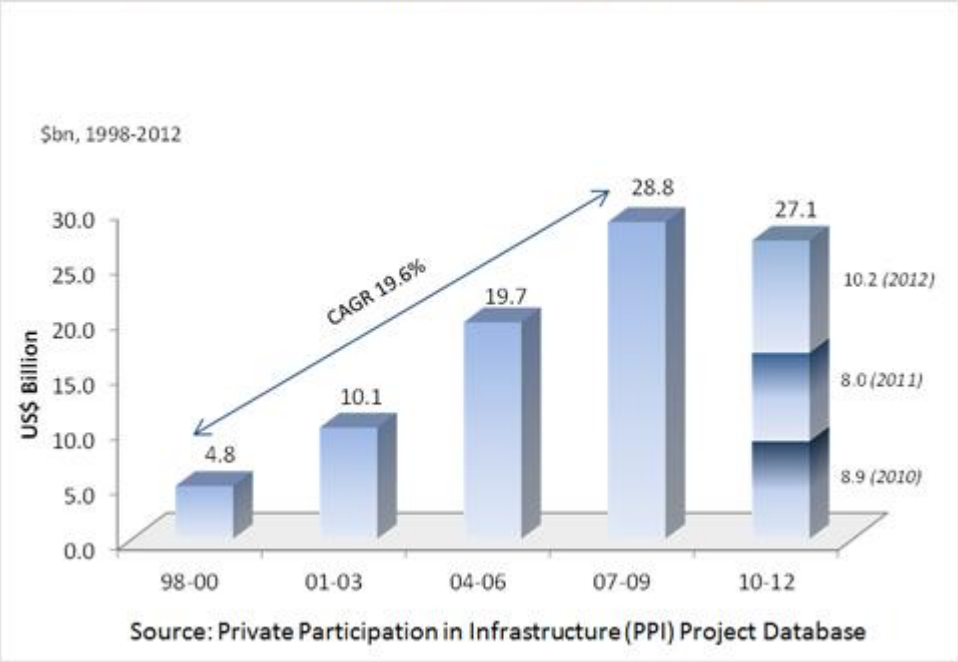
The Business Working Group (BWG) being part of the World Economic Forum partnership is a multi-stakeholder group made up of thirty five companies and organizations and was established in 2012 as a way of involving the international and African business leadership in speeding up the delivery of Africa's infrastructure by "accelerating the implementation of the PIDA (Program for Infrastructure Development in Africa) 'Priority Action Plan' programs and projects."

PIDA is a development of the African Union Commission (AUC) in partnership with the United Nations Economic Commission for Africa (UNECA), the African Development Bank (AfDB) and the NEPAD Planning and Coordinating Agency (NPCA) to provide a strategic long-term framework to enable African stakeholders to build the infrastructure necessary to boost trade, spark growth, and create jobs. The private-sector role in Africa's infrastructure development is critical as the partnership was endorsed by African heads of state, up on recognizing that effective public-private partnerships (PPPs) in the delivery of Africa's

infrastructure are part of the key to unlocking Africa's huge economic and development potential.

PIDA aims at tackling the Continent's infrastructural gap that includes transport installations. It further aims at ensuring that regional projects and programmes address the infrastructural challenges that continue to undermine Africa's competitiveness in the global market thus closing the infrastructure deficit is vital for economic prosperity and sustainable development.[53] The infrastructural investment partnerships are illuminated in figure 8 below;

Figure 8: Infrastructure investments with private participation in Sub-Saharan Africa



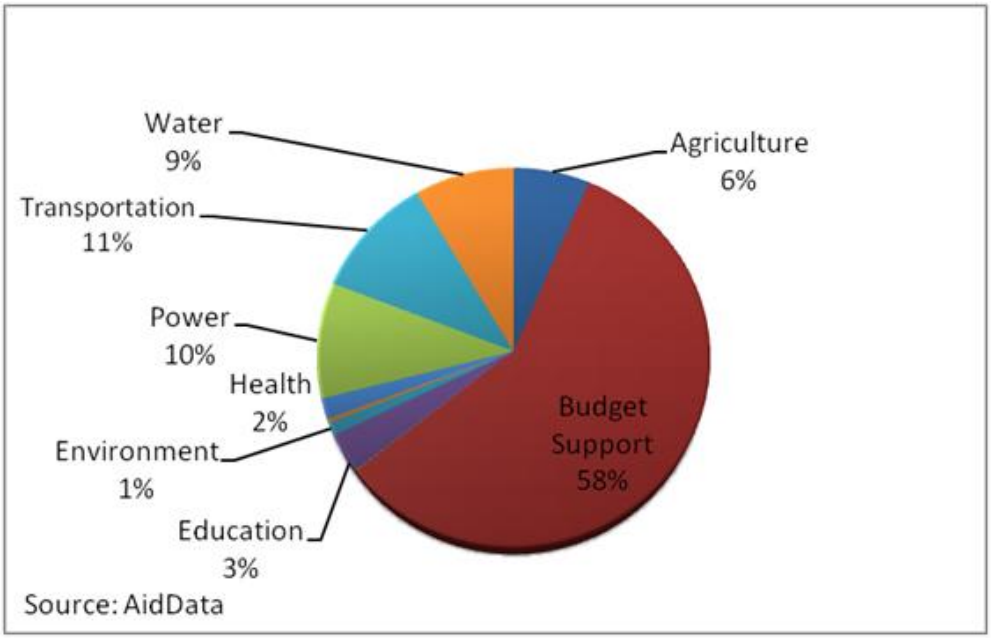
Source: Private Participation in Infrastructure (PPI) Project Database 2012.

[53] The New Partnership for Africa's Development, *Unlocking infrastructure development in Africa, http://www.nepad.org/regionalintegrationandinfrastructure/news/3123/unlocking-infrastructure-development-africa*, 2012, accessed on 10/8/2013.

2.6 Planned infrastructure projects and expenditures in selected African countries

Under the Kenya Vision 2030 priorities, infrastructure sector financial requirements are estimated to rise from KES 398.2 billion in 2012/13 to 486 billion in 2014/15. The government has prioritized the development of high quality energy and ICT infrastructure, and established the National Construction Authority in 2012 to enhance the efficiency and effectiveness of government service delivery. The figure below shows the African Development Bank spending in Kenya bu 2010.

Figure 9: AfDB spending in Kenya.



Source: Aid Data 2010.

The planned projects in collaboration with development partners include the construction of over 600 kilometers of roads, the expansion of two international airports, the development and expansion of Mombasa Port, the construction of the new Lamu Port, and new railway lines.

Energy projects emphasize renewable energy to increase generation capacity and access to energy. The ICT projects will include the development of Konza Techno City, which is expected to contribute 2.8 percent of GDP through ICT projects. They also include the creation of 30 ICT centers, called digital village projects or PASHA centers.

In South Africa infrastructure plans are estimated at 3.2 trillion South African rands , of which about a quarter are already being financed and implemented. The remaining three-quarters are under assessment. Sixty percent of funding for infrastructure is allocated to electricity projects, and the cost of providing energy and transportation for these planned electricity projects is 18 percent of the development costs.

In Tanzania: The 2012/13 budget for infrastructure includes 498.9 billion Tanzania shillings for electricity, 1,382.9 billion Tanzania shillings for transportation, and 4 billion Tanzania shillings for ICTs. Moreover, the government will implement the construction of a gas pipeline from Mtwara to Dar es Salaam with a loan from China of US$1,225.3 million.[54]

The 2013 Zambian budget prioritizes roads, rail, and power generation. The government is making efforts to enhance domestic resource mobilization and create the fiscal space needed to support investment in infrastructure and human capital development, and to improve public service delivery. Domestic revenue is expected to increase from 19.0 percent of GDP in 2012 to 20.1 percent by 2015. Zambia has also issued a US$750 million Eurobond to raise development finance at one of the lowest prices for a debut issue in sub-Saharan Africa. US$255 million of the

[54]Ondiege, P. et al., *African Competitiveness Report 2013*, African Development Bank, Developing Africa's Infrastructure for enhanced competitiveness http://www3.weforum.org/docs/ACR/2013/ACR_Chapter2.2_2013.pdf, accessed on 6/8/2013, p.74

funds will be used for energy infrastructure and road and rail transport infrastructure will consume US$430 million.[55]

Other planned transport infrastructure development projects across African

More projects by the African Development Bank (AfDB) in transport infrastructure development include;[56] Senegal's ambitious transport network development that aims at fostering competitiveness with a flagship road project from Dakar to Diamnadio in the western part of the country. The road is part of the Dakar-Njame'na-Djibouti corridor that will also serve the Blaise Diagne International Airport currently under construction. The airport's expansion aims at increasing passenger capacity and reducing over-capacity operations at existing airports. The airport will also facilitate cargo transportation in reduced time, thus contributing to reduction of production costs and improvement of business productivity.

The Kazungula Bridge, a multination project linking Bostwana and Zambia over the Zambezi River is a holistic approach to the regional integration strategy.

The Mombasa-Nairobi-Addis Ababa Road Corridor Phase III aims at enhancing trade, strengthen regional integration and contribute immensely to poverty reduction in the two countries. The project's phase covers the Turbi-Moyale section in Kenya, which contributes to the Trans-Africa Highway and Hawassa-Ageremariam section in Ethiopia. The project includes transport and trade facilitation consultancy services to harmonize cross boarder procedures. It will contribute a minimum increase of 25% in intra-COMESA (Common Market for Eastern and

[55]ADB Group; AfDB, forthcoming, The AfDB's E-Consultation on its Long Term Strategy -Have your say, make a difference! *http://www.afdb.org/en/consultations/closed-consultations/afdb-groups-long-term-strategy/*, accessed on 16/9/2013

[56]Ondiege, P. et al., *African Competitiveness Report 2013*, African Development Bank, Developing Africa's Infrastructure for enhanced competitiveness http://www3.weforum.org/docs/ACR/2013/ACR_Chapter2.2_2013.pdf, accessed on 6/8/2013, p.91

Southern Africa) and increase the trade volume between Kenya and Ethiopia by an estimated 200% by 2017. It will also increase household incomes by an average of at least 10% by 2020[57].

The Nacala transport corridor conjoining Mozambique, Malawi and Zambia aims at upgrading a major regional corridor with significant benefits such as reducing user costs, increasing access, increase capacity to handle cargo at Nacala port and reducing transport and transit costs by 25% by 2015.

The Tangiers Marrakech Railroad Project in Morocco has the potential of connecting the country to the North African neighbours. Plaanned for completion in 2016, it is expected to significantly boost travel, increase population mobility in the project area and also create direct and indirect jobs during project implementation and operation phases.

2.7 Conclusion

This chapter has highlighted the state of transport infrastructure in Africa, transport infrastructural gap in Africa and how it adversely affected Africa's competitiveness. It also outlines regional integration as a means to overcome the infrastructural gap together with collaborative relevant remedial projects in various African countries. The next chapter highlights the state of transport infrastructure development in Kenya towards enhanced Eastern Africa regional integration

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[57] Ondiege, P. et al., *African Competitiveness Report 2013,* African Development Bank, Developing Africa's Infrastructure for enhanced competitiveness http://www3.weforum.org/docs/ACR/2013/ACR_Chapter2.2_2013.pdf, accessed on 6/8/2013, p.91

CHAPTER THREE

THE STATE OF TRANSPORT INFRASTRUCTURE IN KENYA

3.0 Introduction

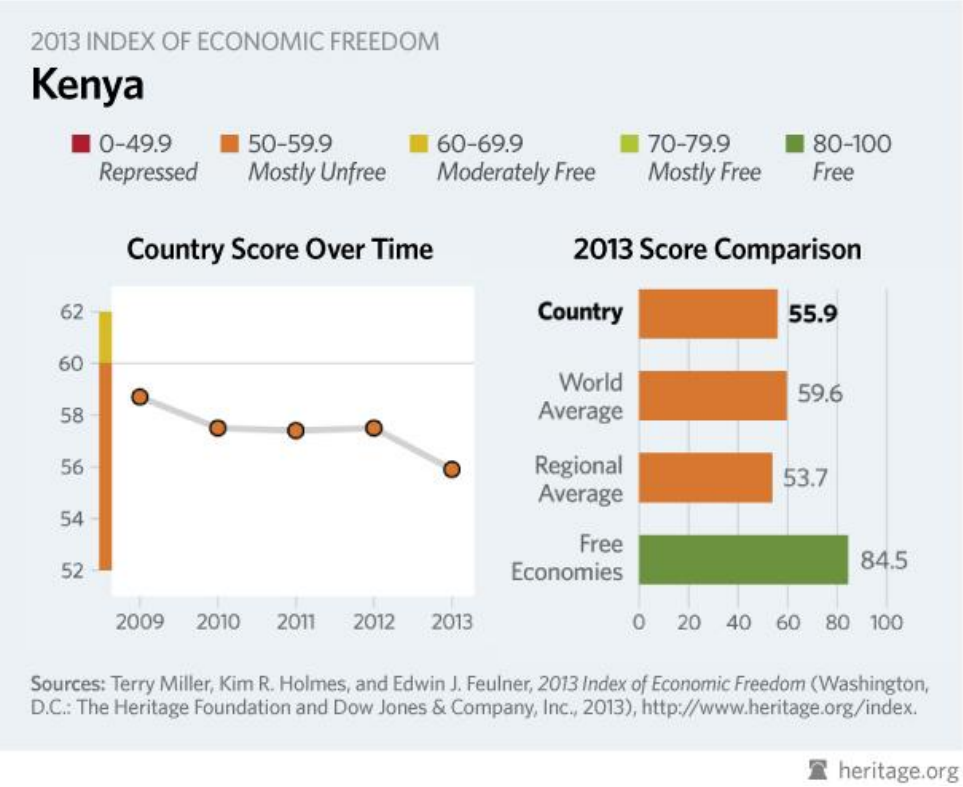
This chapter assesses the state of transport system in Kenya and further highlights the major challenges experienced in transport infrastructure development in Kenya. Kenya's economy is one of the largest in the region, and the rest of Sub-Saharan Africa. Economic growth increased in the 2000s, despite external shocks and public sector inefficiency. The private sector's ability to identify and exploit new niches, such as horticulture and ICT, has been important for the performance of the economy. The government has emphasized the need for public-private partnerships in the implementation of Vision 2030 and the Medium Term Plans that encompasses the planned infrastructural projects to transform Kenya into a middle income economy.[58]

3.1 Background

Under the Business Environment and Competitiveness Kenya was ranked 72 of 178 countries in the 2008 World Bank Ease of Doing Business index. It was also identified as the 10th most important reformer of the business environment,[59] see figures 10 and 11 below. However, Kenya's position as the most important foreign direct investment destination in East Africa has been worn away by slow structural and regulatory reforms. Its neighbors, Tanzania and Uganda, have exceeded it in attracting foreign investment much of it from Kenya in recent years.

[58] This Country Strategy Paper (2008-2012)
[59] This Country Strategy Paper (2008-2012)

Figure 10: 2013 Index of Economic Freedom



Source: Terry Miller, Kim R. Holmes and Edwin J. Feulner, 2013 Index of Economic Freedom.

Figure 11: Global Competitiveness Index

	Global Competitiveness Index			
	Kenya		Rwanda	
	World rank	Score	World rank	Score
2012-2013	106	3.7	63	4.2
2011-2012	102	3.8	70	4.2
2010-2011	106	3.6	80	4.0

Source: Global Competitiveness Index Report 2010-13

The government of Kenya had earlier projected that by 2012, total investment would have risen to over 30 percent of GDP, supported by a substantial inflow of foreign direct investment. By then, growth would be in double digits, with services and industry as the most

significant contributors. These scenarios are similar to those pursued earlier by the Asian Tigers toward their newly industrialized status and would equally require relentless policy oversight and attention to detail.

Generally, Kenya has experienced growth in the transport industry since independence. This has been important to the domestic economy and also serves the landlocked countries in Eastern Africa. However, the transport infrastructure network deteriorated significantly when it suffered a major setback in the 1990s partly as a result of the suspension of donor funding to Kenya meant for infrastructural development. The infrastructure network at that time also suffered from a long and cumbersome procurement process for construction, maintenance and rehabilitation of public infrastructure aggravated by poor and compromised quality of work as a result of corruption.

The quality and efficiency of the transport system fell drastically leading to less predictable and non futuristic service delivery. The transport system was also characterized by lengthy delays, breakdown of transport equipment, and frequent closure of sections of the main transport routes along major transport corridors. After 2002, the situation changed for the better as the country experienced change of guard at the helm of its political leadership. More focus and investment was channeled into infrastructure upgrading that has since seen Kenya register improvement in its infrastructural development.

3.2 Road transport

Road transport caters for most of the movement of passengers and freight in Kenya and remains the only access means to most rural communities. The public road network stands at an estimated 160,886 km in length, comprising 16,544 km of national roads managed by the Kenya National Highways Authority; 12,549 km of urban roads under the Kenya Urban Roads

Authority; and 131,794 km of rural roads under Kenya Rural Roads Authority, see Table 2 below.[60] In the last decade the government has strived to reduce the length of road network classified in bad condition, see Table 3 below. The projected implementation activities have included construction and rehabilitation of various road links and networks, see Table 4 below.

Table 2: Road classification in Kenya 2013

CLASS	DESCRIPTION	FUNCTION
A	International Trunk Roads	Link centers of international importance and cross international boundaries or terminate at international ports or airports (e.g. Mombasa,)
B	National Trunk Roads	Link nationally important centers (e.g. Provincial headquarters)
C	Primary Roads	Link provincially important centers to each other or to higher class roads (e.g. District headquarters)
D	Secondary Roads	Link locally important centers to each other, or to more important centers or to a higher class road (e.g. divisional headquarters)
E	Minor Roads	Any link to a minor centre
SPR	G	Government Roads
	L	Settlement Roads
	R	Rural Access Roads
	S	Sugar Roads
	T	Tea Roads
	W	Wheat Roads
U	Unclassified	All other public roads and streets

Source: Kenya Roads Board 2013

[60] Delegation of the European Union to Kenya-Regional Economic Integration by means of Transport Infrastructure.*http://eeas.europa.eu/delegations/kenya/eu_kenya/tech_financial_cooperation/transports/index_en.htm*, accessed May 30, 2013.

Table 3: Summary of current road classification in Km in Kenya 2013

ROAD CLASS	PAVED	UNPAVED	TOTAL
A	2,772	816	3,588
B	1,489	1,156	2,645
C	2,693	5,164	7,857
D	1,238	9,483	10,721
E	577	26,071	26,649
SPR	100	10,376	10,476
U	2,318	96,623	98,941
TOTAL	11,189	149,689	160,886

Source: Kenya Roads Board 2013

Table 4: Total expenditure on roads 2008/09-2011/12

Ksh. million

Development	2008/09	2009/10	2010/11	2011/12
Trunk roads	20,126.6	28,514.6	16,243.7	38,646.9
Primary roads	7,433.8	11,579.1	19,503.7	16,741.6
Secondary roads	7,770.7	7,877.6	8,636.3	9,424.2
Miscellaneous roads	948.4	4,730.0	4,253.7	4,641.8
Total	**36,279.6**	**52,701.3**	**48,637.4**	**69,454.9**
Recurrent (Maintenance and repair)	10,163.8	15,446.2	12,550.5	12,797.4
Total	46,443.3	68,147.4	61,187.9	82,252.3

Source: KNBS Kenya Facts and Figures 2012

3.3 Railway transport

The railway network run by the Kenya Railways Corporation has a 1,083 Km mainline from Mombasa to Kisumu and Malaba. Freight services constitute over 90% of railway operations and income. The Kenya and Uganda Railways mainlines are under a joint private concession, Rift Valley Railways Consortium (RVR) in a bid to increase efficiency.[61]

[61] Northern Corridor Transit Transport Coordination Authority; Northern Corridor Infrastructure Master Plan 2011

Rail transport is the second most important mode of transport in Kenya after road transport for both freight and passenger services. The railway system is under parastatal management of the Kenya Railways (KR) and comprises 2 765 km of steel track. In addition to provision of freight services within the country, Kenya Railways also handles transit traffic to and from the land locked countries far flanked to the west in the East African region. Kenya Railways has over time experienced financial, technical and operational problems as a result of poor corporate governance and inadequate investment. As a result of the mal-performance the rail network continues to face operational problems because of rolling stock capacity limitation as a result of inadequate funding.

The Kenya Railways Act, which governed the operations of the railways, limited the participation of other players in the railway transport business. The Act was silent on the participation of the private sector in the operations and development of railways. Moreover, the institutional management of the railway sub-sector combined the aspects of regulation and operation under one institution. In order for the government to enable the railway system to become competitive, it was necessary to review the Kenya Railways Act and as a result of changes to the Act and the subsequent granting of a concession to a South African Consortium to manage the Kenya and Uganda Railways, the railway network is destined for improvement with time.

3.4 Air transport

Kenya has a relatively well-developed air transport system with individual, local, foreign and private firms operating services within the country. Air transport managed by Kenya

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http://www.ttcanc.org/documents/The%20Northern%20Corridor%20Infrastructure%20Master%20Plan.pdf, P.P3, accessed on 13/8/2013.

Airports Authority (KAA), operated nine major airports nationwide, including 3 international airports and 250 airstrips around the country. The Meteorological Department and the Kenya Civil Aviation Authority (KCAA) provide essential support services to the aviation industry. However, Kenya's air transport infrastructure system had a number of weaknesses, according to the 2005 Kenya Airspace Master Plan.[62] These include ground communications that were persistently unsatisfactory by reason of the provider's technical problems then Telkom Kenya, absence of essential equipment, the ageing and need for replacement of some of the technical equipment, and the lack of a Safety and Quality Management System (SQMS), among others.

In order to handle growth in its international and domestic air traffic and maintain its status as an important hub in the East and Central Africa, and the Indian Ocean region, Kenya faces several challenges. These include sustaining sufficient budgetary allocations for rehabilitation and maintenance of airport facilities; reaching international safety and security standards; and improving and strengthening airport operational and management capability. To foster the participation of private sector in providing infrastructure and services, the government has secured grants from the Public Private Infrastructure Advisory Facility and has engaged a consultancy to explore the possibilities and develop a private sector participation strategy.

The present financing framework for airport infrastructure development and maintenance in Kenya is generally *ad hoc*. Financing is mostly by the government together with development partners. Currently, the ongoing airports modernization is funded by the World Bank under the

[62] Kenya Civil Aviation Authority; Kenya Airspace Master Plan, Final Report 2005 *http://marsgroupkenya.org/pdfs/2011/01/Ministry_PDFS/Ministry_of_Transport/Kenya_Civil_Aviation_Authority/Kenya_Airspace_Master_Plan.pdf*, accessed on 12/9/2013.

Northern Corridor Transport Improvement Project (NCTIP). Infrastructure expansion works underway at major airports aims at increasing capacity and efficiency in related service delivery.

3.5 Marine transport

Marine transport in Kenya consists of port facilities in Mombasa, shipping and inland water transport. The inland container depots at Nairobi, Kisumu and Eldoret, which are also managed by the Kenya Ports Authority (KPA), fall under this mode of transport. The Kenya Maritime Authority oversees maritime activities in the country. Kenya has also inland water transport, but the potential for both river and lake transport has not been fully exploited as it is only Lake Victoria that has some significant transport activities.

Kenya ranked poorly on trading across borders, partly a reflection of the inefficiency at the port of Mombasa. The port requires major investments, especially upgrading the container terminal. The Government also embarked on reforms aimed at 24 hour operation at the port. Further investments in equipment and structures, are planned with the view to expanding services to countries in the region.[63] The port with over 18 deep water berths handled estimated cargo traffic of about 20 million tonnes in 2011. Plans were underway for private sector management and financing in order to improve the performance at the facility.

The port of Mombasa's traffic growth rates since 2002 have been very high at 8.8% per annum on average for the traffic in general with a sharper growth of containerization at 14 % for imports. There has been also a significant development of dry bulk traffic at 23% growth for imports. However, growth of export traffic has been much lower at 0.4%.[64] More than 90% of

[63]This Country Strategy Paper (2008-2012)

[64] Northern Corridor Transit Transport Coordination Authority; Northern Corridor Infrastructure Master Plan 2011 *http://www.ttcanc.org/documents/The%20Northern%20Corridor%20Infrastructure%20Master%20Plan.pdf*, P.P 4, accessed on 10/10/2013.

the transit traffic is made up of imports and Uganda is by far the first destination, accounting for more than three quarters of the total transit traffic. The other countries in the region namely Tanzania, Rwanda, Sudan, and DR Congo lag far behind, with proportions ranging between 5 and 6% as shown in the table 5 below;

Table 5: Transit traffic in the Eastern Africa region, 2008-2010.

%

Transit	**2008**	**2009**	**2010**
Uganda	76	80	79
Tanzania	5	5	4
Burundi	1	0	1
Rwanda	6	5	5
Sudan	5	3	5
D R Congo	6	6	6
Somalia	1	0	0
Others	0	0	0
Total	**100**	**100**	**100**

Source: Northern Corridor Infrastructure Master Plan 2011.

The port of Mombasa and its international trunk roads are vital for securing transportation to neighboring landlocked countries. However these roads have lost function due to inappropriate maintenance practices with the handling volume of containers at the port of Mombasa surpassing its maximum capacity, making it hard to adequately respond to any further

increase in container volume.[65] Therefore, expensive and time-consuming transportation becomes a major impediment to economic development of Kenya and its Eastern Africa counterparts.

Kenya also has an oil pipeline managed by the Kenya Pipeline Company; a fully state owned corporation established in 1973 under the Laws of Kenya, CAP 486 of the Companies Act and started its commercial operations in 1978.[66] The company's main objective is to provide reliable, cost effective, safe and efficient means of transportation of petroleum products to the hinterland from Mombasa. In the quest for this objective, the pipeline company has constructed a pipeline network, loading and storage facilities for transporting, distributing and storing of petroleum products stretching from the port of Mombasa to Nairobi, with extensions to Eldoret and Kisumu. The pipeline carries about 4 million m^3 of petroleum products per year.[67]

Kenya and Uganda governments are jointly developing an oil pipeline project to substitute road tankers as the main means of transportation for oil products between the two countries. The governments of Kenya and Uganda together have 49% share holding in the pipeline project, while private investors have the remaining 51% stake. The development project is being undertaken under a 20-year build, own, operate and transfer agreement (BOOT), through a public-private partnership between Uganda and Kenya and is operated under a joint coordinating commission. The new pipeline will link Eldoret in Kenya to Uganda's capital

[65] Transport Infrastructural Development in Kenya *http://www.jica.go.jp/kenya/english/activities/activitiy01.html*, accessed June 2, 2013.

[66] Kenya Pipeline Company; *http://www.kpc.co.ke/*, accessed on 10/10/2013.

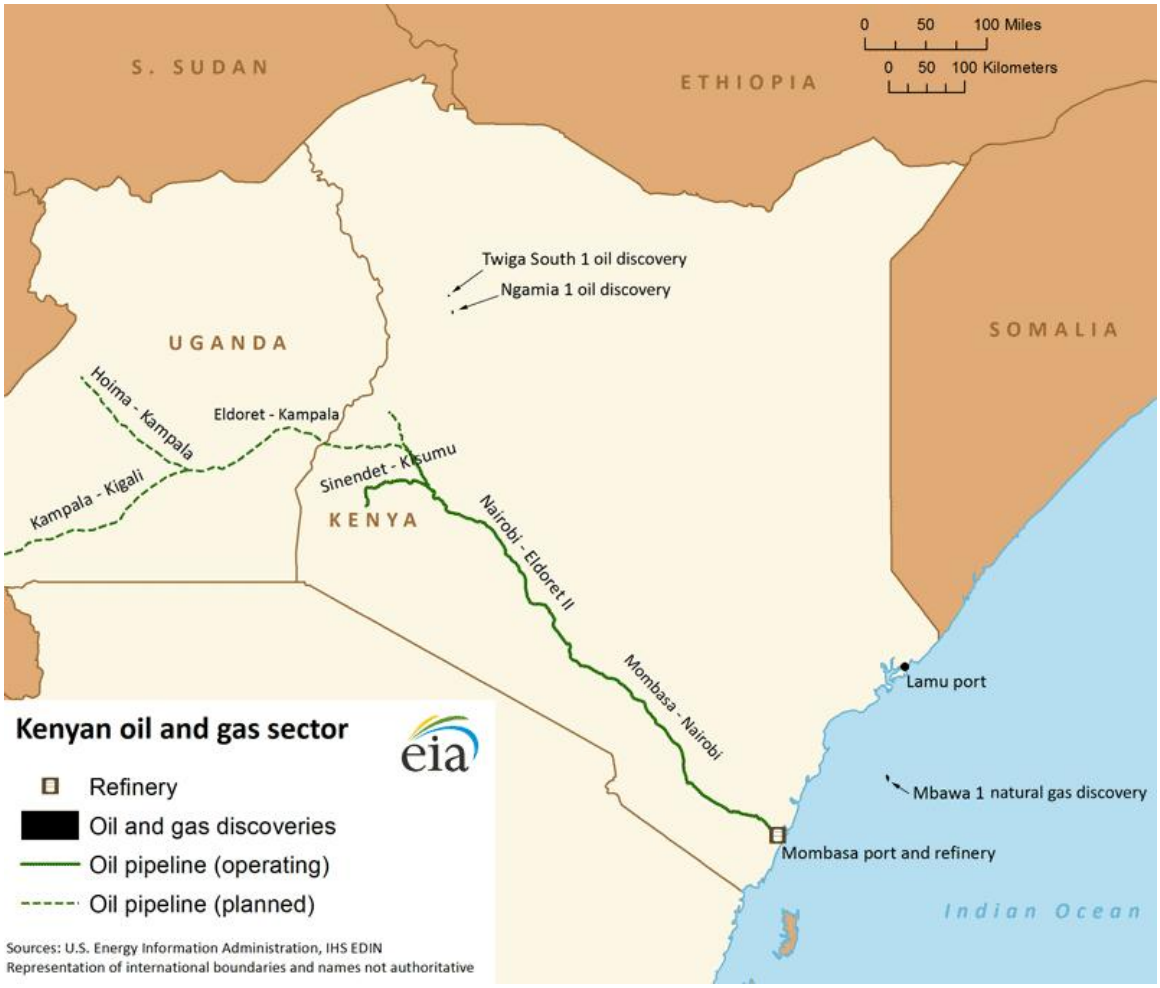
[67] Delegation of the European Union to Kenya-Regional Economic Integration by means of Transport Infrastructure,*http://eeas.europa.eu/delegations/kenya/eu_kenya/tech_financial_cooperation/transports/index_en.htm*, accessed on May 30, 2013.

Kampala through Malaba. It aims at delivering white petroleum products between the two countries.

The new 352 km long pipeline will link the present 14-inch-diameter pipeline which runs from Nairobi to Eldoret. The project also includes an additional spur line to Jinja in Uganda and the planned structural development of a general user depot at the Kampala pipeline terminal. The European Investment Bank (EIB) funded the feasibility studies prior to the construction of the pipeline. The terminal to Uganda will have a capacity of 72,000$m^{3,}$ The terminal will involve the construction of two 32,500m^3 capacity tanks for MPS products, two tanks with 5,654m^3 capacity for BIK products, another two tanks with 10,544m^3 capacity for JET products and finally, the last two tanks for AGO products with a capacity of 22,570$m.^3$ The construction work at the terminal will also encompass 904m^3 capacity four interface tanks,[68]see figure 12 below;

[68]Hydrocarbons Technology; Kenya-Uganda Oil Pipeline, Kenya, *http://www.hydrocarbons-technology.com/projects/kenya-uganda-oil-pipeline/*, accessed on 27/9/2013.

Figure 12: The Kenya-Uganda proposed joint pipeline.



Source: US Energy Information Administration 2012

The Kenya-Uganda pipeline has future extension plans to Kigali in Rwanda and Bujumbura in Burundi. In 2011, the pipeline extension feasibility study was awarded to the East African Community (EAC) and was funded by the African Development Bank (AfDB) at a estimated tune of $600,000

The planned LAPSSET projects also encompass the construction of a port and oil pipeline at an estimated cost of $16 billion. With the regional oil bonanza in the offing, the resultant revenues have the potential to lift the region out of poverty but this can only be realized

if the oil can find an efficient way to the market. Experts have observed that the local fields along the LAPSSET corridor are expensive to tap and thus a single pipeline along the corridor will serve the region as the cheapest option, running from Lamu via Lokichar and beyond[69]

Nairobi and other major towns in Kenya have witnessed rapid traffic increase as a result of the growth of population and traffic system that is not efficient due to unlinked ring road networks leading to grave traffic congestion, accidents and pollution. There was urgency to develop proper road networks and accompanying maintenance systems to respond to rapid urbanization pressure.

3.6 Major challenges in transport infrastructural development in Kenya

Despite the tremendous gains realized in transport infrastructural development in Kenya in recent times, this study validates that the country still suffers from inadequate transport infrastructure that has raised the transaction costs of doing business within and beyond its borders. This has adversely affected the country's competitiveness lowering the levels of productivity.

Transport infrastructural development projects call for large amounts of investment yet the available resources and allocations are not usually adequate to carter for these hefty initiatives. This is further aggravated by other competing interests in the national budget and road investments experiencing low rates of budget executions.

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[69] The Economist; East Africa is in danger of throwing away part of its new-found oil wealth, *http://www.economist.com/news/middle-east-and-africa/21578402-east-africa-danger-throwing-away-part-its-new-found-oil,* accessed on 4/11.2013.

The existing transport infrastructure is in a deplorable condition due to inadequate and inappropriate maintenance plans and practices. The costs associated with the preventative and corrective maintenance plans are substantial and even considerably larger than the value of the assets. Nevertheless, the providing for this maintenance is crucial for transport infrastructure sustainability considering the prevailing huge rehabilitation backlog.

The responsibility for road infrastructure in the 1990s was dispersed among different government ministries, departments and levels of government, with the Ministry of Roads and Public Works responsible for the classified roads, and the Ministry of Local Government, through various local authorities, responsible for urban and rural roads. The existing institutional framework had many players who were not linked optimally. Hence financing was fragmented between different ministries, departments and levels of government, which results in spreading the resources too thinly without the desired impact. For a long time road infrastructure financing, which is a responsibility of the government, has been inadequate, arbitrarily allocated and did not allow for innovative ways for funding infrastructure development and maintenance.

In order to handle current and future challenges besetting the transport sector in Kenya it calls for the exploitation of the regional role of the transport system in Kenya, mitigate related institutional deficiencies, fully Integrated transport system through the integration of transport with national development priorities, increasing investment in transport infrastructure and operations, as well as responding to market needs of transport.

In 2003 the government of Kenya launched the National Transport Policy Committee with the main mandate of formulating an Integrated National Transport Policy. The process was conducted on a consultative basis with modeling of solutions based on international best practice

to bridge the gap between local challenges and planned interventions towards an effective transport sector in the country. The transport report identifies a number of challenges inhibiting the transport sector from performing its facilitative role in respect of national and regional economies.[70]

3.7 Conclusion

This chapter highlighted the state of transport infrastructure in Kenya with the associated impediments to its upgrading. The next chapter covers planned infrastructure development that aims at increasing connectivity, mobility and interaction between Kenya and other regional economies.

[70] GOK; Integrated National Transport Policy Report 2009
http://marsgroupkenya.org/pdfs/2011/01/Ministry_PDFS/Ministry_of_Transport/intp.pdf
"A Report on Integrated National Transport Policy: Moving a Working Nation", accessed on 19/9/2013.

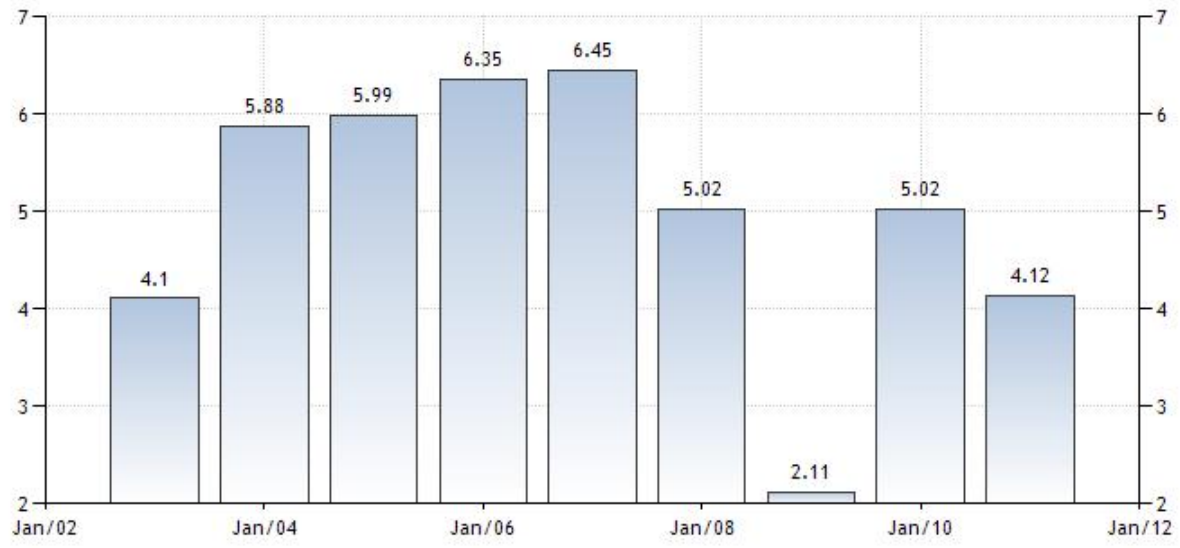
CHAPTER FOUR

TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECTS IN KENYA TOWARDS ENHANCED EASTERN AFRICA REGIONAL INTEGRATION

4.0 Introduction

Kenya like other African countries suffers from infrastructure deficit with the inadequate stock of transport infrastructure impeding gains in domestic productivity and further presenting a critical bottleneck to greater regional integration. However, in 2010 Kenya's GDP exceeded the average for sub-Saharan Africa as shown in figure 13 below;

Figure 13: GDP growth (annual %) in Sub Saharan Africa, 2002-2012.



Source: World Bank Report 2012

Despite a number of economic challenges, Kenya still experienced a satisfactory growth rate of about 5 percent in 2011 as shown in Table 6 and figure 14 below, driven by a strong

performance in the financial sector as well as hotels and restaurants.[71] Kenya's economy has risen to become one of Africa's fast growing economies which further calls for carefully crafted policies that are well informed by studies such as this one.[72] This chapter highlights various transport development projects that aim at increasing productive connectivity, mobility and interaction between Kenya and other regional economies.

Table 6: Kenya's GDP - real growth rate (%), 1999-2011.

Country	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Kenya	1.5	0.4	1	0.8	1.5	2.2	5.8	5.7	7	1.7	2.6	5	5

Source: CIA World Fact book 2011

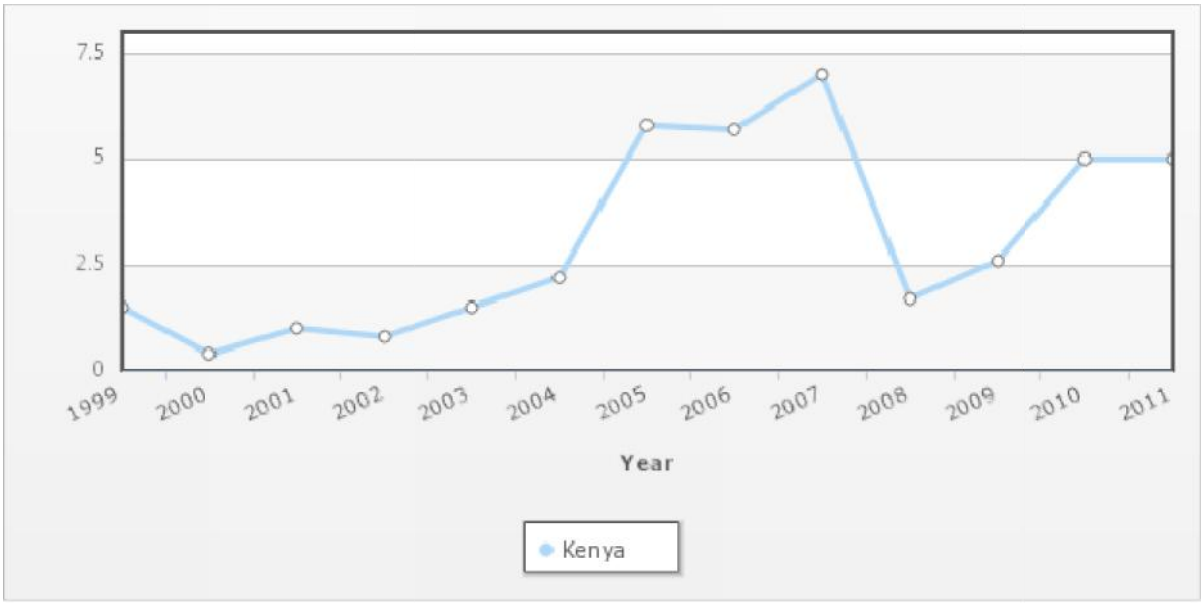
Overall, growth for 2011 was balanced across all key sectors, with the services sector maintaining its position as the growth engine over the last decade. This study examines how an upgraded transport infrastructure will remedy the current related structural gap in Kenya and lead to even a better performance, whose spill-over effect would accelerate the south-south integration in the Eastern Africa region. This chapter illuminates projects aimed at mitigating the structural gap since research has shown that large investment in infrastructure and related systems aids economic growth a big deal.[73]

[71] World Bank, World Development Indicators 2011.

[72] Arbache, J.S., & Page, J. Hunting for Leopards: Long-Run Country Economic Dynamics in Africa. *Unpublished paper, Office of the Chief Economist, Africa Region*, World Bank, Washington, D.C. (2008).

[73] Rosenstein-Rodan, P.N., Vol. 53, No. 210/211: Problems of Industrialization of Eastern and South-Eastern Europe. *The Economic Journal*, (UK, Blackwell Publishing for the Royal Economic Society, 1943).

Figure 14: Kenya's GDP - real growth rate (%), 1999-2011.



Source: CIA World Fact book 2011

4.1 Development of 'basic industries' and the related multiplier effect

Infrastructure development creates a competitive environment by reducing both establishment and operational costs for investments and thereby encouraging trading enterprises. This can be realized by allocating resources to build and develop ports, roads, railway lines, among other infrastructural installations. National and international investment should concentrate initially on building of 'basic industries' and public utilities which give rise to new investment opportunities.[74]

In reference to the then less industrialized Far East and Latin America regions as compared to Eastern and Southern-Eastern Europe where there was no comparative deficiency in railroads in 1940s, Rosenstein-Rodan says;

[74] Rosenstein-Rodan, P.N., Vol. 53, No. 210/211: Problems of Industrialization of Eastern and South-Eastern Europe. *The Economic Journal*, (UK, Blackwell Publishing for the Royal Economic Society,1943), Pp. 8

"Let us build railways, roads, canals…, the rest will follow automatically".

Where lack of transport facilities is an obvious obstacle to economic progress, as was the case of China and Latin America in the early 1940s, transport network development is the best start to development investment. With the availability of sufficient capital for investment in 'basic industries' the normal multiplier effect will as expected lead to further industrialization. Foreign funds and technical assistance to local governments will transform the process of national development to contribute to expansion of world income and the general reorganization of world trade.[75]

4.2 Government partnerships towards an upgraded transport network

In recognition of the importance the government attaches to addressing the problems of infrastructure, the government of Kenya has identified transport infrastructure as one of the key pillars in its development agenda and has subsequently developed an Integrated National Transport Policy. The policy seeks to develop the sector's infrastructure in a consistent and integrated manner. However, challenges persist on in the attempt to repair, modernize and expand Kenya's transport infrastructure network. One of the main challenges facing infrastructure upgrade in Kenya is how to mobilize adequate resources for maintenance, rehabilitation, construction, expansion and general sustainability of the infrastructure system.

Donors and development partners have availed significant external funding for most of the projects. Over the years Kenya government's contribution towards transport infrastructure development has been made available through the Fuel Levy Fund that accounts for a substantial

[75] International Development Loans, planning *Pamphlets, National Planning Association*, New York, (1942). No. 210, Vol. LIII. No. 15, P.14

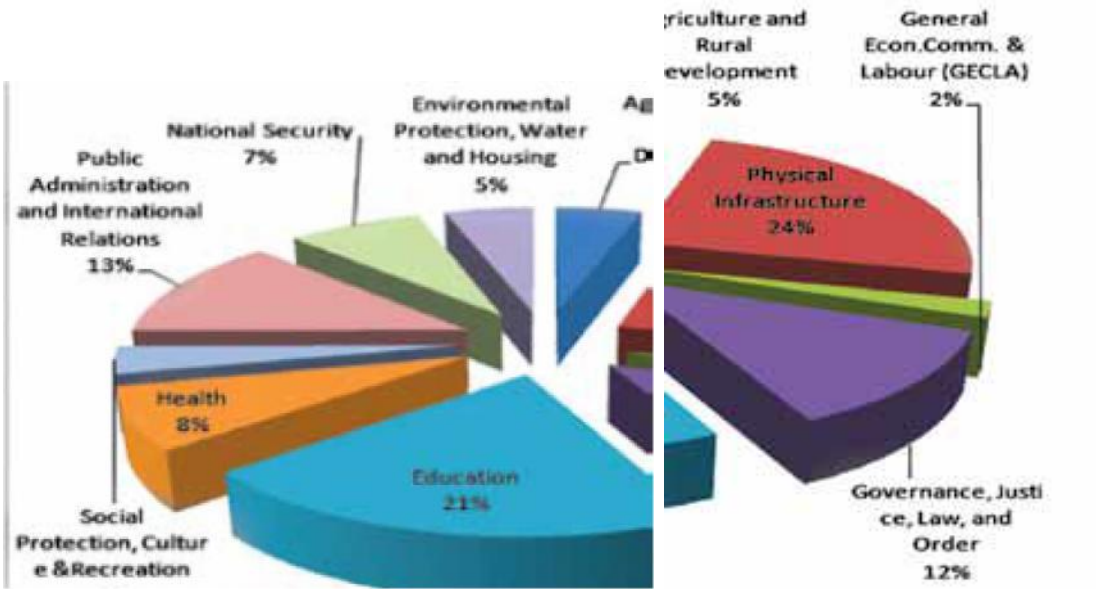
share of the total national budget and share of the Constituency Development Fund (CDF), among other sources.

According to the 2012/13 budget highlights on continuing investment in infrastructure to accelerate growth, Ksh. 123.6 billion was allocated to roads for improvement of both urban and rural roads which represented 18.5% increase from Ksh. 104.3 billion the previous financial year. The amount included Ksh. 2.0 billion for the LAPSSET project, Ksh. 79.9 billion for the energy sub-sector which represented an increase of 40% from Ksh. 57.5 billion in 2011/12 financial year,[76] see figure 15 below on spending by sector and Table 7 on summary of estimates.

In 2012/13 Ksh. 1.5 billion was allocated for the Urban Commuter Rail System to ensure completion of the line linking the Jomo Kenyatta International Airport to the central railway station in the heart of Nairobi City and an extra Ksh. 18.8 billion allocated to the railway transport sub-sector in general. An additional Ksh. 8.0 billion was set aside for expansion and construction of irrigation infrastructure country wide; Ksh. 7.2 billion to the ICT sector and finally, Ksh.21.2 billion for CDF.

[76] Ministry of Finance, Kenya; Kenya Budget highlights 20132012/3, *http://www.google.co.ke/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDIQFjAB&url=http%3A%2F%2Fwww.parliament.go.ke%2Findex.php%3Foption%3Dcom_docman%26task%3Ddoc_download%26gid%3D1839%26Itemid%3D&ei=mqNdUpy-OIbLswavkYGIBg&usg=AFQjCNGiAOmBM3AG4pK1RtqVvlzgaiKiSw&bvm=bv.53899372,d.Yms*, accessed on 10/10/2013.

Figure 15: Spending by sector 2012/13



Source: Budget highlights 2012/13

Note: shares as a % of total ministerial expenditure allocation

Kenya's political leadership is committed to giving Kenyans and the entire Eastern Africa region the desired transport network for accelerated growth as shown in this study. In the 2013/14 financial year budgetary allocations, the new Transport and Infrastructure ministry got an allocation of Sh91.9 and 3.5 billion, for roads and the LAPSET project respectively.[77] The ministry focuses on completion of ongoing road projects in addition to maintaining and rehabilitating the already existing road and related transport network. Also of priority is the expansion of the port of Mombasa which other than Kenya handles cargo to and from Uganda, Burundi, Rwanda, South Sudan, Eastern Democratic Republic of Congo and Somalia.[78]

[77] Daily Nation, (Nairobi), June 14, 2013. 2013/14 financial year budgetary allocations, *http://www.nation.co.ke/oped,* accessed on 17/9/2013

[78] Odhiambo, A. *Transport and Infrastructure billions set to propel growth http://www.businessdailyafrica.com/Transport-and-Infrastructure-billions-set-to-propel-growth/-/539546/1839878/-/vkv4h3/-/index.html, May 2, 2013,* accessed on 27/5/2013.

Table 7: Summary of Estimates for three key ministries in Kenya (Ksh Million)

Vote	Details of vote	Recurrent		Development		Total		% change of total Expend. from 2012/13-2013-14	% share of Total Budget 2013/14
		Gross Expend 2012/13	Gross Estimates 2013/14	Gross Expend 2012/13	Gross Estimates 2013/14	Gross Expend 2012/13	Gross Estimates 2013/14		
106	Min. of Education	86,994.8	97,101.8	25,530.1	33,457.3	112,524.9	130,559.1	16.03	8.0
108	Min. of Health	53,527.4	19,811.2	31,501.5	14,936.5	85,028.9	34,747.7	(59.13)	2.1
109	Min. of Transport and Infrastructure	32,314.5	22,798.8	110,108.8	102,924.3	142,423.3	125,723.1	(11.73)	7.7

Source: Printed Estimates of Expenditure 2012/13 and 2013/14 and own calculations The Institute of Economic Affairs (IEA -Kenya) 2013.

4.3 Milestones in Kenya's transport infrastructural development in the last decade

This study shows that transport infrastructural development in Kenya has witnessed major transformation in the last decade as the country's effort to become a major regional business and transport hub in Eastern Africa moves closer to being a reality. Large investments in transport infrastructure aimed at more productivity in line with the provisions of the big push theory have since been initiated. Kenya made a big step last year with the launch of the modern Nairobi Commuter Rail Service and the Syokimau Railway Station link, the first to be built in Kenya in the last 80 years. The projects will cost the Rift Valley Railways an estimatedUS$5 million upon completion,[79] and will have immense benefits both at the micro-economic levels, and in terms of our broader national targets for economic growth.[80]

[79]Trade Mark East Africa, *Kenya Seeks To Enhance East African Railway Links* http://www.trademarkea.com/kenya-seeks-to-enhance-east-african-railway-links/

[80] Star editor, *Syokimau commuter train a major milestone in public transport sector, The Star* (Nairobi), *http://www.the-star.co.ke/news/article-16033/syokimau-commuter-train-major-milestone-public-transport-sector, June 2, 2012,* accessed on July 10, 2013.

Nairobi Commuter Rail Service is a component of the Nairobi Metropolitan Transport Master Plan launched in 2012 and geared towards easing traffic on roads within the Nairobi metropolitan. The financially sustainable service will integrate rail transport with other modes of transport. The project will be developed in three phases and upon completion will realize higher speeds, safety, comfort, reliability and affordability. In 2009 Kenya Railways Corporation and InfraCo signed a Joint Development Agreement, which included the development of a project development plan on[81]market affordability study, technical assessment, financial review and financing plan, operational assessment and legal assessment

The feature of the commuter rail system include; Rehabilitation of 160km of the existing rail infrastructure around Nairobi, building of 26 modern railway stations, introduction of modern rolling stock, construction of new railway lines across the city with increased capacity from 5M passengers to 15m Passengers initially then to 60M passengers per year in Phase 1, and finally upgraded track and signaling systems.[82]

The construction of a new 22km railway line to the Jomo Kenyatta International Airport from the Nairobi central station will include a 6.5 km long link from Embakasi station to JKIA and express services for airport passengers taking 25 minutes to the central business district. The project is expected to commence in 2013, see route map of planned project below;

[81] Kenya Railways Corporation 2013; Greater Nairobi Commuter Rail Service *http://www.krc.co.ke/joomla/index.php?option=com_content&view=article&id=50&Itemid=65,* accessed on 17/10/2013.

[82] Nairobi Commuter Rail Service; *http://satori.co.ke/kenyarailways/index.php?option=com_content&view=article&id=85&Itemid=108*, accessed on 2/11/2013.

Figure 16: Route map` of the existing and proposed commuter rail service

Source: Google maps 2012.

The Nairobi commuter rail service project is a Public Private Partnership that will guarantee attractive returns for investors leveraging on Nairobi as the largest city in Kenya and a major transit point in the East African region. The projected number of daily commuters stands at 1.5 million people per day and 85% of Nairobi's population do not own vehicles and mainly rely on public transportation to commute. The commuter system will have the capacity to handle up to 60 million passengers in a year.

The Nairobi commuter rail services boosts of a number of economic benefits that include introducing modern and efficient rail infrastructure, passenger trains and services; and for

providing a vital link to Jomo Kenyatta International Airport (JKIA) and thus strengthening Nairobi's position as the commercial hub of East Africa.

On the other hand, the Syokimau railway station is the first to be completed out of the 26 modern railway stations planned for developed under the Nairobi Commuter rail service project. Kenya railway in partnership with a public service vehicles operator provides rail connection services from the Nairobi central station to the Syokimau station and targets service to passengers from Syokimau, Mlolongo, Athi River, Kitengela and surrounding environs. The station has the capacity to handle an estimated 20,000 passengers in a day while doing 3-round trips starting 7.05 am to 8.00 pm daily. The station not only prides from the modern coaches and locomotives, but also has a one-stop service centre with food courts, shopping outlets, 2,500 car parking slots, an automated ticketing system which has since enhanced efficiency in related service delivery.

Another project aimed at enhancing the country's connectivity to the sparsely networked north is the Thika highway, a trunk road currently serving as a main cargo route and vital metropolitan, regional and international transit link which is part of the classified international A2 trunk road that links Nairobi to Moyale on the Ethiopian boarder. The road commissioned in 2012 is a standard eight-lane controlled-access highway and was built at an estimated total cost of over Ksh 27 billion (US$ 330,000,000).[83] It also serves as a main artery for many satellite towns and economic hubs that lie along and near the road.

The upgrading of the 50.4 km Thika road as a vital transport corridor is a very important infrastructure project for the government of Kenya that was partly funded by the African

[83]Thika highway upgrading 2011, *http://nairobiplanninginnovations.com/projects/thika-highway/*, accessed on 14/9/2013.

Development Bank Group (AfDB) and the government of China through loans. The project aims at improving the economic productivity and mobility of those living along the road while transforming Thika Road into an important section of the Great North Trans-African Highway running from down South in Cape Town to up North in Cairo.

The road is also facilitating regional trade and economic development as its users benefit from substantially reduced travel times. Heavy freight that transport goods to destinations within the country and even across the borders will benefit from reduced travel times as a result of the separation of local and thruway traffic. They will also benefit from the efficiency and convenience due to the improved surfacing and design of the road.[84]. Thika Road is the most traveled corridor in the region as shown by a 2006 traffic count. The survey revealed that the Nairobi-Thika Road carried around 70,000 vehicles per day, the highest in the East African Region.[85]

The upgrading of Kenya's third largest airport is a major initiative towards transforming Kenya and creating a conducive environment for investors. The Kisumu International Airport aims at accelerating trade and investment in Eastern Africa and the Great Lakes region. The airport expansion is part of the ongoing efforts to revamp national infrastructure as the cost of doing business will be low due to improved transport.

The airport has undergone a 3-year expansion project that has seen its runway extended by over a kilometer from 2 km to 3.3 km. Kisumu airport can now handle bigger planes with much ease as the new terminal was built to completion at a cost of Ksh. 3 billion. The refurbished airport can comfortably handle an estimated over 250, 000 people in a year. Prior to

[84]ADF Appraisal Report 2007
[85] JICA 2006,

the expansions and the renovations, the airport handled a paltry number of flights daily inclusive of scheduled, chartered and non-scheduled arrivals and departures. Now with the new developments the situation has changed with more flights daily.[86]

. The upgrading of Kisumu Airport is one of the flagship projects embodied in the Vision 2030. Besides the Kisumu and Jomo Kenyatta International Airport expansion and upgrade, another key infrastructure project is the proposed standard gauge railway line from Mombasa to Malaba, as explained later in this chapter.[87]

The recent commissioning of the Port of Mombasa's modern berth 19 by Eastern Africa regional leaders was praised as a plus to regional integration and increased trade in Africa and the world over. The Ksh. 5.6 Billion facility is a component of the massive regional infrastructural programmes that aim at building a vibrant common regional market as part of the concerted efforts towards improving efficiency to support growth of economies in the region.

The new berth will boost container handling operations and further increase capacity at the port by 33%, an additional 200, 000 twenty foot containers annually.[88] Berth 19, which has been under construction since July 2011, can allow three large vessels of up to 250 metres-long to unload containers at any given moment. The berth is the biggest upgrade to the port since

[86]KCC; Kisumu International Airport, *http://kisumucitycouncil.wordpress.com/2013/01/04/kisumu-international-airport/*, accessed on 23/9/2013.

[87] Otieno, S. and Ochieng, J, *Upgraded Kisumu Airport now open*, The Star, http://www.the star.co.ke/news/article-31617/upgraded-kisumu-airport-now-open, February 3, 2012, accessed on 18/7/2013.

[88] Beja, P. and Sanga, B., 'EAC Presidents unveil sh6 billion berth at port': *Leaders say move will help build regional integration and increase trade*, The Standard, (Nairobi), August 29, 2013.

1980, and container traffic through the port has increased a thousand-fold from 9,093 TEUs in 1978 to 903,463 TEUs last year, according to the Kenya Ports Authority management[89].

Although the container terminal is still overstretched and is handling excess of 300,000 TEUs above the required capacity, the new berth is expected to boost container handling operations at the port. Plans are also underway to complete a second container terminal at Kilindini harbour at an estimated cost of Ksh 28 billion. The new terminal, whose construction began in June 2011 will double the port's handling capacity on completion in 2016.[90]

4.4 Major projects to enhance Eastern Africa regional transport network

This study confirms that roads provide for most of the movement of passengers and cargo in Kenya; however the existing transport network in general is not adequate and well conditioned to provide the connectivity most wanted to spur growth within and across the country's borders. There is need for an integrated approach bringing together governments of the region, development partners, and other requisite stakeholders in order to develop an all round transport system that would create an enabling environment for economic growth and development.

The proposed transport infrastructure development projects are in conformity with the big push theory of investment which specifically lays emphasis on conditions for economic take-off. Some of the projects aimed at helping Kenya and its Eastern Africa neighbours break free from economic paradigms suitable to lower productivity are scheduled below as follows;

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[89]Business Daily October18, 2013; Uhuru commissions Berth 19 at Mombasa Port, http://www.businessdailyafrica.com/Uhuru-commissions-Berth-19-at-Mombasa-Port/-/539546/1971206/-/14x3neaz/-/index.html, accessed 30/9/2013

[90]Business Daily October18, 2013; Uhuru commissions Berth 19 at Mombasa Port, http://www.businessdailyafrica.com/Uhuru-commissions-Berth-19-at-Mombasa-Port/-/539546/1971206/-/14x3neaz/-/index.html, accessed 30/9/2013

4.4.1 Eldoret-Juba Highway

The Eldoret-Juba infrastructure development aims at increasing cross-border trade between Kenya and South Sudan, who have agreed to upgrade the 960km Eldoret-Juba road to international highway standards. Also to be built alongside the road is a one-stop border post at Nadapal among other transport amenities. The US$1 billion highway will also make it easy for landlocked South Sudan to transport goods through the port of Mombasa.[91] The two governments with the support of the World Bank have jointly engaged development partners for concessionary and syndicate financing of the project. The road is in a deplorable state due to high traffic by relief agencies' trucks carrying supplies to South Sudan aggravated by inadequate maintenance.

The new highway is expected to contribute to economic growth in the region through increased and more efficient trade due to better accessibility and mobility. The one-stop border post will support the highway in boosting regional trade by harmonizing transit clearance procedures thus saving time and reducing the cost of doing business. Currently, goods are inspected separately by officers on either side of the border, occasioning prolonged delays as impatient truckers and traders often resort to offering bribes either to jump queues or unscrupulously expedite clearance of their cargo.

The Eldoret-Juba road is part of the Lamu Port-Southern Sudan-Ethiopia Transport (LAPSSET) project with immense social, economic and geo-political importance,

[91] Imara Africa Securities team, Infrastructure developments aim to increase cross-border trade between Kenya and South Sudan, *http://www.howwemadeitinafrica.com/infrastructure-developments-aim-to-increase-cross-border-trade-between-kenya-and-south-sudan/23908/*, January 21, 2013, accessed on June 21, 2013.

and upon completion it is estimated to handle up to 90 per cent of cargo traffic on the northern corridor and will in turn boost trade and transport in the region.[92]

4.4.2 The LAPSET projects.

Another major project geared towards regional integration is the Toyota Tsusho's US $5 billion bid for the 1260 km oil pipeline construction contract from port of Lamu in Kenya to South Sudan's Juba oil fields. This oil pipeline is part of the US $24.7 billion Lamu port-Southern Sudan-Ethiopia Transport (LAPSSET) Corridor, a flagship project under the Kenya Vision 2030[93] programme that incorporates a 32-berth modern port at Lamu, an oil refinery, a 1620 km standard gauge railway line to Juba with a branch line to Ethiopia and a 1720 km superhighway connecting to Ethiopia and South Sudan.[94]

Other components of LAPSSET include the upgrading to resort cities, together with construction of three international airports, at Lamu, Isiolo and Lokichogio, accompanied by associated infrastructure among others. The project was initially conceived in the mid 1970s but development never took off due to an array of impediments. The LAPSSET project was later revitalized and is included as part of Kenya's Vision 2030. The timelines for the project are not clear but some projects such as the Isiolo-Merille projects began as early as 2007.

At the height of the project in the period between 2013 and 2018, it is estimated that the Kenyan government will be spending about 16% of its annual budget or 6% of the country's

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[92] Business Review; Construction on Eldoret-Juba road to begin early 2014, February 1, 2013, http://www.constructionkenya.com/2849/construction-on-eldoret-juba-road-to-begin-early-2014/

[93] Vision 2030 flagship projects, *http://www.vision2030.go.ke/index.php/projects/economic*, accessed on May 3, 2013.

[94] Waakhe, S.W. (November 13, 2012). Gurtong Trust: Kenya, South Sudan Strengthen Ties *http://www.gurtong.net/ECM/Editorial/tabid/124/ctl/ArticleView/mid/519/articleId/8377/Kenya-South-Sudan-Strengthen-Ties.aspx*, accessed on January 2, 2013.

Gross Domestic Product on the project[95] and in turn it is expected to contribute an additional 3% increase in Kenya's GDP by 2020.[96] The LAPSSET project aims at cutting the over-dependence on Kenya's main port of Mombasa and will further open up Kenya's largely under-developed northern frontier, by creating a second transport corridor.

The Lamu Port is expected to consist of about 30 berths on completion at a cost of US $3.5 billion and will be 1,000 acres in size. The port will be a deep water port at 18 metres in depth. A consortium of companies led by China Communications Construction Company (CCCC) won the bid for construction of the first three berths at the port. The cost of the project is valued at Ksh. 41 billion ($484 million).[97]

The LAPSSET projects also encompass a railway line to run from Lamu to Juba, a distance of over 1, 700 kilometers. The line is estimated to cost $7.1 billion by completion in 2015. It will have the capacity of handling trains with speeds of up to 160 kilometers per hour. The new railway line will be connected to the existing railway network and to the port of Mombasa by a line running from the port of Lamu to Mombasa port. By 2030, the railway line is expected to handle 30 daily trains to Juba and 52 to Addis Ababa.[98]

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[95] Kagai, D., Business Review (27 July 2011). "Lamu Port Construction To Commence Soon, *http://www.constructionkenya.com/2188/lamu-port-construction-to-commence-soon/*, accessed on 19/10/2013

[96]Nation Media; July 22, 2011Kenya poised to roll out ambitious Sh2 trillion transport corridor project *http://www.nation.co.ke/News/-/1056/1206042/-/item/1/-/iaco3w/-/index.html*, accessed on 17/10/2013.

[97]Nation Media; July 22, 2011Kenya poised to roll out ambitious Sh2 trillion transport corridor project *http://www.nation.co.ke/News/-/1056/1206042/-/item/1/-/iaco3w/-/index.html*, accessed on 17/10/2013

[98]Nation Media; July 22, 2011Kenya poised to roll out ambitious Sh2 trillion transport corridor project *http://www.nation.co.ke/News/-/1056/1206042/-/item/1/-/iaco3w/-/index.html*, accessed on 17/10/2013.

A proposed oil refinery to be developed in Lamu will cost an estimated $2.5 billion and is expected to refine on average 120,000 barrels of oil a day. The proposed resort cities to be built at Lamu, Isiolo and Lokichoggio on the shores of Lake Turkana will cost $1.2 billion. LAPSSET road projects will run from Lamu to Isiolo and onwards to Juba and Addis Ababa through Moyale. This will be a 2 lane highway and will be at a cost of $1.4 billion. Associated LAPSSET formations will include proposed power generation facilities, water systems and communication facilities a component expected to cost $2.5 billion.

The LAPSSET project got a boost after President Mwai Kibaki, in a special gazette notice, announced the formation of the Lamu Port Southern Sudan Transport Development Authority on 1 April 2013. The authority is charged with the task of managing the project on behalf of the Kenya government. The headquarters of the authority is in Nairobi and have satellite offices in Lamu, Isiolo, Lokichoggio, Marsabit and Moyale. A director general heads the 11 member board that will include five state officials, private sector representatives and a chairman appointed by the president. The authority will push for public private partnerships to help in the implementation of the project.[99]

Kenya today stood as a frontrunner in efforts to link the Eastern Africa region, and this is not a diplomatic finesse but an actuality on the ground. The project will provide alternative routes and improved connectivity when complete as the country's second transport corridor after the Mombasa port and Mombasa – Uganda transport corridor that passes through Nairobi and much of the Northern Rift, also see the outline of the LAPSSET project below;

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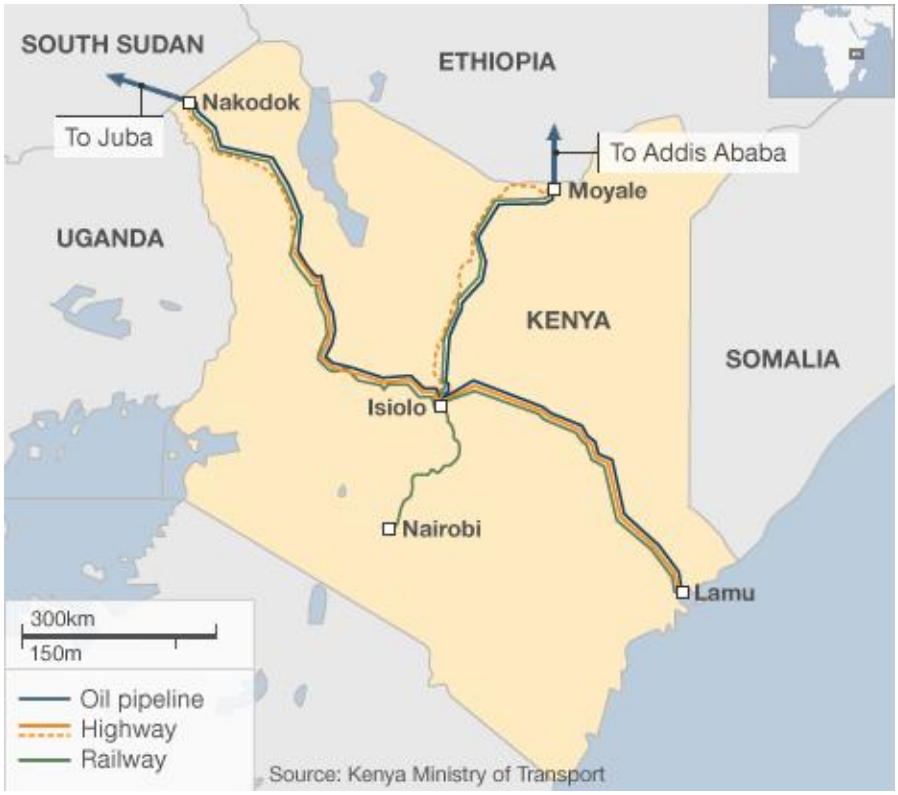
[99]Odhiambo, A., Business daily, April 1, 2013 Kenya sets up agency for $29bn South Sudan, Ethiopia project

Figure 17: Outline of the LAPSSET Project



Source: Ministry of Transport, Kenya

4.4.3 The new Kenya-Rwanda railway line

Plans were also underway to develop a new railway line connecting Kenya, Uganda and Rwanda at a cost of Ksh 1.16 trillion.[100] The project planned for completion over the next five years, is expected to increase efficiency and ease cargo transportation in the region. Presently, cargo was mainly transported by road which was detrimental to the existing inadequate infrastructure. The three countries will jointly source for the project's funds, and Kenya has already established a railway development fund that attracts 1.5% import levy introduced in its current budget. Rwanda and Uganda have since pledged to establish similar tax measures towards funding the initiative.

[100]Mumo, M. '*Kenya-Rwanda railway line to cost Ksh 1.2 trillion, says ministers*' Daily Nation, (Nairobi), July 25, 2013.

In 2011 Rift valley Railway (RVR) in Uganda and Kenya received US $164 million boost from a number of global financial institutions to upgrade railway infrastructure in the two countries. RVR signed a 25-year-concession to operate the 2352 kilometer railway line linking Uganda and Kenya. The financial deal aims at boosting efforts to improve the interconnection between Kampala, Nairobi and Mombasa the region's biggest port. This will strengthen the economic development of the Eastern African region.

The cost of transport in East Africa is among the highest in the world as a result of the heavy reliance on road network for transport. Rail transport in the region lacks adequate capacity to meet transport needs of the region. An efficient rail network will reduce East African rail transport costs by as much as 35% due to the operational and fuel efficiency of rail. The financiers of the project include the African Development Bank (US $40 million), German Development Bank ($32 million), the International Finance Corporation ($ 22 million), and Dutch Development Bank ($20 million). The financial institutions are Kenya Equity Bank ($20 million) and the Belgian Investment Company for developing countries ($10 million).

There is also another proposed project which involves the development of modern high speed, higher capacity standard gauge railway for passengers and freight within the northern corridor with speeds of up to 120kph and 180kph for freight and passengers respectively. This project will transfer freight from roads onto the rail, reducing road damage, providing safe and rapid inter-city passenger transport. The project will be developed on a public private partnership platform which has seen the governments of Uganda and Kenya sign a bilateral agreement for

the infrastructure development and future operations with an estimated cost of $52 billion dollars by completion in 2017.[101] See the elements of the planned railway network below;

Table 8: Elements of the proposed railway network in the region.

The network elements include;

FROM	TO	LENGTH (KM)	CONNECTION TO
Mombasa	Malaba/Kisumu	1300	Kampala, Kigali, Bujumbura
Nairobi	Moyale	700	Addis Ababa
Rungai	Londwa	500	Juba
Lamu	Lokichogio	1400	Juba

Source: The African Continental Magazine April 2013.

4.5 Transport Infrastructure and Eastern Africa Regional Integration

The history of East Africa economic integration dates back to 1917, when an organization aimed at coordinating common services for Kenya and Uganda later joined a decade later by Tanganyika was established by the colonial government, with its headquarters based in Nairobi. Kenya has since played a continuous leading role in region matters. This has been favored by Kenya's strategic location and its gateway position/access to the sea for many countries in the neighborhood. The institutional legacy and diversified economic structure inherited at independence from the colonialists have been significant factors in its unique stature as the premier business and communications hub in the region.[102] Initially, Kenya attracted considerably more foreign direct investment than Uganda and Tanzania as Nairobi became the logical regional headquarters for multinational firms and banks. The neighbors felt that Kenya's

[101] Nziza, A., The African Continental; The East African Edition, *The railway: Can RVR resurrect the abused giant?* April 2013, *http://africanconfidential.com/the-railway-can-rvr-resurrect-the-abused-giant/.* accessed on September 30, 2013

[102] This Country Strategy Paper (2008-2012)

robust standing was a threat to their nascent industrialization efforts. Associated political pressures finally led to the collapse of the East African Community (EAC) in 1977.

In 2003, Kenya, Uganda and Tanzania recommenced fully-fledged economic collaboration under a revamped EAC and were later joined by Rwanda and Burundi as full time members in 2007. EAC collaboration started again following the drastic and great economic and political changes witnessed in the region. The economies of the region have been liberalized and are more democratic with representative politics being practiced. In 2004, Kenya, Uganda and Tanzania signed a protocol establishing the East African Customs Union and setting up a common external tariff, with timing provisions to protect economically weaker Uganda and Tanzania.

Kenya's strategic location, a relatively well developed transport infrastructure and a large and regionally influential private sector continue to put the country's efforts towards regional integration on a cutting-edge above its neighbors. However the main challenges to the intended integration include overlapping regional memberships and an absence of focus on regional integration in national policy documents. Multiple memberships of regional blocs including COMESA, Intergovernmental Authority on Development (IGAD), Nile Basin Initiative, and World Trade Organization (WTO) are expensive in terms of membership fees and other commitments thus impairing policy coherence. In 2008 the heads of state and government from the EAC, Southern Africa Development Community (SADC) and COMESA signed a memorandum of understanding with the aim of unifying the three entities into a single free trade area.

Kenya being the transport hub of East Africa, greater regional integration will further strengthen its position. The country will significantly strengthen this position through upgrading

of the transport system. The Government plans key developments in regional infrastructure[103] considering that the country's transport infrastructure requires substantial infrastructural investment in order to handle the rising regional trade volumes. Mombasa is the second most important harbor in the region after Durban in South Africa, with an estimated over 20 international shipping lines calling regularly and handling 20 million tons of cargo each year, a quarter of which is transit cargo to the region. However, the poor state of regional infrastructure is an impediment to greater integration.

Kenya's trade has expanded within the EAC and COMESA countries in recent years; however transport and other infrastructure still inhibit the movement of goods and services within the region. In order to enhance trade and integration there was need to ensure coordinated investments in regional infrastructure and concerted capacity building for related national and regional institutions. The Medium Term Plan (MTP) identifies the absence and poor quality of infrastructure, broadly defined to encompass economic, productive and social sectors, as an impediment to sustained growth in Kenya and even worse is the challenge of raising the resources required for investments in infrastructure to support Kenya and the entire regions growth.[104]

4.6 Other ventures towards enhanced Eastern Africa regional integration

The Kenya government has been involved in other initiatives aimed at greater integration of the Eastern Africa region, other than transport infrastructural development; as explained below.

[103]Government of Kenya (2008), Vision 2030, Nairobi.

[104] Government of Kenya (2008), Vision 2030, Nairobi.

4.6. 1 Kenya Vision 2030.

It is Kenya's long term development programme launched in 2006 covering the period between 2008 and 2030.[105] The adoption of the vision by Kenya followed the successful implementation of the Economic Recovery Strategy for Wealth and Employment Creation (ERS) which saw the country's economy back on the path to rapid growth since 2002, when GDP grew from a low of 0.6% and rising gradually to 6.1% in 2006.

Transport infrastructure development in Kenya as part of the flagship projects under the Kenya Vision 2030 programme is a key government initiative aimed at transforming Kenya into an industrialized nation by the year 2030.[106] The projects form the foundation of Kenya's successive five-year Medium-Term Plans. As evidenced in this study through various cited projects, the LAPSSET initiative further aims at accelerating cooperation among states in the Eastern Africa region through enhancing and facilitating of private sector activities by lowering the cost of production and opening new markets, presenting new production opportunities and strengthening integrated trade.

With over 120 transformational & cross-sector flagship projects implemented across the country, each of the visions three pillars encompass various sectors that it aims to transform. The pillars are namely; Economic pillar, Social pillar and political pillar with Enablers and Macro Foundation rider. Infrastructure is pegged on the Economic pillar that aims at improving the prosperity of all regions of the country and maintaining a sustained economic growth of at least 10% per annum from 2012. The Enablers and Macro Foundation rider focuses on deploying world class infrastructure facilities and services.

[105] Government of the Republic of Kenya; Kenya Vision 2030 The Popular Version 2007, *http://www.vision2030.go.ke/cms/vds/Popular_Version.pdf*, accessed on 14/11/2013.

[106] Vision 2030 flagship projects, *http://www.vision2030.go.ke/index.php/projects/economic*, accessed on May 3, 2013

Kenya Vision 2030 infrastructure flagship projects include Dredging of Mombasa Port, Kisumu Airport rehabilitation and expansion, Road network expansion, Jomo Kenyatta International Airport expansion and modernization, Commuter rail network, Energy Generation of 23,000 MW and distribution, Standard gauge rail, Mombasa-Nairobi-Malaba-Kisumu, Lamu Port and New Transport Corridor Development to Southern Sudan and Ethiopia (LAPSSET).[107]

The proposed development of Dongo Kundu Freeport in Mombasa is scheduled to commence this year (2013). The project involves the developing of freeport facilities at Dongo Kundu area through public private partnership arrangements with Japan International Cooperation Agency (JICA). The proposed port will bring mini 'Dubai' to Kenya and further open up the development of not only the coastal region and the country, but also the entire East African region through commercial, industrial and value-addition activities. This will indeed open up the region to economic and social development opportunities creating new industries and businesses towards sustained common benefit.[108]

4.6.2 Economic diplomacy

It is a set of activities related to cross border economic actions practised by both state and non-state players in the real world.[109] It regards methods and processes for international decision making aimed at export, import, investment, lending, aid, migration, among other cross border deliverables. Normally, economic diplomacy consists of three elements namely;

[107] Kenya Vision 2030 Enablers and Macro Foundation Pillar, Infrastructure *http://www.vision2030.go.ke/index.php/pillars/index/macro_enablers*, accessed on 24/10/2013.

[108] Kenya Vision 2030; Economic Pillar, Infrastructure: Development of Dongo Kundu, http://www.vision2030.go.ke/index.php/pillars/project/Economic/183

[109] Baine N., and Woolcock S., The New Economic Diplomacy: Decision-Making and Negotiation in International Economic Relations (G8 and Global Governance), U.K, Ashgate Pub Ltd, 2003, p.3

Exercising political influence and relationships to promote or influence international trade and investments in order to improve on performance of markets, or to tackle market failures and to minimise costs and threats of cross border transactions which include property rights. This sub-field of economic diplomacy encompasses commercial policy and activities of non-governmental organisations (NGO's).

Employment of economic resources and relationships to raise the cost of engaging in conflict and further strengthen the mutual benefits as a result of cooperation and politically stable relationships. Increase in economic security entails structural policies and bilateral trade agreements that aim at realizing specific geographic trading models and the political deformation of trade and investment as is the case of embargoes and boycotts.

Economic diplomacy also focuses on ways to combine the right political environment and international political economic situation to facilitate and introduce these objectives. The diplomacy in this case covers multilateral negotiations and is the realm of the supranational bodies and institutions such as the Organization for Economic Cooperation and Development, World Trade Organization, and the European Union.[110]

The cooperation among Eastern Africa states bound by the expected mutual utility will be enhanced and sustained through improved infrastructure which will not only facilitate easy access and connectivity but also infuse mergers to create synergies for greater productivity. This study embraces the notion that transport infrastructure development will play an important role as a catalyst for integration and the subsequent regional economic development.

Kenya has been engaging in economic diplomacy as part of its conventional political diplomacy, as it negotiates the freedom to export and invest beyond national borders.

[110] Bergeijk and Moons; Economic Diplomacy and Economic Security, in C.Costa (ed.), New Forntiers of Economic Diplomacy (2008),

Conventionally, the main purpose of diplomacy has been international political cooperation and peacekeeping. However, the intense global changes experienced recently have changed these objectives, establishing a primary role for international economic relations,[111] with economic diplomacy being consolidated as a top priority of any foreign policy. The benefits of the on-going economic diplomacy will even be greater with an upgraded Kenya's transport infrastructure system to link its neighbors towards enhanced regional economic performance. An upgraded transport system in Kenya will complement economic linkages as a result of the ongoing diplomacy in its effort to remove barriers and impediments among regional member states towards unified beneficial ties.

Africa boosts of many regional institutions engaging in the promotion of greater political and economic integration among neighboring countries and handling matters of shared resource management. Continentally, the African Union seeks to unite African countries under a single political union and common market, whereas regionally, regional economic communities pull together countries in order to address common development challenges aimed at enhanced economic and political integration. Furthermore, regional technical bodies also focus on accelerating the integration agenda through specific cross-border infrastructural issues such as regional power trading and cross-border transport networks.

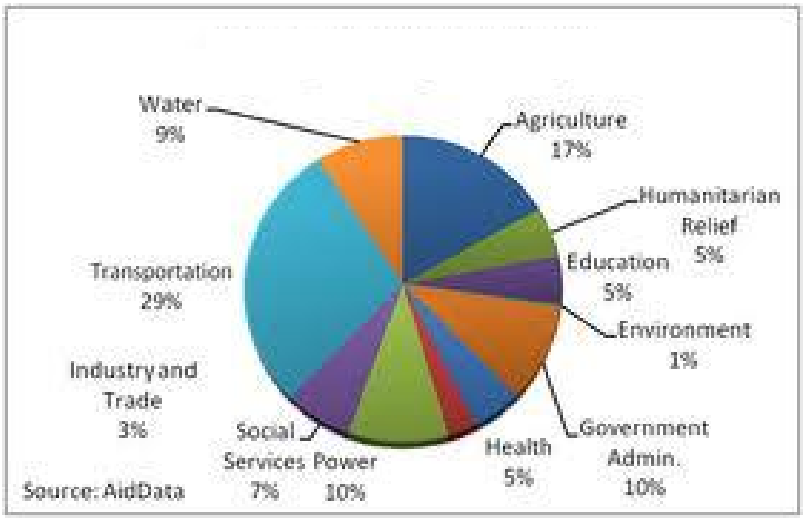
Therefore, countries, regional economic communities, specialized regional institutions and regional development organizations have develop strategic regional frameworks to enhance own capacity in order to pursue regional integration across various regions. There is increasing demand to scale up regional solutions with a greater emphasis on mainstreaming regional issues

[111] Miradasalexterior; (January-March 2011): An Informative Diplomatic Publication of the Ministry of Foreign Affairs and Cooperation, Spain. *http://www.maec.es/es/MenuPpal/Actualidad/RevistaMiradasalexterior/Documents/MIRADAS17EN.pdf,* December 31, 2012.

in national planning such as regional infrastructure, economic integration and regional public goods.

The World Bank and other world agencies have long been champions of regional integration issues and have significantly scaled up support in recent years after the launch of the Africa Regional Integration unit in 2004.[112] The assistance for regional initiatives remains multi-form ranging from financing and advisory services for regional investment programs, technical assistance and analytical work on integration issues, and capacity building for regional institutions, see figure 18 below on World Bank spending in Kenya;

Figure 18: World Bank spending in Kenya, 2010.



Source: Aid Data 2010

[112]Robin Carruthers 2009 et al., Improving Connectivity: Investing in Transport Infrastructure in Sub-Saharan Africa, The International Bank for Reconstruction and Development / The World Bank, *http://infrastructureafrica.org/system/files/bp7_transport_maintxt.pdf*, accessed on 23/92013.

Through the agencies' convening power, attention should be drawn to the integration agenda in order to leverage collaboration and resources from governments, donor partners and the private sector for sustained transport infrastructural development towards enhanced Eastern Africa regional integration.

4.7 Conclusion

The chapter reviews various transport infrastructure development projects in Kenya and other ventures towards greater Eastern Africa regional integration. The next chapter focuses on the study's recommendations and conclusions.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This study examined the state, gains, challenges, the investment future and overall impact of transport infrastructural development in Kenya towards Eastern Africa connectivity and subsequent integration. The study also drew analysis of transport infrastructure scenarios in selected countries across Africa and the globe, whose results inform the recommendations and conclusions of this study. This chapter covers the summary of key recommendations, recommendations, prospects for further studies and conclusion.

5.1 Summary of key findings

The study found out that although Kenya has basic transport infrastructure that provides some level of connectivity to the entire Eastern Africa region, just like other Sub-Saharan countries Kenya suffers infrastructural deficit that impede competitivessness and efficiency in trade and investment. The inadequate preventative and corrective maintenance plans for the existing transport infrastructure in Kenya also inhibits the sustainability and productivity of the country's transport system. The study established that transport infrastructural development in Kenya has registered progress in the last decade and that the planned projects to upgrade the system call for large amounts of resources in order to be able mitigate the present infrastructural gap and facilitate regional integration. Therefore, there is need for collective effort through partnerships and requisite reforms towards development of an efficient transport infrastructure.

5.2 Recommendations

In order for Kenya to compete effectively, tap into regional markets and benefit from globalization through trade and investment, there is need for the government of Kenya to develop an efficient and secure national and cross-border transport infrastructure. However, the main challenge in transport infrastructural development is the mobilization of the required colossal amount of resources required for the hefty projects aimed at remedying the prevailing infrastructural deficit. The government of Kenya should prioritize its transport needs, allocate adequate funds through its budget process and enter into partnerships with governments of the region and other development partners in order to upgrade its infrastructure. State commitment to infrastructure development contributed immensely to the success of East Asia Newly Industrialized Countries' industrialization, as majority of public funds were allocated to infrastructure development projects.

Another prolific approach towards transport infrastructure development is by the government encouraging private sector participation in transport infrastructure development projects in Kenya. This can be achieved through the BOO-BOOT (build, operate, and own or build, operate, own, and transfer) strategy, a popular approach commonly used by governments world over to develop such immense projects that call for huge funding. Under this arrangement the private sector provides facilities at competitive rates through proper fiscal incentives, which works well when there are potential investors in the economy. In Kenya, a similar scheme can be operationalized by building roads and other allied transport infrastructure through Public Private Partnerships and then subsequently charging a user levy/toll for return on investment and

maintenance. The plan may not be effective in the development of transport network,[113] but there is need to positively view efforts by the state in infrastructural development as laying the basis for future private sector investment.

There is also the need for the government to instigate adequate and appropriate preventative and corrective maintenance plans for the existing and proposed transport infrastructure in Kenya. This is fundamental for the sustainability and productivity of the country's transport infrastructure.

State Owned Enterprises (SOEs) in Kenya and Eastern Africa which heavily laden government fiscal operations, should be privatized to improve services and productivity,[114] as was for the case of a joint private concession with the Rift Valley Railways Consortium (RVR) in a bid to increase efficiency in rail transport in Kenya and Uganda. Transport infrastructure development is an expensive venture that can exert extra burden on the government budget which in turn can make it difficult to maintain its macroeconomic targets such as inflation and the exchange rate.

The government of Kenya should borrow best practice and play the convener role in converging all the stakeholders on to the infrastructure development platform. As shown in the study, the East Asian experience provides useful insight to what extent is state intervention necessary to generate a competitive transport sector within a developing economy. East Asia effectively got the cooperation of big businesses and investments in the related policy making

[113] Kelegama, S., "*Pre-conditions for Sri Lanka Achieving NIC Status in the year 2000, Upanathi* (The Journal of the Sri Lanka Association of Economists), Vol. 7, Nos. 1&2, (1996) pp. 77-93.
[114] Tikiri, B.A, Competitive industry policy for economic development in Sri Lanka: *Lessons from East Asia*, PhD. Thesis, University of Wollongong, School of Economics and Information Systems, 2004, pp. 162.

process.[115] In this approach the state is transformed into a quasi international organization that operates as an internal capital market, which practices discretion in channeling credits to various industries in the economy, and a subtle network of long term links with the corporate sector. It also helps the government in keeping a close eye on related foreign borrowing for big investments such as transport infrastructure upgrading to avoid possible financial crises as witnessed in South Korea in the late 1990s.

The government of Kenya should customize a transport sector-specific development strategy based on trade and related policies similar to the ones used in South Korea and Taiwan both before and after 1980s, for rapid growth and development in order to achieve the much desired industrialized status under the Kenya Vision 2030. However it also calls for careful selection of only relevant aspects of the South Korea and Taiwan strategy to be domesticated into the Kenyan context.

The government of Kenya and its Eastern Africa counterparts should adopt a regional approach to transport infrastructure development. This will facilitate inter-connection between networks across national boundaries thereby connecting markets in Eastern Africa and even beyond. It is the best way to promote trade and regional integration.

The government of Kenya should initiate transport sector reforms with accompanying accountability and innovation tools in order to create more resources for the sector which is conventionally characterized by insufficient sources of resources. With the implementation of the desired reforms, efficiency will be realized and donors will envisage aid to transport infrastructural development as a worthwhile investment.

[115] Chowdhury, A. and Islam, I., *The Newly Industrializing Economies of East Asia*, (Rout ledge, London, 1993). P. 48.

5.3 Prospects for further studies

This study has made a remarkable attempt to address Kenya's structural gap in transport infrastructure towards enhanced Eastern Africa regional integration. The study examines the relationship between transport systems upgrading towards accelerating regional integration for better economic performance. The study addressed issues relating to transport development in Kenya and the envisaged subsequent Eastern Africa regional integration. However, there was need to exhaustively explore other interventions with the potential of accelerating Eastern Africa regional integration other than transport infrastructural development in Kenya.

5.4 Conclusion.

Although Kenya and Eastern Africa at large have made notable improvement in transport infrastructure development over the years, the system remains underdeveloped compared to other emerging regions of the world. Kenya has not achieved the ultimate standard of transport infrastructure it requires to be an outright front runner in the Eastern Africa region despite recent significant achievements in the sector.

An upgraded transport system will increase competitiveness and productivity, lower the cost of doing business, facilitate trade and foreign direct investment, as well as deepen economic and social integration and create employment opportunities.

Kenya's transport infrastructural gap should be addressed to support the economy and promote integration across the region. Regional integration is essential in realizing structural transformation in Eastern Africa economy by raising productivity and standards of living. The regional integration agenda should incorporate the improvement of Eastern Africa producer's access to regional markets and integrating them into more productive value chains. This requires

heavy investment in transport infrastructure in line with the literature of the big push theory. However, Kenya needs large financial investment and support to cover the transport network gap and set itself at par with other developing countries in the world.

There was need for Kenya, its Eastern Africa neighbors and Africa at large to develop economic strategies that suit their own needs, circumstances and aspirations. A transport infrastructure system that is sufficient and works properly is crucial for Eastern Africa's economic integration; as it will link production centres and distribution hubs across the region and enable it compete effectively by tapping into other regional markets and benefit from globalization through investment and trade.

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APPENDIX: QUESTIONNAIRE

GENERAL INFORMATION

Questionnaire Number_____

Name and designation of Respondent _____

Place of interview _____

Date of Interview _____

My name is Ombara Isaac, a Master of Arts-International Studies student. I am conducting a research for my Masters project on Transport infrastructural development in Kenya towards enhanced regional integration. Kindly help me fill this questionnaire. All answers provided will be treated with confidentiality. Where choices are provided please tick as appropriate and where there are no options, please respond in your own words.

PERSONAL PARTICULARS

(Tick or record the responses appropriately)

1. Gender
    a) Male
    b) Female
2. Education level of respondent
    a) None
    b) Primary
    c) Secondary

d) College

e) University

Other (Specify) _____

PERCEPTION/KNOWLEDGE

3. Which was the most frequent mode of transport in Kenya?

   a) Air

   b) Road

   c) Rail

   d) Water

   e) Other (specify) _____

4. Do you know what transport infrastructure means?

   a) Yes

   b) No

   If yes, explain

   _____

   _____

5. What was your perception of the current state of transport network in Kenya?

   a) In good condition

   b) Not in good condition, but under control

   c) In bad condition

   d) In very bad condition

   e) Not sure

f) I don't know

6. Where do you get your information and knowledge on transport in Kenya? Explain.

_____

_____

7. In your opinion, would you say that the current transport network in Kenya was representative of the aspirations of the country?

a) Yes

b) No

If Yes or No, explain.

_____

_____

8. In your opinion do you think the political leadership in Kenya was committed to giving Kenyans the desired transport network that serves their interest?

a) Yes

b) No

c) Not sure

If Yes or No or Not sure, kindly explain

_____

_____

9. Are you aware that transport infrastructure development in Kenya had changed much in the recent past?

a) Yes

b) No

If yes, explain how?

_____

_____

10. If yes (in 9 above), did you play a role in any of the changes?

    a) Yes

    b) No

11. If yes (in 10 above), what role did you play in the transport infrastructure development changes?

    (Specify)_____

12. In your opinion, have the changes if any brought about any effects?

    a) Yes

    b) No

    c) Both (Yes and No)

    (Explain)_____

    _____

    _____

TRANSPORT INFRASTRUCTURE DEVELOPMENT IN KENYA AND EASTERN AFRICA REGIONAL INTEGRATION.

13. What do you understand by regional integration?

_____

_____

_____

14. Was there any role transport network in Kenya can play in linking Kenya to its neighbors?

    a) Yes

    b) No

    c) Yes and/or No

    Expalin_____

    _____

15. Were there cross-border transport development initiatives you had heard of between Kenya and its neighbours?

    a) Yes

    b) No

    If yes, explain

    _____

    _____

    _____

16. If yes (in 15 above), who bears patronage responsibility over the initiatives?

    a) Government of Kenya

    b) Governments of Kenya and neighbours

    c) Public-Private Partnerships

    d) Development partners

e) Citizens of countries involved

f) Other (Specify)

_____

_____

17. What would be the constraints on the initiatives in 16 above?

a) Inadequate resources

b) Competing interests in budgetary allocations

c) Lack of desired accompanying institutional reforms

d) Lack of commitment and cooperation by countries involved

e) Other (Specify)

_____

_____

18. In your overall assessment, do you think an upgraded transport infrastructure in Kenya would help improve living standards of individuals within and beyond its borders?

a) Yes

b) No

In either case (Yes or No), please explain

_____

_____

_____