NORTHERN CORRIDOR TRANSPORT OBSERVATORY

RELIABLE PERFORMANCE DATA

Northern Corridor Transit and Transport Coordination Authority

NORTHERN CORRIDOR TRANSPORT OBSERVATORY REPORT

15th Edition

APRIL 2020

Northern Corridor Transit and Transport Coordination Authority

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Abbreviations

ACPLRWA
Rwanda Long Distance Truck Drivers Association

ACFTA
African Continental Free Trade Agreement (ACFTA)

ASYCUDA
Automated System for Customs Data

BI
Burundi

CCTTFA
Central Corridor Transit Transport Facilitation Agency

DGDA
Direction Générale des Douanes Et Accises

DRC
Democratic Republic of Congo

DWT
Dead Weight Ton

ECTS
Electronic Cargo Tracking System

FEC
Fédération des Enterprises du Congo

GDP
Gross Domestic Product

GPS
Global Positioning System

HSWIM
High Speed Weigh-in-Motion

IABT
International Association of Burundi Transporters

ICBT
Informal Cross Border Trade

ICD
Inland Container Depot

ICT
Information Communication Technology

IRI
International Roughness Index

KE
Kenya

KeNHA
Kenya National Highways Authority

KPA
Kenya Ports Authority

KPC
Kenya Pipeline Company

KRA
Kenya Revenue Authority

KTA
Kenya Transporters Association

LPI
Logistics Performance Index

KWATOS
Kilindini Waterfront Automated Terminal Operations System

MAGERWA
Magasins Généraux du Rwanda

MININFRA
Ministry of Infrastructure Rwanda

NEPAD
New Partnership for Africa's Development

NC
Northern Corridor

NCTTA
Northern Corridor Transit and Transport Agreement

NCTTCA
Northern Corridor Transit and Transport Coordination Authority

NICD
Nairobi Inland Container Terminal

OBR
Office Burundais des Recettes

OCC
Office Congolais de Contrôle

ODR
Office Des Routes

OGEFREM
Office de Gestion Du Fret Multimodal

OSBP
One-Stop Border Post

RECTS
Regional Electronic Cargo Tracking System

RRA
Rwanda Revenue Authority

RTDA
Rwanda Transport Development Agency

RVR
Rift Valley Railways

RW
Rwanda

SGR
Standard Gauge Railway

SCT
Single Custom Territory

SSFEBA
South Sudan Federation of Employers and Business Association

TBL
Through Bill of Lading

TEUs
Twenty Feet Container Equivalent Units

TMEA
Trade Mark East Africa

TO
Transport Observatory

TOP
Transport Observatory Portal

UFFA
Uganda Freight Forwarders Association

UG
Uganda

UNRA
Uganda National Roads Authority

URA
Uganda Revenue Authority

URC
Uganda Railways Corporation

WEO
World Economic Outlook

Foreword

Mr Omae Nyarandi
Executive Secretary-NCTTCA

I take the pleasure to unveil to you the 15th Edition of the Northern Corridor Transport Observatory Report which is our first Annual Transport Observatory Report having progressed from production of bi-annual reports which ended with the 14th Edition. The 15th edition of the Transport Observatory report presents an in-depth analysis for indicators that measure the trade and transport facilitation along the Northern Corridor for the year 2019. The Report is prepared mainly using raw data from Member States of the Northern Corridor and qualitative data and information gathered through trade and transport logistics surveys.

The Northern Corridor Transport Observatory tracks the performance of the Port and Corridor at large. It helps to identify salient issues that need to be resolved to improve on the efficiency and sequentially improving on trade and operations along the Corridor. Efficiency of the Northern Corridor is vital to enhance regional integration and economic growth for the Member States.

The report shows that efficiency of the Port of Mombasa and the Northern Corridor at large has significantly improved. The cargo throughput at the port of Mombasa has been increasing yearly with 2019 witnessing an annual increase of 11.2 per cent, significantly picking up compared to the 2 per cent annual growth in 2018. The overall share of intra-Northern Corridor member States trade has been increasing over the years. For instance, intra-Northern Corridor member States trade grew by about 2 per cent for Burundi; 13 per cent for DRC; 33 per cent for Kenya; 14 per cent for Rwanda and 38 per cent for Uganda in 2018.

The proportion of quality paved and tarmac roads have improved by 7 per cent when compared to 2018. About, 88 per cent of roads in Kenya, 93 per cent for Rwanda, 41 per cent for Burundi and 42 per cent for DRC is in a good state. Transit times have improved on most routes along the northern corridor suggesting that interventions are being implemented to facilitate cargo movement. Weighbridge crossing time also improved as a result of implementation of HSWIM.

Although there has been improvement in most performance targets as evident by the report, several points of concern along the Corridor logistics chain still hamper the overall performance of the Corridor. Therefore, there is need to call upon all stakeholders to implement various action plans and reforms; as well as to propose further improvements required for enhancing the performance of the Corridor and boosting the monitoring mechanisms for better transport and logistics value chain.

Finally, I wish to appreciate and commend all stakeholders who provided data and information to enable preparation of the 15th issue of the transport observatory report. Just as each stakeholder contributed to the production of this report, they should also focus on implementing the recommendations from this report so that the region can continue experiencing seamless trade. NCTTCA calls upon all partners to support the actualization of implementing the recommendations in this report in particular and the Northern Corridor Transit and Transport Agreement in general.

Omae Nyarandi

Executive Secretary

Acknowledgement

The preparation and publication of the 15thEdition of the Transport Observatory Report; Annual Transport Observatory Report 2019 was made possible through the participation of many individuals and key institutions involved in the entire logistics chain for seamless trade in the region. The Northern Corridor Secretariat is deeply indebted to the Council of Ministers of the Northern Corridor Member States for their continued support to the Transport Observatory. Profound appreciation also goes to the Executive Committee, various Specialized Technical Committees, the Stakeholders Forums and the Experts involved in the drafting and validation of this 15th issue and the first Annual Transport Observatory Report.

The preparation of this report was made possible through financial support towards development and improvement of the Transport Observatory by TradeMark East Africa (TMEA). We are deeply indebted. As the success of developing the report primarily depends on data, the Secretariat would like to extend its sincere appreciation to all stakeholders who are committed to providing data for the Observatory. Without the data, this would not have been possible!

We appreciate the overall guidance of the Executive Secretary, Mr Omae Nyarandi for providing leadership and oversight in the preparation of the report. Special thanks to NCTTCA experts from all departments for their contributions to various chapters of the report.

The report was prepared by the transport observatory team of experts from all departments namely: Mr Aloys Rusagara, Mr Gideon Chikamai, Ms Melap Sitati, Mr Noah Kipyegon, Mr Elias Leju Leonardo, Mr Emile Sinzumusi, Mr Fred Paul Babalanda, Prof. Lievin Chirhalwirwa, Mr John Deng, Mr Alex Ruzindana, Ms Clarisse Biraronderwa, Mr Fred Tumwebaze, Mr Cezzy Kanionga, Mr Philip Mwanthi, Mr Desire Buconyori, Mr Jean Ndayisaba, Mr David Abiero, Mr Kennedy Njoroge and Mr James Mwangi.

Finally, we thank those who in one way or another are supporting the Northern Corridor infrastructure and trade in the region. With this common goal, the support will go a long way in propelling the region to greater heights.

NCTTCA Secretariat

Executive Summary

The 15th issue report provides an analysis of performance indicators that are tracked by the Northern Corridor Transport Observatory. The report is a culmination of a series of transport observatory reports since its inception in 2012. The Observatory methodology used for monitoring the performance of the corridor involves data collection, data processing and analysis, reporting and dissemination. The findings from these reports are often utilized in setting strategic interventions and policy inferences aimed at improving efficiency of the corridor. The indicators are informed by the Mombasa Port and Northern Corridor Community Charter that was reviewed in 2018.

The Charter aims to realize increased efficiency in trade logistics and was a culmination of extensive consultations with both private and public sector stakeholders on the upgrading and improved coordination of the monitoring and evaluation of the logistics services. The review of the Charter strengthened the organs as well as the performance indicators through the inclusion of a wider range of service providers. Therefore, successful implementation of the Charter will go a long way towards making Mombasa the region's port of choice and the Northern Corridor a globally competitive route.

Special feature in Informal trade in Rwanda

Informal trade in the Northern Corridor Member States has been of interest to policymakers in the member countries. This interest has triggered the inclusion of informal trade in the statistics and even the national accounts systems in the respective countries. Because of the sheer number of small-scale traders involved, informal trade is a key source of livelihoods of border communities and an invaluable vector for regional integration and cohesion due to its cross-border nature. Evidence also shows that women are major players in informal trade. This report shows that the majority of the traders in informal imports in Rwanda were women. Therefore, it becomes crucial for policymakers to design interventions that support the ease of doing business for informal traders with appropriate gender inclusion considerations.

Generally, data on Informal Cross Border Trade (ICBT) shows that men still dominate export trade that accounts for the largest value of trade. However, women are more visible in informal imports in Rwanda. It is incumbent upon policymakers to ensure that women are supported to enhance incomes and access more opportunities for trade including in exports. Notably, women who are informal cross border traders face several unique challenges that limit their access to opportunities that enhance their incomes. Some of the challenges that require intervention include low levels of awareness on the cross-border procedures and requirements, especially on exports and security; limited of access to financial support, limited access to technology and lack of information on markets among others.

Quality of infrastructure

The Northern Corridor transport network consists of modes of surface transport route linking the landlocked Countries to the maritime Port of Mombasa. These surface modes include road, rail, pipeline and inland waterways. The existing infrastructure along the Northern Corridor consists of physical transport infrastructure that are crucial for trade facilitation and provides logistics services that reduce the trade costs, as well as soft infrastructure that facilitates faster clearance and processing of goods. Progress has been achieved in improving quality and capacity of transport infrastructure. The port of Mombasa has increased handling capacity to 2.65 million TEUs; making it the busiest port in East & Central Africa with an annual growth cargo throughput of about 10 per cent.

From the 2019 analysis, the percentage of quality paved and tarmacked roads in good condition have improved with about 88 per cent of roads in Kenya, 93 per cent for Rwanda, 41 per cent for Burundi and 42 per cent for DRCongo. Significant sections of the Corridor road in South Sudan, about 95% is in bad condition with about 5% is in fair condition. Road construction and maintenance consume a large proportion of the national budget, while the costs borne by the road-using public for vehicle operation and depreciation are even greater. It is therefore vitally imperative to pursue policies that will protect roads against damage, minimize transport costs and the overall road network costs.

Overloading is among the key determinants of road deterioration. Overloading on axle leads to faster deterioration of the road pavement while exceeding vehicle load gross limits destroys bridges. Therefore, trucks are expected to comply with the set vehicle load limits to protect the road infrastructure.

Volume and Capacity

The Mombasa Port and Northern Corridor Community Charter targets to attain port throughput of 35.90 million tons by December 2020. The cargo throughput at the port of Mombasa has been increasing yearly with 2019 witnessing an annual increase of 11.2 per cent; significantly picking up compared to the 2 per cent annual growth in 2018. The growth is attributable to sustained trend of growth in containerized cargo and the liquid throughput. Imports take the lion share-80 per cent of total cargo throughput. This implies that the countries using the port of Mombasa are net importers.

The top import commodities through the port of Mombasa include petroleum oil & lubricants, clinker, wheat, iron & steel, palm/vegetable oil, fertilizers, coal, rice, plastic and sugar. Major import partners for port include Asia and the European Union.

Northern Corridor Member States

Source: NCTTCA-Transport Observatory

The top export sectors included agricultural, raw materials, ores and metals. A major share the Cargo handle at the port comprised of containerized cargo accounting for45 per cent, liquid cargo comprised of 25 per cent of total throughput while 30 per cent comprised of dry cargo, both bulk and general.

Liquid goods transported in bulk are essentially crude oil, liquefied natural gas and chemicals. Slightly over 60 per cent of total port throughput was destined for Kenya. Uganda took the largest part of the transit traffic through the port of Mombasa accounting for approximately 80 per cent of the transit traffic.

The Importance of the Nairobi ICD has risen with the volume of exports & imports to/from Nairobi ICD increasing two-fold by 62 per cent from 257,972 TEUs in 2018 to 418,760 TEUs in 2019. The great performance is occasioned by the implementation and full use of the 485 km-long Standard Gauge line from the port of Mombasa to Nairobi ICD in January 2018.

Efficiency and Productivity

Enhanced efficiency and productivity of the transport corridor is critical in enhancing the attractiveness of the corridor as it reduces the time taken to handle and transport cargo hence reducing the associated costs. It is therefore imperative to make appropriate investments to develop trading capacities. Such investments may include ports and roads improvements, improved efficiency in customs administration and adoption of e-services use among others. Some of the indicators that measure port efficiency are ship turn-around time, port dwell time and gross moves per hour.

In 2019, the port of Mombasa recorded an average turnaround time of 94 hours. In the same year, a total of 530 ships called in at the port of Mombasa. Median vessel waiting time decreased marginally from 13 hours in 2018 to 12 hours in 2019 which is within the Port Charter target of under a day (12 hours). Gross Moves Per hour has marginally improved from 30 moves in 2018 to about 32 moves in 2019. The improved productivity has been attributed to improved investment and utilization of shipyard equipment including increase in the number of Ship to Gantry cranes, Rubber Tyres Gantry (RTG) cranes, Terminal Tractors among others.

From the analysis, performance in dwell time has been improving over the years with 2019 recording average dwell time of 87 hours. This performance outdid the baseline of 96 hours in 2018 and is only 9 hours shy away from the set target; a pointer to enhanced efficiency. The average dwell time for containers at the ICD in Nairobi for the year 2019 improved favourably over the months from a high of 12 hours in January to 4 hours in December 2019, recording an annual average dwell time of 8 days. The performance is a pointer to enhanced efficiency at the ICD.

In addition, there have been great improvements in road infrastructure around the Seaport and the corridor at large as well as the implementation of Standard Gauge Rail which are bearing the desired outcomes.

Rates and costs

Transport costs are a summation of various costs incurred in moving a passenger or a unit of freight between a specific origin and destination. These costs are often passed on to consumers through the total cost of a good. The total cost of transport can be inferred from the whole costs associated with the logistics chain. Logistics costs are classified as; administrative costs, transport costs and inventory costs.

The key cost drivers on the Northern Corridor routes include road condition, distance, levies and charges, safety and security, regional policy, political stability and NTBs. Costs analysis often help to determine whether the corridor is efficient and attractive to stakeholders. On average, trucks on the corridor do between 60,000 and 96,000 km/truck/year, this is far below the international standards. This contributes to high cost of transport on the corridor. In the most efficient global trade corridors, the average km/truck/year is between 120,000 to 150,000.

Transit time is greatly affected by stoppages along the Corridor. Some of the main reasons for stoppage include; drivers' reasons, police checks, weighbridges, company checks, road conditions, custom checks among other reasons. Transit times have improved on most of the routes along the Northern Corridor; suggesting that interventions are being implemented to facilitate cargo movement. Improved transit time has a bearing on the reduction of transport costs which have been reducing substantively over the years. Weighbridge crossing time also improved as a result of the implementation of HSWIM.

The report recommends a qualitative survey to determine inefficiencies and bottlenecks along the corridor and recommend ways that could lead to increased round trips, truck turnaround and hence operational efficiency for transporters.

Intraregional trade

African countries have acceded to various regional trade agreements including the African Continental Free Trade Agreement (AfCFTA) with the economic objectives of reducing trade barriers and encouraging economic growth. One of the key ways in achieving higher economic growth and regional integration is through intra-regional trade.

All Member States of the Northern Corridor using the port of Mombasa have unfavourable trade balance. They are all net importers. Rwanda and Uganda significantly increased their intra-regional trade as a share of their total trade in 2019. In 2018, the overall share of intra-Northern Corridor trade was about 2 per cent for Burundi; 13 per cent for DRC; 33

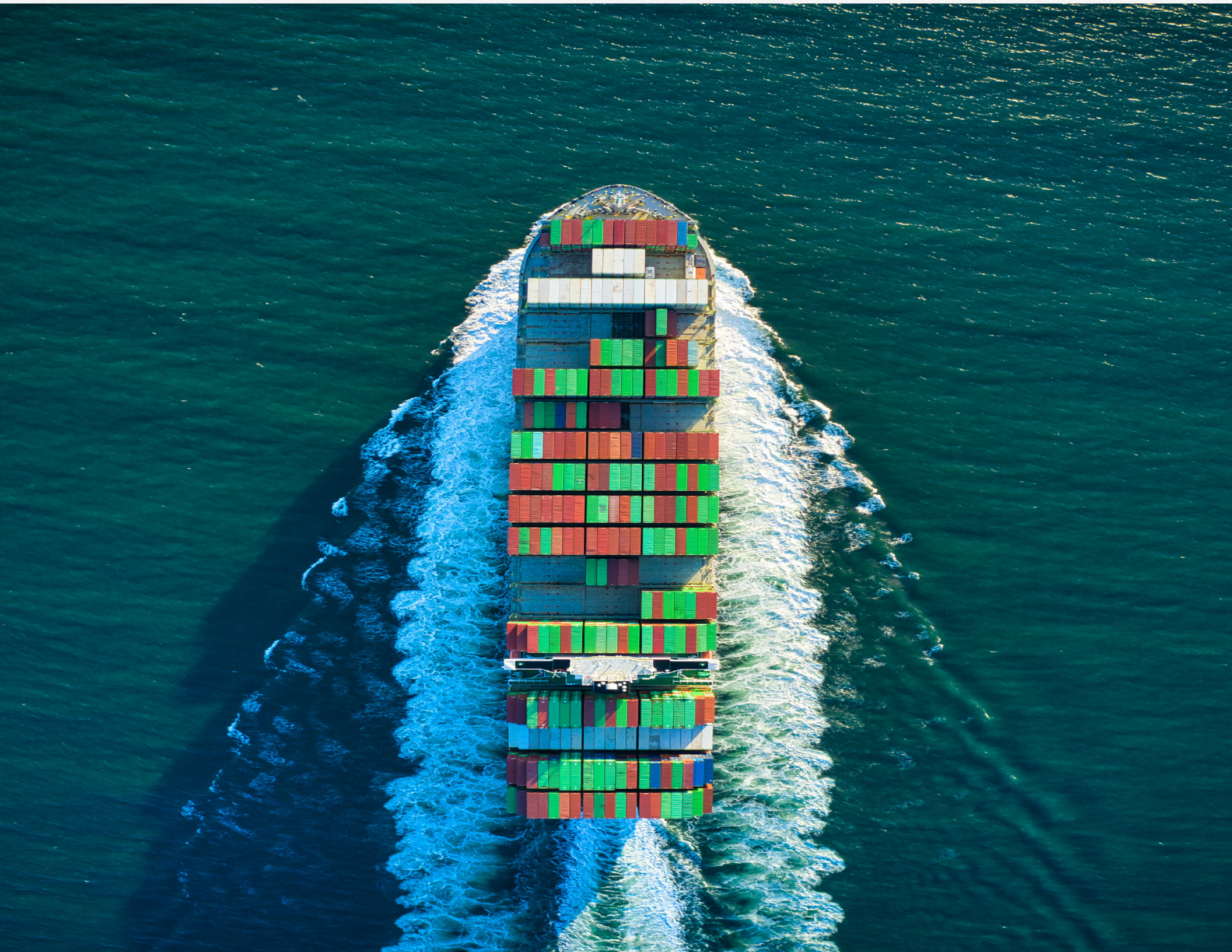
per cent for Kenya; 14 per cent for Rwanda and 38 per cent for Uganda.

Burundi's overall trade grew by 4 per cent in 2019compared to 2018 trading with Northern Corridor Member States. Total trade in Rwanda with other Northern Corridor Member States increased significantly by annual growth of 26 per cent in 2019. DRC is the largest formal export partner for Rwanda accounting for 66 per cent of all export trade. Total trade volume in Uganda with respect to Northern Corridor Member States was valued at approximately US$ 1.96 Billion in 2019.

Road Safety

Road safety refers to the methods and measures used to prevent road users from being killed or seriously injured. According to the World Bank road safety statistics (2018), road crashes claim 1.35 million lives every year, 93 per cent of them in developing countries. As a result, African countries had committed to reducing accident fatalities by 50 per cent by 2020 following the UN Road Safety Decade and the African Action Plan for the Road Safety – 2011-2020. Road Safety has, therefore, become a major challenge for the Northern Corridor region in general. All Northern Corridor Member States are not exempted as road safety has become a big challenge albeit tremendous efforts made in the development and improvement of transport infrastructure.

Between April to December 2019, Kenya reported 367 fatalities, whereas Rwanda reported 584 accidents both serious and fatal. Generally, accidents occur between the time of the day with the lowest visibility. The main resulting causes of accidents were; careless driving, overtaking improperly and misjudging.




MAERSK
CAI
MAERSK
msc
msc
TRITON
MAERSK
msc
GOLD
MAERSK
Touax
TUG

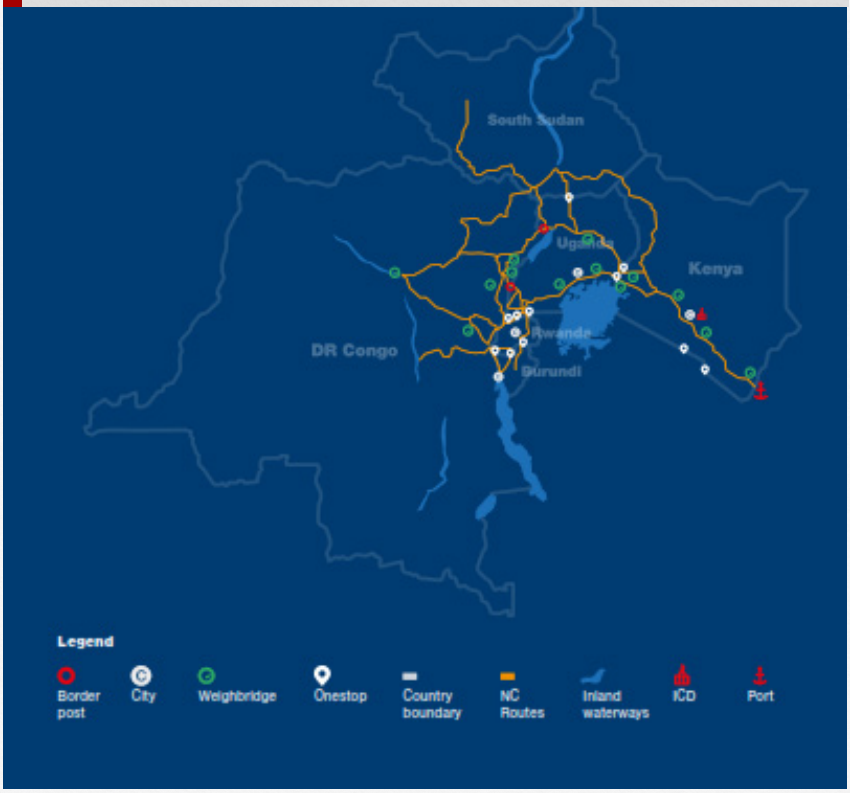
Chapter 1

Introduction

1 Introduction

The 15th issue report provides an analysis of performance for the indicators that are tracked by the Northern Corridor Transport Observatory on an annual basis. The Northern Corridor Transport Observatory is a monitoring tool that measures over 40 performance indicators along the corridor. The Observatory tracks the indicators using data and information collected from the stakeholders in all the Member States. It helps to identify the bottlenecks that need to be resolved to improve on the efficiency in trade logistics and operations along the Corridor. The observatory is located at the Northern Corridor Transit & Transport Coordination Authority Secretariat in Mombasa Kenya.

Northern Corridor Member States
Source: NCTTCA-Transport Observatory



1.1 Northern Corridor

The Northern Corridor is a multi-modal trade and transport corridor, encompassing road, rail, pipeline and inland waterways. The Northern Corridor was established through the Northern Corridor Transit and Transport Agreement (NCTTA). The Agreement is a multilateral treaty, with12 protocols to facilitate transit cargo between the Kenyan Port of Mombasa and the hinterland of the Member States namely Burundi, Democratic Republic of Congo, Rwanda, South Sudan and Uganda.

The twelve protocols include; Maritime Port Facilities; Routes and Facilities; Customs Control and Operations; Documentation and Procedures; Transport of Goods by Rail; Transport of Goods by Road; Inland Waterways Transport; Transport by Pipeline; Multimodal Transport of Goods; Handling of Dangerous Goods and Measures of Facilitation for Transit Agencies, and Employees Traders.

The Agreement was ratified in 1985 and revised in 2007 for regional cooperation. The initial agreement was given a validity of an initial ten years, which was further extended by a period of 10 years (1996-2006) and (2007-2017) respectively. In this regard, the process of reviewing the Agreement started in 2019 as a statutory procedure following the expiry of 10-year period, to ensure incorporation of some positive and emerging developments in the area of trade and transport. The agreement is based on 3 pillars: economic pillar aiming at promoting efficient and competitive transport; social pillar with the view to fostering an inclusive transport and the environmental pillar for green freight transport.

The Northern Corridor Agreement necessitated the formation of the Northern Corridor Transit and Transport Coordination Authority (NCTTCA) to oversee the implementation of the Agreement as well as facilitating interstate and transit trade among Member States. NCTTCA is primarily funded by the contributions from its member States.

One of NCTTCA's mandate is to track and monitor performance along the Northern Corridor in order to identify salient issues that impact on trade along the Corridor and provide evidence-based policy recommendations to guide towards achieving an efficient transport corridor. Among the tools NCTTCA applies for monitoring performance of the Northern Corridor is the Transport Observatory. A Transport Observatory is an analytical performance monitoring tool that analyzes corridor performance in its multiple dimensions.

The Corridor consists of the road network from Mombasa through Nairobi to Kampala, Kigali, Bujumbura, Juba and Goma, Beni & Kisangani. It also includes the rail network from Mombasa to Kampala, the oil pipeline from Mombasa to Nairobi, Eldoret and Kisumu, and inland waterway system around Lakes Victoria, Kivu and Tanganyika. The current installed pipeline system consists of 1,342 kilometers of the

pipeline with the capacity to handle about 6.9 billion liters of petroleum products annually with 8 depots on the network. In addition, the Kenya Ports Authority (KPA) has constructed inland container depots at Nairobi, Kisumu, Naivasha and Eldoret. These depots are linked to the Mombasa Port container terminal by a rail-trainer service. Imports are delivered directly from Mombasa to the depots on a Through Bill of Lading, while exports can also be consolidated at the ICDs and railed to the Port for shipping.

Physical and Soft transport infrastructure are crucial for trade facilitation and faster clearance and processing of goods.

1.2 Northern Corridor Transport Observatory

Northern Corridor Transport Observatory (NCTO) was established in 2012 to address the need for an organized performance measurement tool with an online portal that generates evidence-based information for policy interventions. NCTO is anchored to corridor management institutions both public and private stakeholders involved in the logistics chain framework. Currently, the Northern Corridor Transport Observatory tracks 49 performance indicators grouped in 7 categories as follows: Volume and Capacity, productivity and efficiency, transit times and delays, transport cost and Rates, transport Infrastructure, Road Safety and Intraregional Trade.

The methodology used by Observatory for monitoring the performance of the corridor involves data collection, Data processing and analysis, reporting & dissemination. The findings of these reports are utilized in setting strategic interventions and policy inferences aimed at improving the efficiency of the Corridor.

The indicators in the Observatory are informed by the Mombasa Port and Northern Corridor Community Charter that was reviewed in 2018, to improve trade facilitation. The Charter is a culmination of extensive consultations with both private and public sector stakeholders on the upgrade and improved coordination of the monitoring and evaluation of the logistics services. The review strengthened the Charter organs and provided for a wider inclusion of performance indicators for arrange of service providers. Therefore, successful implementation of the Charter will go a long way towards making Mombasa the region's port of choice and the Northern Corridor a globally competitive route.

1.3 Macroeconomic indicators

Macroeconomic indicators in trade facilitation are a key part of fundamental analysis for traders, as they provide insight into the state of a country's economy, development challenges and policy recommendations for easing trade and transport along the Northern Corridor and beyond. Macroeconomic indicators also shed light on important market movements for traders. The section provides the economic performance, demographic and ease of doing business in the six Member States of the Northern Corridor.

1.3.1 Demographic

The world population witnessed high growth rate in 2019. As presented in table 1, the overall population for the Northern Corridor Member States has been increasing over the years. With a 3 percent population growth rate, total combined population for Northern Corridor member states reached an estimated 218.9 million in 2019. The growth in population is an indication of expansive market for the region. However, the high population and rising urbanization present the reality of congested cities that have a negative impact on trade and logistics chain. In this regard, Member States of the Northern Corridor need to plan properly on how to manage this nightmare of congested towns to ensure trade facilitation. Economic integration pursued in East Africa Community (EAC) opens up for mobility and free movement of people and goods across the Member States.

Table 1: Demographic Indicators

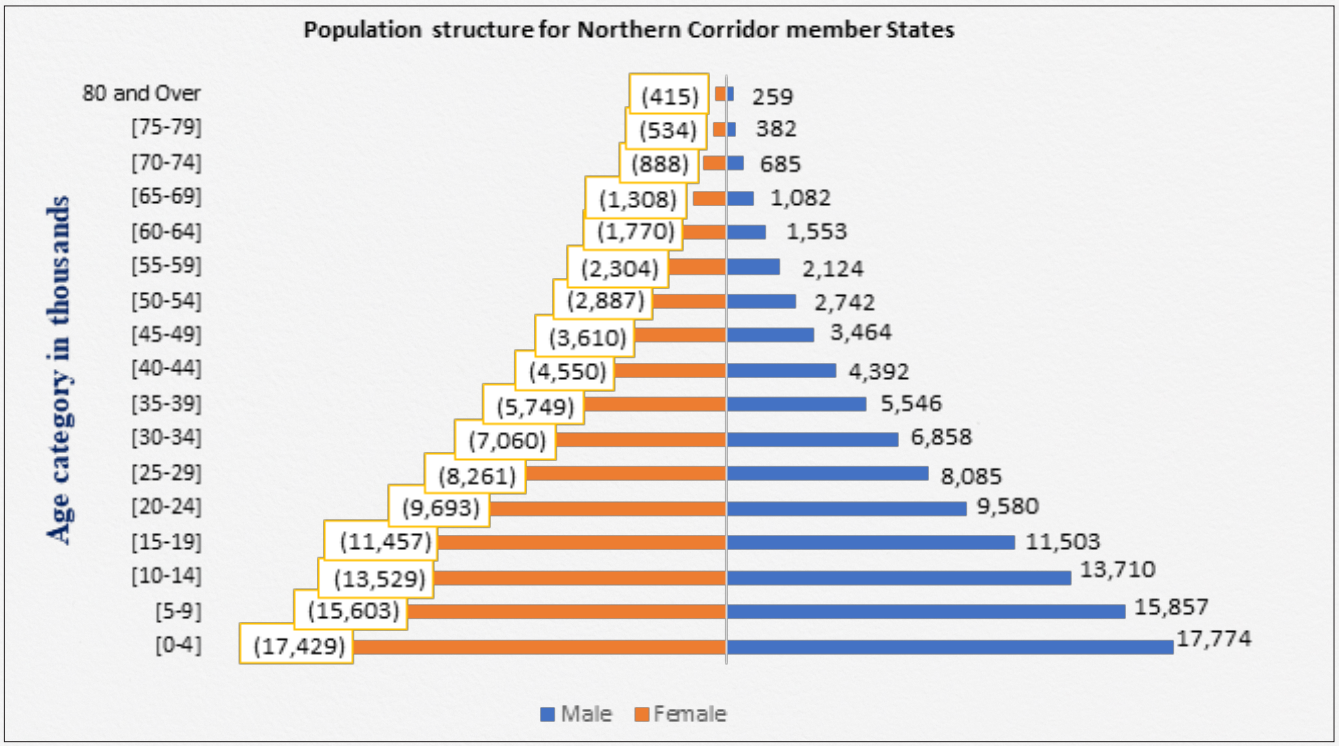
Source: UNCTAD statistics 2017/18/19

Country	2017	2018	2019	Growth rate
Burundi	10,827	11,175	11,531	3.2
DRC	81,399	84,068	86,791	3.2
Kenya	50,221	51,393	52,574	2.3
Rwanda	11,981	12,302	12,627	2.6
South Sudan	10,911	10,976	11,062	0.6
Uganda	41,162	42,729	44,270	3.7
Total	206,501	212,643	218,855	3
World	7,510,990.46	7,594,270.36	7,713,468	

The population pyramid in figure 1 shows changes of age structure in 2018 as well as projected changes to age structure in the future. Statistics further reveal that, Northern Corridor Member States have a youthful population with an estimated 64 percent of its population being either children – age 0 to 14 – or youth – age 15 to 24. Such a youth share in population statistics echoes the demographic realities of Sub-Saharan Africa, in general. With its youth population of more than 70 percent, the Northern Corridor countries need to invest in human capital to harness the demographic dividend of this youth bulge. In this case, the Member States need clear economic strategies for youths, skills and market analysis. Government investment in social support systems is inevitable and has an implication of allocation of resources to other sectors. Economic strategy for the region requires investment in youth, economic skills and market. The large number of young people thus offers the potential to be a force for a positive economic future of the region and market for goods and services. There is need for market analysis given market for youth comes with diverse tastes and preferences for sophisticated goods. Demographic dividend window for each country opens in different years and countries should target to reap from the resulting benefits.

Figure 1:combined population structure for northern corridor member states

Source: UNCTAD statistics



1.3.2 Gross Domestic Product

Gross Domestic Product (GDP) represents the market value of all final goods and services produced within a country during a given period. According to the2020 world economic outlook world economic growth is projected to rise to 3.3 percent in 2020 from an estimated 2.9 percent in 2019 and further to 3.4 percent in 2021. Table 2 presents real GDP annual growth for the Northern Corridor Member States. The Northern Corridor economies remained resilient and recorded a fairly stable growth of combined average of 4.3 percent in 2018.

All countries posted a positive growth when compared to previous year 2017. The economic growth was attributed to enhanced conditions for doing business, growth in agricultural production and increased public and improved global environment. In most countries the GDP growth has been driven by the agriculture sector, followed by industry and service sectors. South Sudan which had a low growth of (–1.1) percent was occasioned by lack of peace and stability, which has disrupted economic activity.

Table 2: Real GDP (annual percentage change)

Source: World Economic Outlook October 2019

GDP growth annual	2017	2018
Burundi	0.0	0.1
DRC	3.7	5.8
Kenya	4.9	6.3
Rwanda	6.1	8.6
South Sudan	-5.5	-1.1
Uganda	5	6.1
Average	**2.4**	**4.3**

1.3.3 Ease of doing business

The ease of doing business index is meant to measure regulations directly affecting businesses. Doing business gathers detailed and objective data on 11 areas/parameters of business regulation, including opening a business, getting a location, assessing finance, dealing with day to day operation and operating in a secure business environment helping governments to analyze economic outcomes and identify what reforms of business regulation have worked, where and why. The scores range from 0 (worst) to 100 (best). Trading across borders which are a critical parameter to multilateral trade logistics records the time and cost associated with the logistical process of exporting and importing goods.

Table 3 shows the performance on ease of doing business score and trading across borders score for the Northern Corridor Member States. All countries under analysis had an improvement in the ease of doing business. Rwanda and Kenya economies witnessed the most notable improvement in ease of doing business which was attributable to implementing business regulatory reforms across some of the parameters. Uganda reduced the time needed to export and import by further implementing the Single Customs Territory, as well as by developing the Uganda Electronic Single Window and the Centralized Document Processing Centre.

Table 3: Ease of doing business global ranking out of 190 countries

Source: World Bank, 2019

Economy	Rank as of doing business out of 190	Overall ease of doing business score (0-100)	Trading across borders score	Ease of Trading RANK
Rwanda	38	76.5	75.0	88
Kenya	56	73.2	67.4	117
Uganda	116	60.0	66.7	121
Burundi	166	46.8	47.3	169
DRC.	183	36.2	3.5	187
South Sudan	185	34.6	26.2	180

Chapter 2

Gender Perspectives in Informal Cross-Border Trade in Rwanda

2.1 Gender Perspectives in Informal Cross Border Trade in Rwanda

The Northern Corridor Transport Observatory data shows that women are major players in informal trade.

According to the World Customs Organization, the definition of informal trade has been the subject of debate in literature over many years since the introduction of the concept in the 1970s, Cantens (2012)[4] . As a result, the subject of informal trade has taken different variations depending on one or several contextual factors. These factors include the legitimacy, legality, declaration or concealment to customs, and lack of capture in official statistics. In spite of this raging debate, there is consensus that informal trade accounts for a significant proportion of many economies worldwide. According to a study by Schneider, et. al, (2010)[5] , informal trade accounted for at least 30 percent of the Gross Domestic Product (GNP) in 107 of the 162 countries they studied. The informal cross border trade tracked by the Northern Corridor comprises that trade not declared formally through customs for goods crossing the border.

Informal trade in the Northern Corridor Member States has been of interest to policy makers. The interest has triggered the inclusion of informal trade in statistics and national accounts systems in the respective countries. Because of the number of small-scale traders involved, informal cross border trade featured as a key source of livelihoods to border communities and therefore an invaluable vector for regional integration and cohesion. Evidence also shows that women are major players in informal trade. In this report it has been established that majority of the traders in informal imports in Rwanda were women. Therefore, it is crucial for policy makers to design interventions that support the ease of doing business for informal traders with special efforts on gender mainstreaming and inclusion in trade.

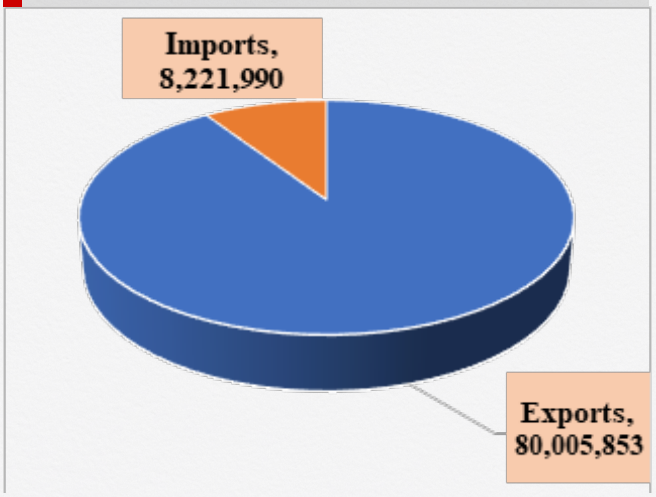
Another key parameter that is observed in ICBT is that a large part of recorded trade deals with processed and unprocessed agricultural, livestock and other food products. It can be inferred that ICBT play a critical distribution role in the agricultural food market in the region and therefore is a not only important facilitator of the agricultural sector in the region but also enhances food security. This implies that trade policies need to support friendly interventions to ensure food and animal safety and other phytosanitary requirements.

This section of the report presents a summary analysis of ICB trade in Rwanda using data available for months of April to December in 2019.

2.2 Volume of ICBT Trade in Rwanda in 2019

The total volume of informal cross border trade in the month of April to December 2019 is shown in Figure 2. Total ICBT trade was recorded at USD 88.2 Million. Informal Exports took the largest share with the value of USD 80 Million which was 90.7% of all recorded informal trade in Rwan-

Figure 2: Rwanda ICBT trade April to December 2019 in USD



4 Cantens, T. (2012), "Informal Trade Practices," WCO Research Paper Series #22, Brussels.

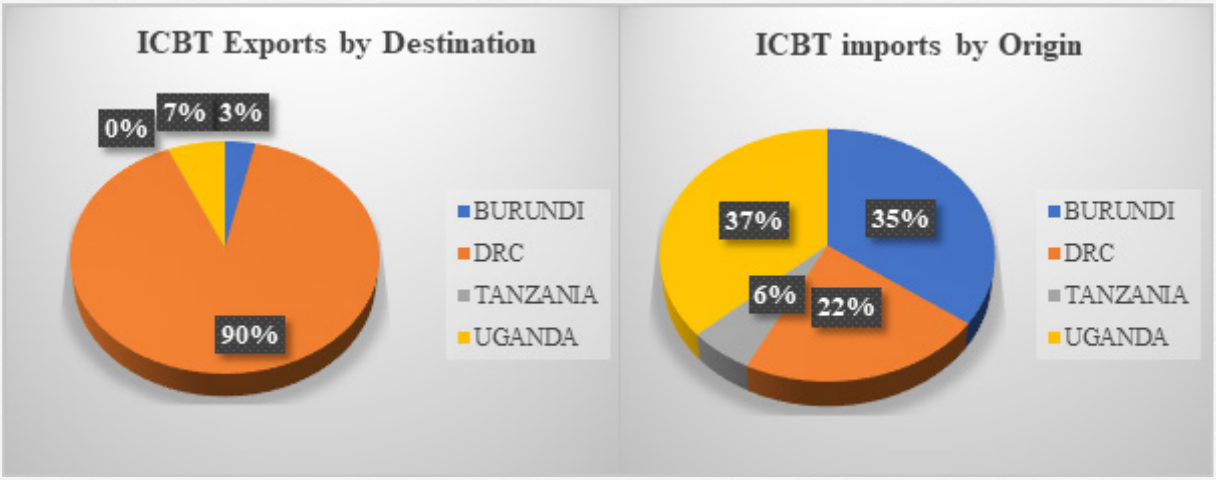
5 Schneider, F., A. Buehn, and C. E. Montenegro (2010), "Shadow economies all over the world: new estimates for 162 countries from 1999 to 2007," Policy Research Working Paper Series 5356, The World Bank, Washington, DC.

da. As shown in figure 3, the Democratic Republic of Congo (DRC) is the largest ICBT export partner for Rwanda accounting for 90% of all export trade while Uganda and Burundi share 10% of informal exports. Uganda took up the shares of informal imports at 37% followed by Burundi (35%), DRC (22%) and Tanzania (6%).

Table 4 presents the Top ten ICBT exports for Rwanda by value. Live cattle and beef meat were the top two largest exports with DRC taking up the largest share of these products. The other products were dried beans, live pigs, cassava flour, pork meat live poultry and maize flour is notable that the top ten informal exports from Rwanda were mainly agricultural and livestock products with DRC being the main market.

DRC is the largest Informal Cross Border Trade export partner for Rwanda accounting for 90% of all export trade.

Figure 3: % share of ICBT Exports by Destination and ICBT imports by Origin
Source: National Bank of Rwanda April to December 2019



On the other hand, Irish potatoes, coffee, rice and sorghum, forestry products, second hand clothing, fresh bananas and Cassiterite[4] are the ten largest informal import products to Rwanda. Just like exports, most of the imports are agriculturally based products mainly from Uganda and Burundi.

Various studies and reports indicate that over 60% of the world's populations draw livelihoods from the informal economy. According to the International Labour Organization trade both men and women are engaged in the informal economy. However, women are more likely to be engaged in the more vulnerable categories of work suggesting that the larger scales of informal trade are tipped against women.

Table 4:Top Ten ICBT exports in USD (April-December 2019)-Rwanda
Source: National Bank of Rwanda April to December 2019

TYPE OF GOODS	BURUNDI	DRC	TANZANIA	UGANDA	Total exports
Bovine cattle live	360,292.31	6,376,825.82	-	1,380,747.52	8,117,865.64
Beef meat	2,005.66	7,106,618.23	-	3,427.13	7,112,051.02
Dried Beans	43,115.17	3,257,259.25	342.15	1,372,716.19	4,673,432.75
Pig Live	59,090.25	4,182,510.46	-	16,065.55	4,257,666.26
Cassava flour	19,522.16	4,187,989.02	-	71.29	4,207,582.47
Pork Meat	66.80	4,015,674.19	-	84.19	4,015,825.18
Dried fry of Tanzania	123,088.20	3,544,360.72	-	142.21	3,667,591.13
Poultry live	4,683.21	3,129,705.08	12.35	135,087.77	3,269,488.41
Maize flour	71,965.08	2,920,403.06	-	7,492.67	2,999,860.81

4 Cassiterite is a tin oxide mineral which is the most important source of tin.

Table 5: Top ten ICBT imports in USD (April-December 2019)- Rwanda

Source: National Bank of Rwanda April to December 2019

TYPE OF GOODS	BURUNDI	DRC	TANZANIA	UGANDA	Total Imports
Seed Irish potato	43,172.97	6,646.54	0.08	803,808.93	853,628.52
Coffee (parches)	68,541.90	601,131.67	50.62	7,743.16	677,467.35
Irish potatoes	523,912.69	16,068.64	77.94	113,729.35	653,788.63
Husked rice	200,821.89	21,032.17	392,001.02	999.63	614,854.72
Sorghum	-	23,068.98	3,996.01	517,248.13	544,313.13
Other forestry products	7,324.07	334,447.73	44.77	15,787.86	357,604.43
Dried Beans	196,984.31	44,923.00	3,651.70	37,201.43	282,760.44
Second-Hand Clothing	96,912.46	6,398.93	47.66	162,127.58	265,486.64
Cassiterite	255,706.03	-	-	-	255,706.03
Fresh sweet Bananas	30,898.44	142,458.97	26,779.28	54,287.01	254,423.71

Analysis of the 2019 data on Rwanda ICBT reveals that women form majority of those recorded as having crossed the borders while engaged in informal trade. Between April- December 2019, monthly average of 61,646 incidences of women informal traders crossing the borders were recorded compared to 37,064 men. This indicates that ICBT is an important source of employment for women in Rwanda. While these statistics may seem encouraging, further analysis of the data shows that the large numbers of women are mainly concentrated in ICBT imports and have very low turnover in terms of trade value compared to men who dominate high value exports as shown in figures 5 and 6.

Figure 4: Rwanda Top Ten ICBT Imports and exports

Source: National Bank of Rwanda April to December 2019

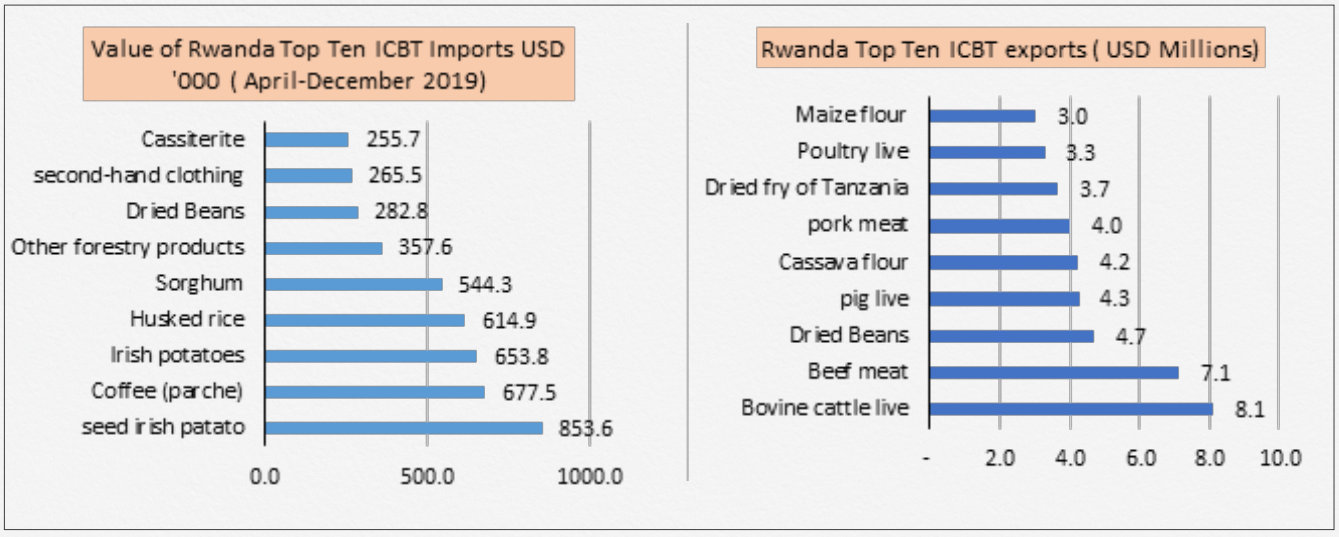


Figure 5 shows gender participation in ICBT imports in Rwanda in 2019. Evidently, the participation of women in ICBT imports far outstrips men peaking at a high of 63,542 females against 28,084 men in October 2019. Women account for two thirds of informal imports is a clear mark of the importance of this segment in empowering women in trade.

However, ICBT imports by women accounted for only 9% of the total ICBT trade the period under review. This implies that a large number of women are engaged in lower value goods trade than men. Again, most of the products that dominate imports are un-processed agricultural products that fetch comparatively lower prices, are perishable and amenable to prices variations in the market. Women are therefore faced with multiple challenges in ICBT that require strategic interventions.

Table 6: Rwanda ICBT data for females and males 2019

Source: National Bank of Rwanda April to December 2019

Period	Female	Male
Apr-19	66,176	40,121
May-19	70,826	42,943
Jun-19	58,660	39,811
Jul-19	59,458	35,439
Aug-19	60,160	33,017
Sep-19	45,087	27,070
Oct-19	70,172	41,751
Nov-19	64,667	37,628
Dec-19	59,611	35,800
Monthly Average	61,646	37,064

Women are faced with multiple challenges in Informal Cross Border Trade that require strategic interventions.

Participation of women in ICBT imports far outstrips men peaking at a high of 63,542 females against 28,084 males in October 2019.

Figure 6 show that men dominated the ICBT exports in Rwanda in 2019. Despite the fact that the number of traders recorded in exports is far much lower than those in imports, it is noteworthy that the value of imports exports was over USD 80 Million accounting for 90% of all informal cross border trade. What comes to the fore is that men dominate high value trade compared to women gauging from the data that shows that over two thirds of traders in informal exports were men. This trade is dominated by products such as livestock (cattle, poultry and Pigs) and meat (beef and Pork) and maize and cassava flour. These products fetch more money in the market compared to the products that women trade in. In addition, the average earning for exports are much higher suggesting that men who form the majority of exporters could potentially be earning more than their female counterparts.

Generally, data on ICBT trade shows that men still dominate ICBT export trade that accounts for the largest value of informal trade. Women are more visible in informal imports in Rwanda. It is incumbent upon policy makers to ensure that women are supported to enhance incomes and access more opportunities for trade including in exports. It is not in contention that women informal cross border traders face a number of unique challenges that limit access to opportunities that would enhance their incomes. Some of the challenges that call for intervention include: Limited awareness on the procedure and other requirements for cross border trade especially exports, safety & security, limited access to financial support, limited access to technology and lack of information on markets among others.

Figure 5:Gender Participation in Rwanda ICBT imports

Source: National Bank of Rwanda April to December 2019

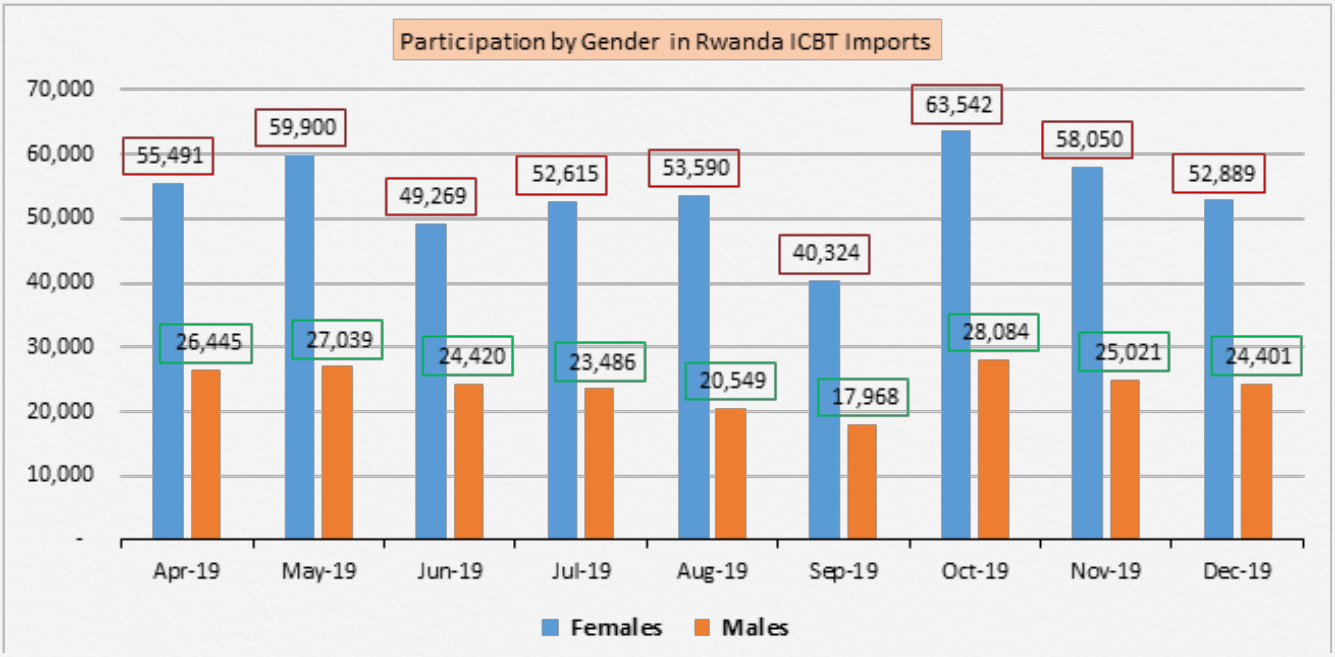
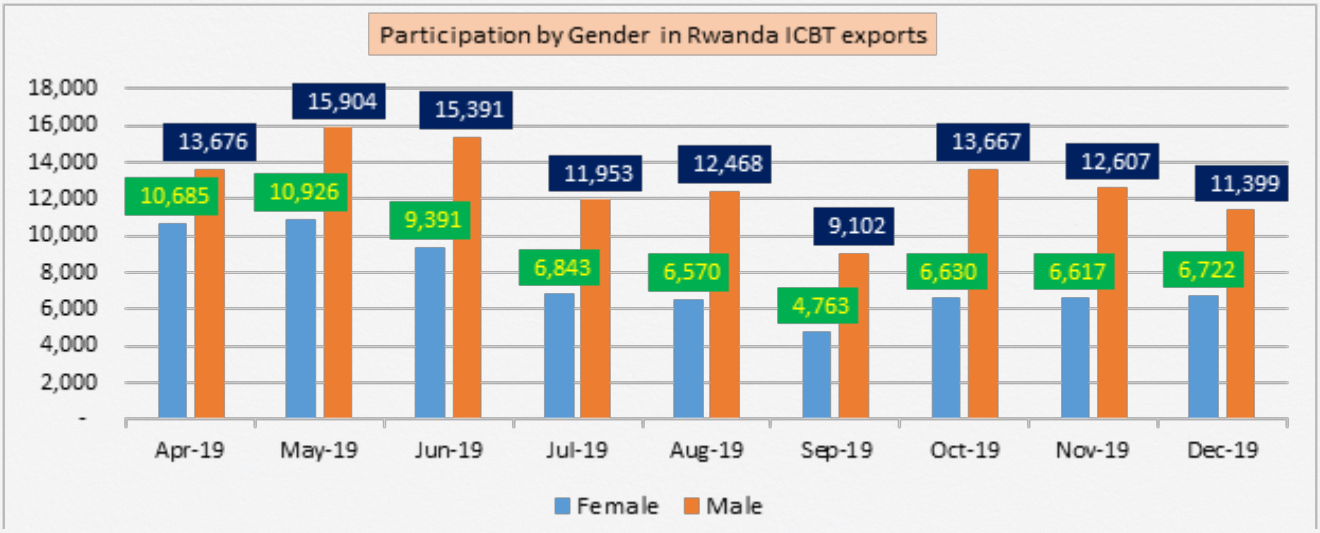


Figure 6:Gender Participation in Rwanda ICBT Exports

Source: National Bank of Rwanda April to December 2019




PARIS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FILE PHOTO

Chapter 3

Quality of Corridor Infrastructure

3.1 Introduction

The Northern Corridor Transport network consists of modes of surface transport route linking the landlocked Countries to the Port of Mombasa. These surface modes include road, rail, pipeline and inland waterways. With the launch of the Mombasa Port and Northern Corridor Community Charter, key stakeholders are committed to modernizing the primary transport infrastructure of the port and corridor at large to facilitate trade in the region. The existing infrastructure along the Northern Corridor consist of physical transport infrastructure that is crucial for trade facilitation and provide logistics services that reduce the trade costs; as well as soft infrastructure to facilitate faster clearance and processing of goods.

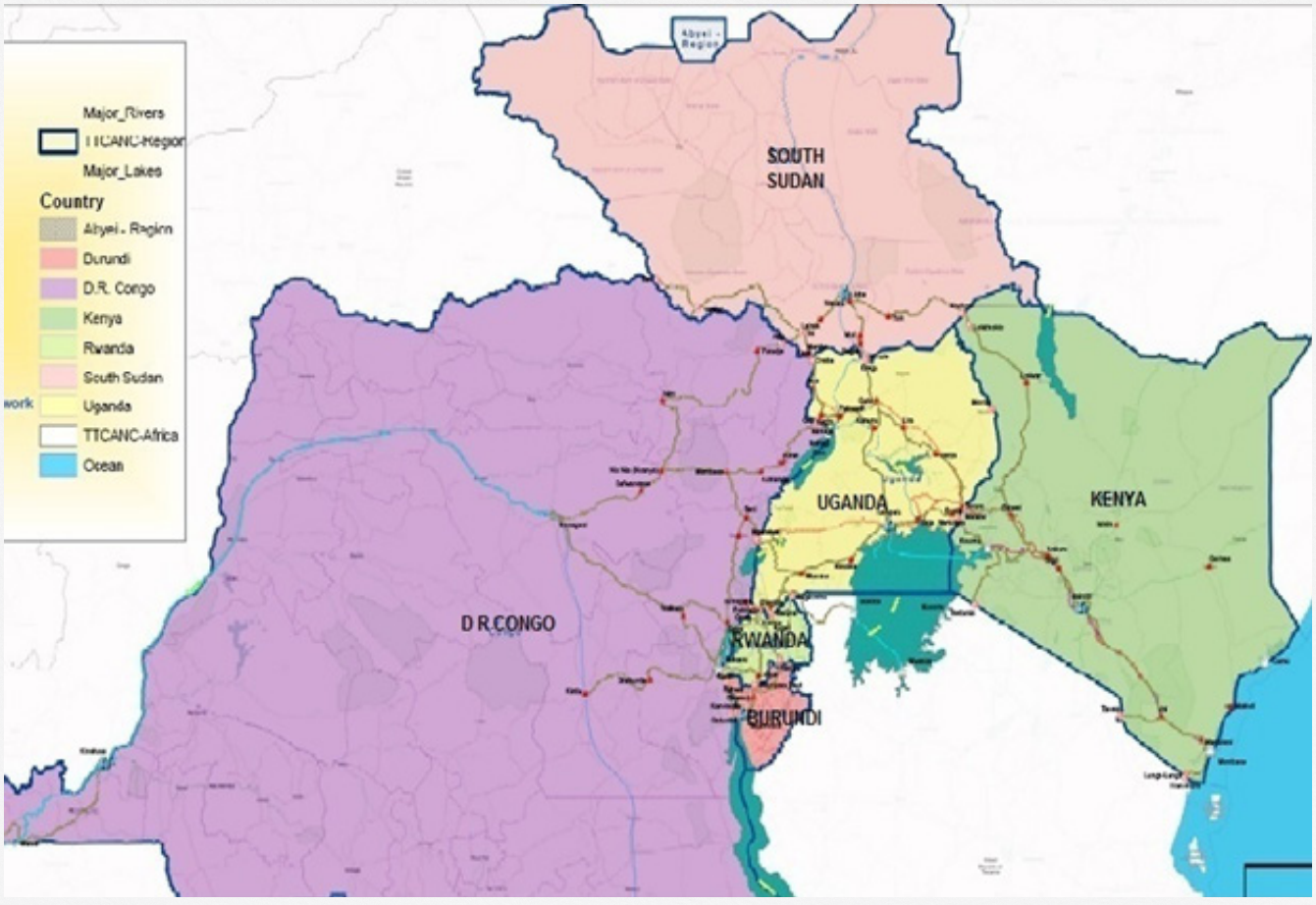
Among the physical transport infrastructure are the Seaport of Mombasa, road network, weighbridges, borders & one stop border points, railway, pipeline, inland waterways and inland container depots. This chapter focuses on quality of physical infrastructure along the Northern Corridor.

3.2 Mombasa seaport

The Port of Mombasa is the key entry and exit point for cargo belonging to a vast hinterland that includes Burundi, DRC, Kenya, Rwanda, South Sudan, Uganda, Tanzania, Somalia and Ethiopia. The Port of Mombasa comprises of Kilindini Harbour, Port Reitz, the Old Port, Port Tudor and the whole of the tidal waters encircling Mombasa Island. The port has a capacity of 2.65 million TEUs[4] . Kilindini Harbour is a large, natural deep-water inlet with a depth of 45–55 meters at its deepest center, although the controlling depth is the outer channel in the port approaches with a dredged depth of 17.5 meters (57 ft).

The port is equipped with two container terminals 1 and 2. Terminal 1 has three berths (No. 16, 17 and 18) whereas; Terminal 2 has two berths (No. 20 and 21). The 2nd container terminal is 15 meters deep with berth 20 having a length of 210 meters; berth 21 having a length of 350 meters wide. On the other hand, berths 16-19 have a total length of about 840 meters . Other facilities and equipment include; 2 bulk oil jetties, 2 bulk cement berths with 3 silos and 10 Conventional Cargo berth. Further, it is the busiest port in East & Central Africa with an annual growth cargo throughput of about 10 percent and it is among the top ten fastest growing container ports in Africa.

Figure 7:Northern Corridor infrastructure
Source: NCTTCA transport observatory



4 KPA Strategic Plan 2018-2022

Table 7: Mombasa Seaport Berths
Source: KPA website

Kenya Ports Authority berths								
Berth No	Berth Type	Length (Km)	Draft (M)	Quay Level above CD (M)	Apron Depth (M)	Restriction	Bollard	DIR degree
1	Conv/Pass/Roro	173.1	10.50	5.486	17.50	-	1-8/9	177-357
2	Conv/Pass	166.4	10.50	5.486	17.50	-	8/9-15/16	177-357
3	Conv.	166.4	10.50	5.486	17.50	-	15/16-22/23	171-350
4	Conv.	190.2	10.50	5.486	-	-	22/23-30/31	164-344
5	Conv/Roro	178.6	10.50	5.486	-	-	30/31-38/39	164-344
7	Conv.	208.2	10.00	5.486	20.42	-	38/49	122-302
8	Conv.	170.7	11.50	5.486	20.42	*Tidal	49-56/57	161-341
9	Conv.	179.8	11.50	5.486	20.42	*Tidal	56/57-64/65	154-334
10	Conv.	204.2	10.00	5.486	20.42	*Tidal	64/65-73/74	154-344
11	Conv.	184.4	10.00	5.486	-	-	75-85	077-257
12	Conv.	182.9	10.00	5.486	-	-	85-95/96	090-270
13	Cont.	174.0	10.50	5.486	-	-	95/96-105/106	090-270
14	Cont.	181.4	10.00	5.486	-	-	106/106-116/117	081-261
16	Cont.	177.7	*12.50	5.486	-	-	116/117-128	060-240
17	Cont.	182.9	*12.50	5.486	-	-	128-139	060-240
18	Cont.	239.0	*12.50	4.486	-	-	139-152	060-240
19	Cont.	240.0	*13.50		-	*Tidal	152-160	060-240
20	Cont.	210	9.9	5.5	CD-11		160-166	072-252
21	Cont.	350	14.0	5.5	CD-15.0		166-181	072-252

*Subject to tide permitting

3.3 Road network along the Northern Corridor

The Northern Corridor road networks cover approximately 12,707 Km in length distributed as follows: 567 Km in Burundi; 4,162 Km in DRC; 1,328.6 Km in Kenya, 1,039.4 Km in Rwanda; 3,543 Km in South Sudan and 2,072 Km in Uganda. Assessing the status and road conditions is crucial not only for seamless movement of goods, services and people, but also for safety, road service life, fuel consumption and maintenance costs among others. There are various parameters that are widely used to assess road surface conditions among them International Roughness Index (IRI). IRI is a standardized and widely used parameter to quantify road roughness. IRI is the most commonly used worldwide index describing road roughness and is used for evaluating and managing road systems.

A low IRI value indicates road's smoothness (excellent road condition) and a high value indicates that the road has distresses, such as potholes or deep depressions (poor condition). The IRI is based on simulation of the roughness response of a car traveling at 80 km/h and it is the reference average rectified slope, which expresses a ratio of the accumulated suspension vertical motion of a vehicle, divided by the distance traveled during the test. The IRI is a numeric that summarizes roughness qualities impacting vehicle response.

The IRI is a dimensionless measure with units (mm=m).

The analysis provided below assesses the quality of roads within the Northern Corridor Member States as defined by the International Roughness Index (IRI) in respective Member States. The IRI description is presented in table 8 as follows:

Table 8: International Roughness Index (IRI).

IRI SCALE	ROAD CONDITION DESCRIPTION
1 to 1.5	Excellent
1.6 to 3	V. Good
3.1 to 4	Good
4.1 to 6	Fair
6.1 to 8	Poor

3.3.1 Road condition in Kenya

Protocol Number 2, Section 1 (Article 4 a) of the Northern Corridor Transit and Transport Agreement provides designated road traffic routes for use in Kenya to facilitate inter-state trade along the Corridor. Table 9 presents designated Northern Corridor transit routes by road in Kenya as per the Agreement:

The table 10 provides the status of road conditions in Kenya measured by International Roughness Index from Mombasa to Malaba and Mau Summit to Kisumu and Busia respectively. From the analysis, about 88 percent of roads in Kenya are in good condition, paved and tarmac with an average IRI of below 2.9 mm/m. Only 8 percent of the roads are in fair condition while 4 percent are in bad condition. The ongoing road infrastructure upgrading is expected to bring more improvements. Furthermore, there are ongoing plans on expansion of Nairobi- Mombasa Highway.

Table 9: Transit Road routes in Kenya

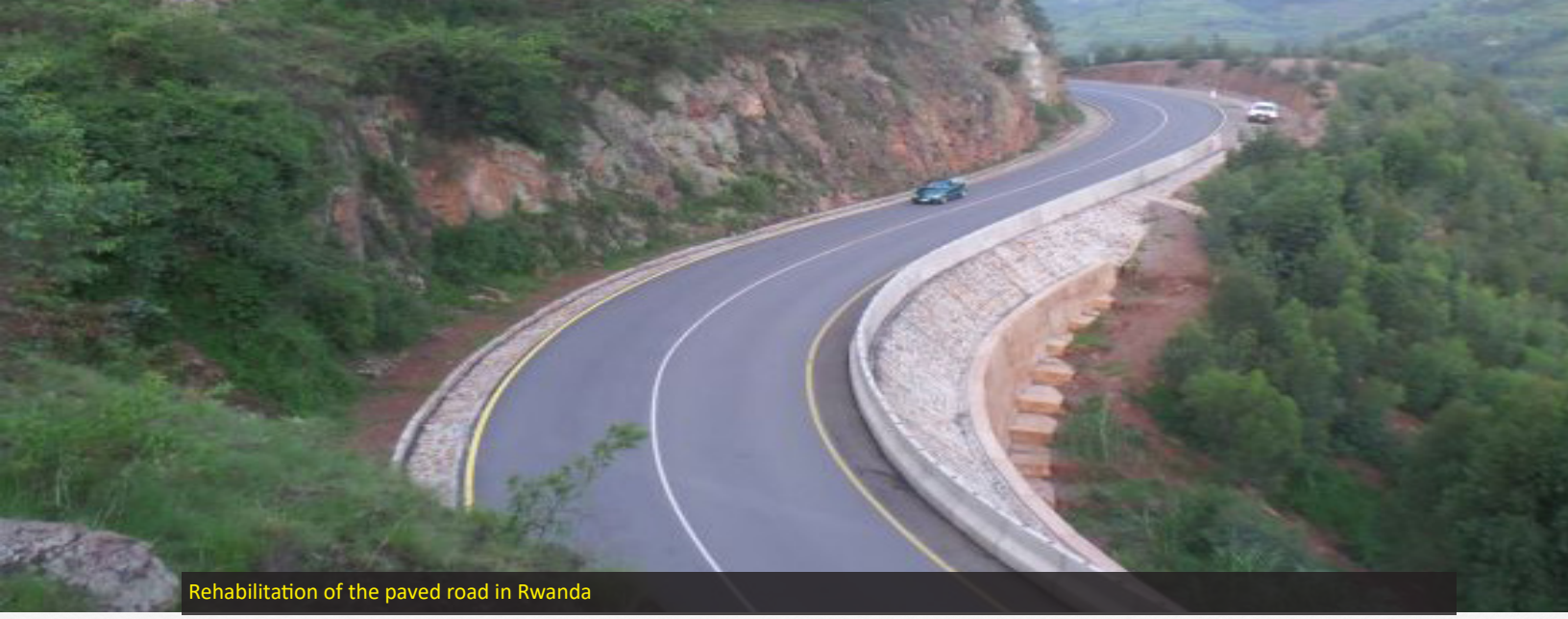
Source: Northern Corridor Agreement

From	By way of	To
Mombasa	Nairobi-Kisumu	Busia
Mombasa	Nairobi-Eldoret	Malaba
Mombasa	Nairobi	Kisumu
Mombasa	Nairobi-Eldoret	Lokichogio
Mombasa	Voi	Taveta
Mombasa	Nairobi	Namanga
Mombasa	Diani	Lunga Lunga
Mombasa	Nairobi-Narok	Isebania
Mombasa	Nairobi	Lwakhakha

Table 10: Road condition in Kenya along the Northern Corridor from the port of Mombasa

Source: KENHA December 2019

Route	Section	Length (Km)	IRI)	Condition
Mombasa-Eldoret-Malaba	Mombasa-Miritini	15.02	Av. IRI = 8.5 mm/m	Bad
	Miritini-MajiYaChumvi	34.08	Av. IRI = 4.16 mm/m	Fair
	MajiYaChumvi -Bachuma Gate	56.09	Av. IRI = 2.1 mm/m	Good
	Bachuma Gate-Voi	58.06	Av. IRI = 2.9 mm/m	Good
	Voi- Mtito Andei	98.12	Av. IRI = 3.3 mm/m	Fair
	Mtito Andei -Sultan Hamud	122.7	Av. IRI = 2.8 mm/m	Fair
	Sultan Hamud- Roroni	137.5	Av. IRI = 2.3 mm/m	Good
	Rironi -Gilgil	86.4	Av. IRI = 2.6 mm/m	Fair
	Gilgil- Mau summit	99.1	Av. IRI = 2.55 mm/m	Fair
	Mau summit-Timboroa	42.3	Av. IRI = 2.2 mm/m	Good
	Timboroa – Eldoret	62.2	Av. IRI = 2.4 mm/m	Good
	Eldoret – Webuye	69.4	Av. IRI = 2.32 mm/m	Fair
	Webuye – Malaba	59.7	Av. IRI = 2.3 mm/m	Fair
Mau Summit - Busia	Mau Summit – Kisian	129.2	Av. IRI = 2.24 mm/m	Fair
	Kisian - Kisumu	13.8	Av. IRI = 2.25 mm/m	Fair
	Kisumu-Busia	110.2	Av. IRI = 2.46 mm/m	Fair



Rehabilitation of the paved road in Rwanda

3.3.2 Road condition in Rwanda

Protocol Number 2, Section 1 (Article 4 c) of the Northern Corridor Transit and Transport Agreement provides designated passage of traffic in transit by road through Rwanda to facilitate inter-state trade along the Corridor.

From table 11 below, most roads in Rwanda about 93 percent along the Northern Corridor are in good condition. Periodic maintenance is carried out under the financing of Government of Rwanda to ensure that the roads remain in good condition. For the remaining 7 percent, roads are under rehabilitation and widening of lanes as well as upgrading works from earth to paved roads to reduce traffic congestion. These road sections under rehabilitation and widening as well the ones under upgrading works from earth to paved roads includes; Kigali (City centre)-Remera NR4 (8.267 km) road under rehabilitation and widening from two to four lanes through financing of the Government of Rwanda and China EXIM Bank.

Works for this road section is substantially completed while waiting other road sections to be completed for the whole project provisionally handed over. Kicukiro –Nyanza -Mugendo NR5 (12.23km) road under rehabilitation and widening from two to four lanes through the financing of the Government of Rwanda and China EXIM Bank. The road section is part of the Bugesera International Airport Expressway project. Works progress is at 46 percent and the project expected completion time is March 2021. Rukomo-Nyagatare NR19 (73.3km) road upgrading works from earth to two lanes paved road. The project progress is at 55.13 percent and expected to be completed by January 2021. The project is under financing of Government of Rwanda, Arab Bank for Economic Development in Africa (BADEA), OPEC Fund for International Development (OFID), Saudi Fund for Development (SFD) and Kuwait Fund for Arab Economic Development (KFAED). Rehabilitation and widening of Nyagatare-Ryabega (NR19) road section. This road section is part of Ryabega-Nyagatare-Rukomo-Gicumbi-Base road network. Nyagatare-Ryabega road section recorded bad road condition in the 2018/19 fiscal and has not have standard road width. Rehabilitation and widening of this road section is done through financing of Nyagatare-Rukomo road upgrading project. Rehabilitation and widening of Rubengera-Rambura road NR15 (15.15km) road section is ongoing through financing of Government of Rwanda and Saudi Fund for Development. The contact started in November 2019 and will be completed in May 2021. This road section is part of Rubengera-Muhanga (61.5km) paved road (NR15).

Further, Rwanda is developing Road Asset Management System Project that will provide the necessary decision support to ensure cost-effective maintenance of existing roads, and provision of new road infrastructure, making the most efficient possible use of scarce resources. The envisaged RAMS is regarded as a suite of interactive applications, management procedures and processes to Monitor the performance of the road network, data management and Improve communications between road service providers and road users. The project is under financing of Government of Rwanda and the African Development Bank (AfDB). The envisaged RAMS is regarded as a suite of interactive applications, management procedures and processes to:

- Monitor the performance of the road network
- Acquire, store and analyse data for planning, execution and control purposes
- Improve the planning, programming and budgeting processes related to road provision and maintenance
- Determine appropriate maintenance and design standards, and
- Improve communications between road service providers and road users.

RAMS will have the following sub-systems:

- Road Location Referencing System (RLRS)
- Road Proclamation System (RPS)
- Traffic Management System (TMS)
- Pavement Management System (PMS)
- Unsealed Road Management System (URMS)

- Bridge/Structures Management System (BMS)
- Geometric/Capacity Management System (GMS)
- Maintenance Management System (MMS)
- Project Control System (PCS)
- Network Integration Module (NIM)
- Road Accident/Incident Information System (RAIS)
- Road Reserve Management System
- Public Transport System.

Status and condition of roads is crucial for seamless movement of goods, services and people, for safety, road service life, fuel consumption and maintenance costs among others

Table11: Road condition in Rwanda in 2019

Source: MININFRA, February 2020

Road Section	Length (Km)	IRI	Current road Condition (%)	N° of lanes	Lane width (m)	Condition
Kigali-Muhanga-Huye-Akanyaru Haut (NR1)	157.839	1.88	98	2	3.5	Good
Kigali-Musanze-Rubavu (NR2)	150.015	1.71	99	2	3.5	Good
Kigali-Rukomo-Gatuna (NR3)	78.01	1.14	100	2	3.5	Good
Kigali-Remera (NR4)	8.267	Under rehabilitation and widening into four lanes				
Kigali (Remera)-Kayonza (NR4)	69.292	1.58	99	2	3.5	Good
Kicukiro-Nyanza-Mugendo (NR5)	12.23	Under rehabilitation and widening into four lanes				
Kicukiro (Mugendo)-Nyamata-Nemba (NR5)	49.751	1.39	99	2	3.5	Good
Huye-Nyamagabe-Kitabi-Pindura (NR10)	85.93	1.855	100	2	3.5	Good
Pindura-Buhinga (NR10	29.342	2.20	95	2	3.5	Good
Ruhwa-Kamembe-Buhinga-Tyazo-Bwishura-Rubengera-Rutsiro-Pfund-aRubavu (NR11)	260.9	1.97	99	2	3.5	Good
Muhanga-Nyange-Rubengera-(NR15)	61.454	3.89	61	2	3.5	Good
Muhanga-Ngororero-Mukamira (NR16)	98.764	1.86	100	2	3.5	Good
Musanze-Kidaho-Cyanika (NR17)	25.1	2.38	89	2	3.5	Good
Base-Gicumbi-Rukomo (NR19)	51	2.22	100	2	3.5	Good
Rukomo-Nyagatare (NR19)	73.3	Under rehabilitation and widening into four lanes				
Nyagatare-Ryabega (NR19)	10.7	3.73	63	2		Good
Kayonza-Gabiro-Ryabega-Kagitumba (24)	116.3	1.44	100	2	3.5	Good

3.3.3 Road condition in Burundi

Protocol Number 2, Section 1 (Article 4d) of the Agreement provides designated routes for the passage of traffic in transit by road through Burundi along the Northern Corridor are: Akanyaru-Haut (through Kayanza – Bujumbura) to Gatumba, Gasenyi (through Kirundo – Ngozi) to Bujumbura, Ruhwa (through Rugombo - Nyamitanga) to Bujumbura, Kanyaru-Bas (through Ngozi - Nyangungu) to Gitega to Kobero/ Kabanga.

Majority of the roads in Burundi are two lanes with road width of 3 meters except Namitanga-Bujumbura route and Ngozi-Gitega route which have the road width of 3.5 meters. Further, most of the road surface is paved and asphalt concrete. 41 percent of the roads in Burundi are in good condition; 41 percent in fair condition and 18 percent (93 Kilometers) of the road are still under bad condition as presented in table 12 below. Gatumba - Frontière RDC (Rusizi II) border is under rehabilitation and expansion works on the 3-kilometer road are ongoing as well as construction works for the bridge on Rusizi II River are completed. Work is ongoing for the development to bitumen standards of the Nyakararo-Mwaro-Gitega Road (RN18)-Phase II, Kibumbu-Gitega section. The work is carried out over a length of 24 km under the funding of the African Development Bank's. During the period April to December 2019, four black spots were identified on Ngozi – Bujumbura route.

Table 12: Status of road sections in Burundi

Source : « Agence Routière du Burundi », February 2020

Route / Road section	Length (Km)	Good	Fair	Bad
Kanyaru Haut- Kayanza- Bugarama- Gatumba	125	16	109	0
Kanyaru Haut- Kayanza	15		15	
Kayanza- Bugarama	59	0	59	0
Bugarama-Bujumbura	35	0	35	0
Bujumbura - Gatumba	13	13	0	0
Gatumba - Frontière RDC (Rusizi II)	3	3	0	0
Gasenyi -Kirundo-Ngozi- Kayanza	139	35	104	0
Gasenyi - Kirundo	35	35	0	0
Kirundo - Gashoho	32	0	32	0
Gashoho - Ngozi	40	0	40	0
Ngozi - Kayanza	32	0	32	0
Ruhwa- Rugombo-Nyamitanga to Bujumbura	80	75	0	5
Ruhwa - Nyamitanga	50	50	0	0
Nyamitanga - Bujumbura	30	25	0	5
Kanyaru bas - Ngozi-Nyangungu to Gitega	172	84	0	88
Kanyaru bas - Ngozi	23	0	0	23
Ngozi - Gitega	84	84	0	0
Gitega - Bujumbura	65	0	0	65
Total Length in Km	**516**	**210**	**213**	**93**

In Burundi, most of the road surface is paved and asphalt concrete

3.3.4 Road condition in DRC

Protocol Number 2, Section 1 (Article 4e) of the Agreement provides designated routes for the passage of traffic in transit by road through DRC along the Northern Corridor.

From table 13 below approximately 42 percent (1,752 Km) of the road condition in DRC is in a good state, 29 percent (1,213 km) in fair condition and 29 percent an equivalent of 1,207 km is in bad state. The majority of the roads in DRC are two lanes with road width of 3 to 3.5 meters. However, most of the sections under bad state were reported to be under partial rehabilitation and will be better when the upgrade is completed.

Table 13: Status of road sections in DRC
Source: Office De Routes, DR Congo, February 2020

ROUTE	Road Classification	Pavement type	Length (Km)	Road condition (km)		
				Good	Fair	bad
1. AXE BUKAVU-KINDU-KISANGANI						
BUKAVU -BURHALE	RN2	RT	55	30	0	25
BURHALE - SHABUNDA - LUBILE	RP503	RT	363	42	64	257
LUBILE - KALIMA - MALI	RN32	RR	117	76	38	3
MALI - KINDU	RN31	RR	36	16	20	0
MALI - LUBUTU	RN31	RT	318	62	52	204
LUBUTU - KISANGANI	RN3	RR	297	141	111	45
LUBUTU - OSOKARI - WALIKALE	RN3	RR	219	192	27	0
WALIKALE - HOMBO	RN3	RT	107	0	0	107
HOMBO - MITI	RN3	RR	93	46	0	47
2. AXE BUKAVU-UVIRA			-			
BUKAVU - KAMANYOLA	RN5	RR/RT	55	35	9	11
KAMANYOLA - UVIRA	RN5	RR	86	56	14	16
UVIRA - KAMVIVIRA - FRONT BURUNDI	RN30	RR	17	10	7	0
3.AXE KISANGANI - BENI -KASINDI			-			
KISANGANI - NIANIA - KOMANDA	RN4	RT	650	254	163	253
KOMANDA - LUNA	RN4	RT	65	2	29	34
LUNA - BENI	RN4	RR	60	60	0	0
BENI - KASINDI	RN4	RT	80	45	35	0
4.AXE KOMANDA - BUNIA - MAHAGI			-			
KOMANDA - BUNIA	RN27	RT	71	36	31	4
BUNIA - MAHAGI - GOLI - FR OUGANDA	RN27	RT	190	35	69	86
5.AXE KISANGANI - ISIRO - ARU			-			
KISANGANI - NIANIA	RN4	RT	PM			
NIANIA - ISIRO	RN26	RT	232	139	93	0
ISIRO - WATSA - ARU	RN26/RP434	RT	422	208	153	61
6.AXE BENI - BUTEMBO - GOMA - BUKAVU			-			
BENI - NDOLUMA	RN2	RT	132	50	72	0
NDOLUMA - RUTSHURU - GOMA	RN2	RR	199	134	65	0
GOMA - SAKE - MINOVA	RN2	RR/RT	58	23	23	12
MINOVA - KAVUMU - BUKAVU	RN2	RR/RT	150	23	85	42
RUTSHURU - BUNAGANA	RN28	RT	27	19	8	0
RUTSHURU - ISHASHA	RP1035	RT	63	18	45	0
TOTAL			**4,162**	**1,752**	**1,213**	**1,207**
			100%	**42%**	**29%**	**29%**

RN: National road
RR: Asphalt road
RP: Regional roads
RT: earth-surfaced road

3.3.5 Road condition in South Sudan

South Sudan is facing grave infrastructure challenges related to repairing aging roads with limited resource allocation. Table 14 show that, the majority at 95 percent of the corridor road in South Sudan is in bad condition and 5% is in fair condition.

However, through recent government oil-for-road programme, major routes along the Northern Corridor have been contracted for development which is currently underway.

The following infrastructure development is currently going on along the Northern Corridor route in South Sudan:

Road infrastructure development currently going on in South Sudan

Table 14: Condition of Road Sections in South Sudan in 2019:
Source: South Sudan Road Authority, February 2020

Route / Road	Pavement type	Configuration	Length (Km)	Works Status	Planned	Road condition (Km)/IRI		
						Good	Fair	Bad
Nimule - Nesitu - Juba	Paved	Two-lane	192	Constructed	Maintenance		192	
Nadapal - Kapoeta - Torit - Nesitu	Gravel	Two-lane	335	Designed	Awaiting construction			335
Juba - Lainya - Yei - Kaya	Gravel	Two-lane	225	N/A	N/A			225
Yei - Maridi	Gravel	Two-lane	180	N/A	N/A			180
Juba - Mundri - Maridi - Yambio - Nabiapai	Gravel	Two-lane	427	N/A	N/A			427
Yambio - Tambura - Wau - Aweil	Gravel	Two-lane	591	N/A	N/A			591
Wau - Kwacjok - Agok - Mayom - Bentiu	Gravel	Two-lane	520	N/A	N/A			520
Juba - Bor - Ayod - Malakal	Gravel	Two-lane	614	N/A	N/A			614
Mundri - Rumbek - Wau	Gravel	Two-Lane	459	N/A	N/A			459
TOTAL (Length) in Km			**3,543**	**0**	**0**	**0**	**192**	**3,351**

Nimule-Elegu border post between Uganda and South Sudan

- The New Juba Bridge is substantially completed with all the piers fully installed and laying of decks is almost complete. Construction of approach roads, guardrails and langrands has started and is expected to finish before the end of the year. The bridge is slated for opening in the middle next year, 2021.
- The old bridge is undergoing overhauling. The broken decks and piers are being repaired.
- The roads Juba-Bor, 193 km, Kaya-Yei-Juba, 225km and Juba-Yirol-Rumbek, 412km are currently under construction being upgraded to asphalt level.

Nevertheless; the country is yet to get enough support from international partners to help improve its roads as is seen in other member countries.

Trucks are expected to comply with the set vehicle load limits to protect the road infrastructure

3.4 Weighbridges along the Northern Corridor

Road construction and maintenance consume a large proportion of the national budget, while the costs borne by the public for vehicle operation and depreciation on bad roads are even greater. It is therefore vitally important that policies be pursued which will protect roads against damage, minimize total transport costs for the individual road links and for the road network as a whole. Overloading[4] is among the key determinants of road deterioration. Overloading on axle leads to faster deterioration of the road pavement while exceeding vehicle load gross limits destroys bridges. Therefore, trucks are expected to comply with the set vehicle load limits to protect the road infrastructure.

In order to enhance the movement of cargo through the Northern Corridor as well as standardize weight measure, Member States consented to implementation of the East Africa Community Vehicle Load Control Act, 2016, (EAC VLC Act 2016) which aims to protect roads by curbing overloading. The law, which was gazetted in 2016, limits weights on the roads with tough penalties prescribed against those found guilty of contravening the laid down regulations. Vehicles with a gross weight of 3.5 tonnes and over have to be weighed at weighbridges they pass through and any transporter who bypasses, absconds or evades a weighing station is liable for prosecution. The maximum axle weight for super single tyres has been lowered to 8.5 tonnes, from 10 tonnes. The law puts the maximum gross vehicle axle load[5] at 56 tonnes but this depends on the number of axles on the truck and truck configuration.

4 Overload" means an axle load, a load from a group of axles, or gross vehicle weight on a vehicle that exceeds the prescribed legal limits for the vehicle or for any particular part of public roads.

5 axle load" means the sum of the wheel weight loads of all wheels on any axle;

The Act allows for redistribution of cargo to within tolerance before being re-weighed for any vehicle established to be overloaded on the Axle or Axle Group but is within the prescribed Gross Vehicle Weight as per the Axle configuration. Such vehicles will not be charged. However, a vehicle which is overloaded on the Axle and Axle Group and cannot redistribute its cargo to within allowable axle weight tolerance limits shall be charged. The axle load tolerance allowance is 5 percent on the Legal Axle and Axle Group Weights Limits to take care of possible shifting of cargo in a truck when in motion.

In Burundi, the law governing the control of the axle load has already been adopted and signed by the country's authorities. It remains to be popularized and implemented. Burundi, Rwanda and South Sudan have no weighbridges at the moment. Rwanda had identified 8 Sites for Weigh in Motion Weighbridges and two are under Construction/ installation between Kagitumba-Kayonza and Rusumo Kayonza road sections which will be used mainly by trans-border vehicles through Kagitumba and Rusumo Borders.

DRC has ten static weighbridges along the Northern Corridor namely; Kasindi, Butembo, Beni 1, Beni 2, Kasenyi, Mahagi, Aru,Komanda, Batshamba and Nsele.

In Kenya, there are nine static weigh-bridges located at Athi-River, Mariakani, Webuye, Gilgil, Busia, Mtwapa, Rongo, Isinya and Bondo; out of which the former five are along the Northern Corridor. To reduce congestion at the weighbridges, Kenya National Highway Authority (KeNHA) has installed High Speed Weigh in Motion (HSWIM) and multi deck scales at: Mariakani; Athi River; Gilgil and Webuye which are fully automated. There are 10 virtual weighbridges stations which have been installed and integrated at selected locations along the National Highways Road Network. They include:

Southern Bypass 1; Southern Bypass 2; Sagana; Yatta; Kamulu; Kaloleni; Ahero; Eldoret; Mayoni and Lisamis.

In Uganda, there are eight weigh-bridges located at Malaba, Busitema, Elegu, Lukaya, Mbarara, Mubende, Luwero and Magamaga along the Northern Corridor. Most of the weigh-bridges in Uganda were slow speed weigh in motion and on one side of the road.

In Uganda, there are eight weighbridges located at Malaba, Busitema, Elegu, Lukaya, Mbarara, Mubende, Luwero and Magamaga along the Northern Corridor. Most of the weigh-bridges in Uganda were slow speed weigh in motion and on one side of the road.

3.5 Railway network

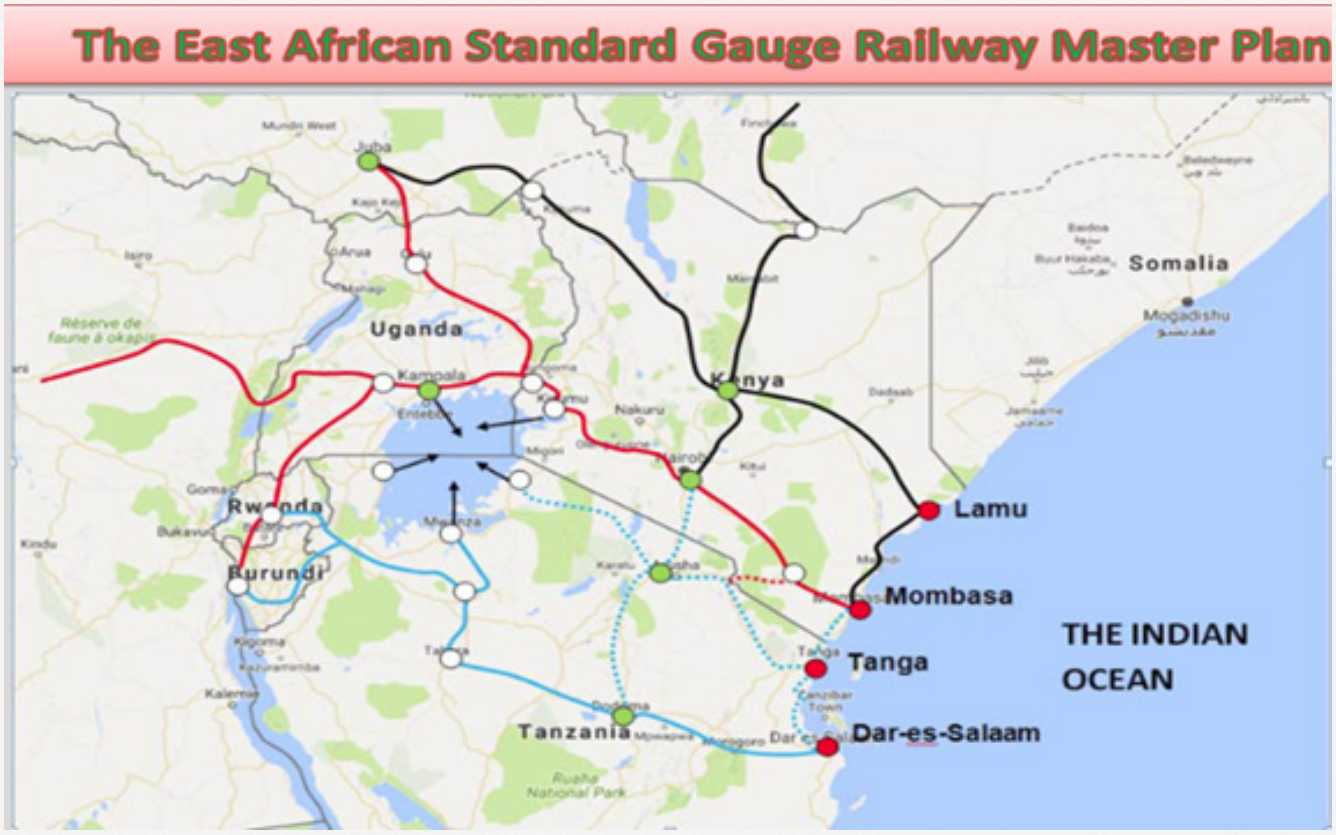
East African Regional cooperation initiatives have mainly focused on joint efforts to modernize railway network and development of an African railway network with the ultimate objective of Member States having a common railway policy. The East African Railway Master Plan came into effect to guide the future development of the railway services in the region. The Master Plan is a proposal for rejuvenating existing railways serving Tanzania, Kenya, Uganda and extending them initially to Rwanda and Burundi and eventually, to South Sudan, Ethiopia and beyond. The Northern Corridor Transit and Transport Agreement also provide a good basis for structuring legal cooperation in the railway sector among the Northern Corridor Member States. Northern Corridor Infrastructure Master Plan (2011) also provides a framework on railway development in the Partner States. These regional legal and institutional frameworks among others are expected to drive multi-lateral initiatives in railway development in the region. The sections provide analysis on railway throughput along the Northern Corridor Member States.

The total length of the meter gauge rail network is 8,206 Kilometers in Northern Corridor, out of which Kenya accounts for 1,787 Kilometers; Uganda comprises of 1,221 Kilometers, DRC accounts for 5,033 Kilometers and South Sudan 165 Kilometers. Total length of the standard gauge rail is 609 kilometers from Mombasa to Nairobi designed with capacity to carry 22 million tonnes a year of cargo or a projected 40 percent of Mombasa Port throughput by December 2035. The SGR line is 120 kilometers from Nairobi to Naivasha. The standard gauge rail has 56 locomotives operating from the port of Mombasa to ICD Nairobi at Embakasi out of which 8 are used for shunting, 43 locomotives are used for freight services and 5 are used for passenger services.

Standard Gauge Railway in Kenya

Rwanda has no railway network presently which means most of the trade is conducted by road. The SGR mainline from Mombasa to Kampala is planned to join the line from Kigali-Kampala on the Northern Corridor whereas, on the Central Corridor Isaka- Kigali will be mainline. Kigali-Rubavu branch line will link Rwanda to DRC. The plan to extend a branch line from Isaka in Tanzania to Kigali is well in advance.

Figure 8: Map of East African Standard Gauge Railway Masterplan
Source: EAC website



3.6 Pipeline Network in the Northern Corridor

Pipeline transport provides numerous advantages as the most preferred mode of transport for petroleum products including: safety; low unit cost for handling, storage and transportation; assurance that the right quantity and quality is delivered; reliability and efficiency. Pipeline transport in Kenya is managed by the Kenya Pipeline Company (KPC). The line, runs from the oil refinery in Mombasa through Nairobi, Eldoret and Kisumu and serves Member States of Uganda, Rwanda, Burundi and the Eastern DRC through transshipment in tankers on the Northern Corridor roads. The main products moved along the pipeline are automotive gas oil (AGO), Motor Spirit Premium (MSP), Illuminating Kerosene (IK), Dual Purpose Kerosene (DPK) and SLOP –Slop refers to oil sludge from refineries, tank terminals, pipelines and petrochemical plants.


Kisumu oil jetty

As of December 2019, the installed pipeline system in Kenya consisted of 1,342 kilometers of pipeline with capacity to handle about 6.9 billion liters of petroleum products annu-

ally. There are 8 depots on the network and these are: Moi International Airport, Nairobi Terminal Station, Jomo Kenyatta International Airport, Kipevu Oil Storage Terminal, Nakuru Terminal Station, Eldoret Terminal Station and the Kisumu Terminal Station. The Sine dent – Kisumu line is the latest addition to this network.

Uganda signed a Production Sharing Agreement with Tullow Uganda Limited for petroleum exploration licenses for two blocks around Lake Albert, while Total SA of France and China National Offshore Oil Corporation are also engaged in the petroleum exploration.

3.7 One-Stop Border Posts

One Stop Border Posts aims at reducing transit costs and time incurred in cross border movement by harmonizing and merging the performance of activities of both country's border agencies at a single location. Since the enactment of East African Community One-Stop Border Posts Act (2016), 14 OSBPs have been established and their state of implementation is presented in table 15 below. The OSBPs are therefore becoming more popular at the regional level and they are seen as a modern approach towards facilitating fast movement of goods, persons and services across national borders. Their operationalization and training of personnel has significantly reduced the time taken by travelers and trucks at the borders from days to about 30 minutes on average. The operationalization of OSBPs on both Corridors is not without challenges. Some of the challenges relate to inadequate infrastructure at many of these border posts including housing for staff, amenities such as schools and hospitals, holding grounds for quarantined animals, insufficient water resources and in some cases unreliable power supply, intermittent network and not the least human capacity and skills shortfalls in a number of critical areas.

Since the enactment of East African Community One-Stop Border Posts Act (2016), 14 OSBPs have been established

Table 15: Construction of OSBP's along the Northern Corridor
Source: NCTO

OSBP	Location-Border Station	Status of construction of OSBP Facilities	Status Operation
Busia	Kenya/Uganda	Juxtaposed completed	Operational
Malaba	Kenya/Uganda	Juxtaposed completed	Operational
Elegu/Nimule	Uganda/South Sudan	Juxtaposed, construction completed and launched for operations	
Mirama Hills/Kagitumba	Uganda/Rwanda	Juxtaposed completed	Operational
Katuna/Gatuna	Uganda/Rwanda	Juxtaposed infrastructure construction about to be completed	Operational
Nemba/Gasenyi	Rwanda/Burundi	Common Border, construction completed	Operational
Akanyaru Haut/Kanyaru Haut	Rwanda/Burundi	Feasibility study completed	
Mpondwe/Kasindi	Uganda/DRC	Juxtaposed construction yet to commence	
Goli/Mahagi	Uganda/DRC	Activities yet to commence	
Rubavu/Goma	Rwanda/DRC	Juxtaposed construction completed	Operational
Rusizi 1	Rwanda/DRC	Juxtaposed Detail design of the project was completed and fund mobilization of construction works is ongoing	
Rusizi II	Rwanda/DRC	Request for Expression of Interest for detail design was launched and design works on Rwanda side is expected to start in May 2020	
Gatumba/Kavimvira	Burundi/DRC	Activities yet to commence	
Nadapal/Lokichogio	Kenya/South Sudan	Activities yet to commence	

The fast growth of trade in containerized cargo has driven the demand for dry ports to help decongest the port of Mombasa

3.8 Inland container depots

With the growth in volumes of freight cargo on the Northern Corridor and the development of the Standard Gauge railway, the importance of Inland Container Depots (ICDs) is now more pronounced prompting Governments in member states to invest resources in ICDs. In addition, the fast growth of trade in containerized cargo has also driven the demand for dry ports to help decongest the port of Mombasa which is a major logistics gateway to land locked countries of Burundi, Rwanda, Democratic Republic of Congo, South Sudan and Uganda.

In Kenya, the ICDs are managed by the Kenya Ports Authority (KPA) and are located in Nairobi, Naivasha, Kisumu, and Eldoret. These depots are linked to the Mombasa Port container terminal by rail connections and services. They are also accessible through pipeline and roads allowing trucks to continue delivering large numbers of containers. Rwanda has two main ICDs namely Magerwa Inland Deport and the Kigali logistic Platform. Uganda has Multiple ICD that handles 50,000 TEU's per year.

Table 16: ICDs along the Northern Corridor

Country	Name of ICD	Total Available Capacity (TEUs)	Comments
Kenya	Nairobi	450,000	Operating at optimal level. 2019 utilized about 93 percent
Kenya	Kisumu	15,000	Plans are underway to transform the Kisumu dry port to become a transhipment point
Kenya	TaitaTaveta	*	Feasibility study completed. Land allocated for construction.
Kenya	Naivasha	*	Launched in December 2019. Operations slow to date. Awaiting finalization and full scale roll out in coming months
Rwanda	Magerwa	*	Terminal operated by a private sector as a dry port as well as a bonded warehouse for goods destined to Rwanda, transshipment, scanning, weighbridge and physical examination of goods.
Rwanda	Kigali Logistics Platform	50,000	Operational since September 2018 in test mode
Uganda	There are 7 bonded warehouses with transit sheds for handling goods in transit, these include; Multiple ICD, Bollore, Unifreight and Spedag Interfreight	Combined capacity of over 200,000 TEU's	

3.9 The Lake Ports

The lake' ports are important links in the transportation of bulk imports and exports. The main lake ports on the Lake Victoria are: -Kisumu (Kenya), Port Bell and Jinja (Uganda); Mwanza and Bukoba (Tanzania): within Lake Tanganyika, the main ports are Bujumbura (Bu¬rundi); Kalemi (DRC); Kigoma and Ujiji (Tanzania) and Mpulungu (Zambia). Lake transport faces challenges that include; poor operating systems, insufficient equipment, shallow channels, water hyacinth and narrow berths that inhibit navigation and docking. Lake Tanganyika presents an opportunity to connect four countries, and the transport distances are long enough to make inland water¬ways competitive with the road. Improving the quality of inland transport facilities in the Northern Corridor region will enhance efficiency in trade within the Member countries as well as the greater regional economic block.

The lake ports are important links in the transportation of bulk imports and exports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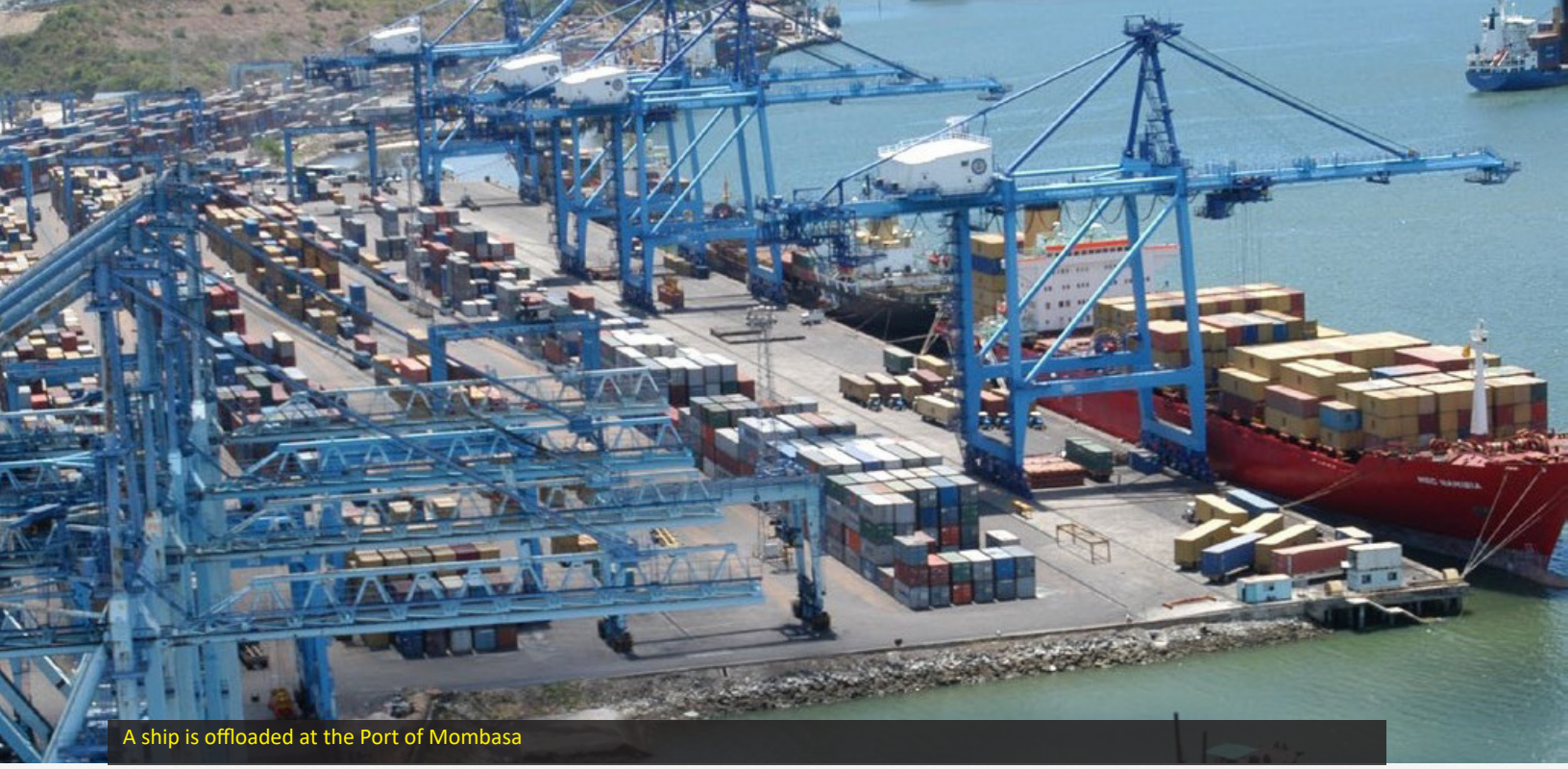
Chapter 4

Volume and Capacity



A ship is offloaded at the Port of Mombasa

4.1 Introduction

The chapter presents the performance of the volume and capacity of cargo handled at the port of Mombasa and along the Northern Corridor. With regard to the Northern Corridor, the port of Mombasa has access to approximately 12,707 Kilometers of road network connecting to the Member States and around 8,206kms of meter gauge railway and 600 kilometers of Standard gauge railways. The following indicators are analyzed:

i. Cargo throughput through Mombasa Port
ii. Transit volume through the port of Mombasa per country of destination
iii. Container traffic through Mombasa port in TEUs
iv. Volume of cargo haulage by railways
v. The volume of cargo through Pipeline
vi. Cargo throughput through Nairobi ICD

4.2 Cargo throughput through the port of Mombasa

Cargo throughput measures the total volume of cargo discharged and loaded at the port. It includes break-bulk, liquid bulk, dry bulk, containerized cargo, transit cargo, and transshipment.

The quantity of cargo throughput is affected by various parameters including; domestic and international demand for cargo handled by the port, physical capacity, competition with other ports among others. The Mombasa Port and Northern Corridor Community Charter target to attain a throughput of 35.90 million tons by December 2020.

The cargo throughput at the port of Mombasa has been increasing yearly with 2019 witnessing an annual increase of 11.2 percent, significantly picking up compared to the 2 percent annual growth in 2018. As shown in table 17 below, throughput has been increasing steadily annually from 26.7 million tons in 2015 to 34.4 million tons in 2019representing compounded growth of 7.7 percent. The growth is attributable to a sustained trend of increase in containerized cargo and the liquid throughput saves for the continuous decline in global oil prices.

Basically, throughput gives an indication of trade in the region. Further, both imports and exports increased marginally over the five-year period. However, imports take the lion share (slightly above 80 percent) of total cargo throughput. This implies that the countries using the port of Mombasa are net importers which lead to the unfavorable trade balance. The top import commodities through the port of Mombasa include petroleum oil & lubricants, clinker, wheat, iron & steel, palm/vegetable oil, fertilizers, coal, rice, plastic and sugar. Major import partners include Asia and the European Union. The top export sectors included agricultural, raw materials and ores and metals.

Mombasa port, seaborne cargo throughput handled in 2019 increased significantly witnessing an annual growth of 11.4 percent when compared to 2018. The growth trend is evident since the beginning of the year and was maintained over the months as displayed in figure 9. More than 34,440 thousand metric tonnes of seaborne cargo traffic were cleared in 2019. A major share of this freight comprised of containerized cargo at 45 percent, liquid cargo comprised of 25 percent of total throughput and 30 percent comprised of

Table17: Annual Mombasa port throughput '000' MT (by cargo type and by destination)

Source: Kenya Ports Authority (KPA), 2015- 2019

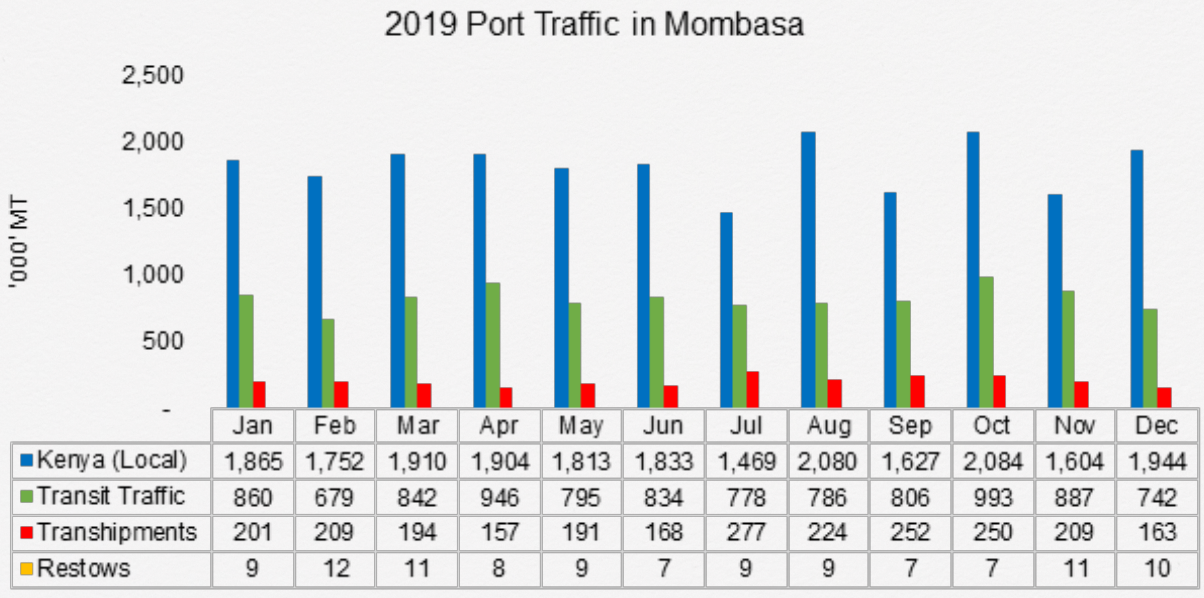
By Type of Cargo	2015	2016	2017	2018	2019
Dry General	2,256	1,968	2,136	1,815	2,033
Dry Bulk	6,928	7,053	8,467	8,662	8,386
Liquid bulk	7,272	7,728	8,259	7,809	8,631
Containerized	10,276	10,615	11,483	12,637	15,390
Throughput '000' MT	**26,732**	**27,364**	**30,345**	**30,923**	**34,440**
By Category					
Imports	22,680	23,116	25,604	25,475	27,558
Exports	3,534	3,659	3,794	4,125	4,277
Transshipment	518	589	874	1,247	2,495
Restows	-	-	73	76	110
Throughput '000' MT	**26,732**	**27,364**	**30,345**	**30,923**	**34,440**
Annual % change	**7.5**	**2.4**	**10.9**	**1.9**	**11.4**

dry cargo both bulk and general. Liquid goods transported in bulk are essentially crude oil, liquefied natural gas and chemicals. Slightly over 60 percent of total port throughput was for Kenya.

The top import commodities through the port of Mombasa include petroleum oil & lubricants, clinker, wheat, iron & steel, palm/vegetable oil, fertilizers, coal, rice, plastic and sugar.

Figure 9:Mombasa port monthly cargo throughput in ('000) MT for 2019

Source: KPA 2019 data



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Kenya (Local)	1,865	1,752	1,910	1,904	1,813	1,833	1,469	2,080	1,627	2,084	1,604	1,944
Transit Traffic	860	679	842	946	795	834	778	786	806	993	887	742
Transhipments	201	209	194	157	191	168	277	224	252	250	209	163
Restows	9	12	11	8	9	7	9	9	7	7	11	10

4.3 Transit Volume per Destination Country

Transit volume is the quantity of cargo that is discharged and destined to countries outside the port of loading or discharge. In the case of this report, the port of concern is Mombasa. The formula applied in determining the transit volume is by summation of all cargo's weight in metric tonnes handled at the Port of Mombasa per Country of destination.

Table 18 illustrates the share of transit cargo through the port of Mombasa based on the destination market. From the analysis, exports took the least share of the throughput less than 10 percent, while imports accounted for the vast majority of transit throughput slightly above 90 percent during the same period. Further analysis reveals that Uganda took the largest part of transit traffic through the port of Mombasa accounting for approximately 80 percent of transit traffic.

Table 18: Transit Volume per destination country through the port of Mombasa in MT

Source: Kenya Ports Authority (KPA), 2015- 2019

COUNTRY	2015	2016	2017	2018	2019
UGANDA	5,977,332	6,346,715	7,112,971	7,889,119	8,132,922
SOUTH SUDAN	702,531	597,852	673,752	734,132	769,886
D. R. CONGO	396,132	376,935	360,123	470,968	546,954
TANZANIA	204,778	182,557	271,698	248,025	254,961
RWANDA	291,924	194,022	179,555	230,734	231,381
BURUNDI	75,811	35,794	21,621	22,233	2,475
SOMALIA	11,697	3,975	3,820	1,989	374
OTHERS	6,973	10,687	13,065	7,361	8,566
TOTAL	7,667,178	7,748,537	8,636,606	9,604,562	9,947,520
Transit In-Imports ('000)	*7,167*	*7,217*	*7,903*	*8,873*	*9,244*
Transit Out-Exports ('000)	*500*	*531*	*734*	*731*	*703*
Total Transit Traffic ('000)	**7,667**	**7,748**	**8,637**	**9,604**	**9,947**

4.4 Rate of containerization

Containerization of cargo enhances standardization for efficient shipping and handling of cargo. Containerized shipment: ensures cargo safety; reduces transit time; and minimizes financial expenses during loading, discharging and trans-shipment. Data on Containerized cargo is provided in Twenty Foot Equivalent's (TEUS). A TEU is a standard measure used throughout the world to measure container movements and the capacity of container ships. Containerized cargo has been growing over time hence putting much pressure on the demand of container freights internationally. Figure 10 presents the top ten Africa ports with the highest port container throughput in 2018. According to UNCTAD statistics, in the year 2018 a total of 793.3 million TEUs was recorded as annual container port throughput in the world out of which only 4 percent was for African ports.

In the analysis of the container throughput trend, grew significantly from 1.1 million TEUs in 2015 to 1.42 million TEUs in 2019 maintaining a steady annual growth of 37 percent throughout the five-year period as shown in figure 11. As aforementioned, countries trading through the port of Mombasa are net importers. Trade imbalances have been a major reason for the rapid increase in the number of empty containers in various ports around the world.

Figure 10:Annual container port throughput 2018 for ports in Africa

Source: UNCTADSTAT data centre
https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=13321

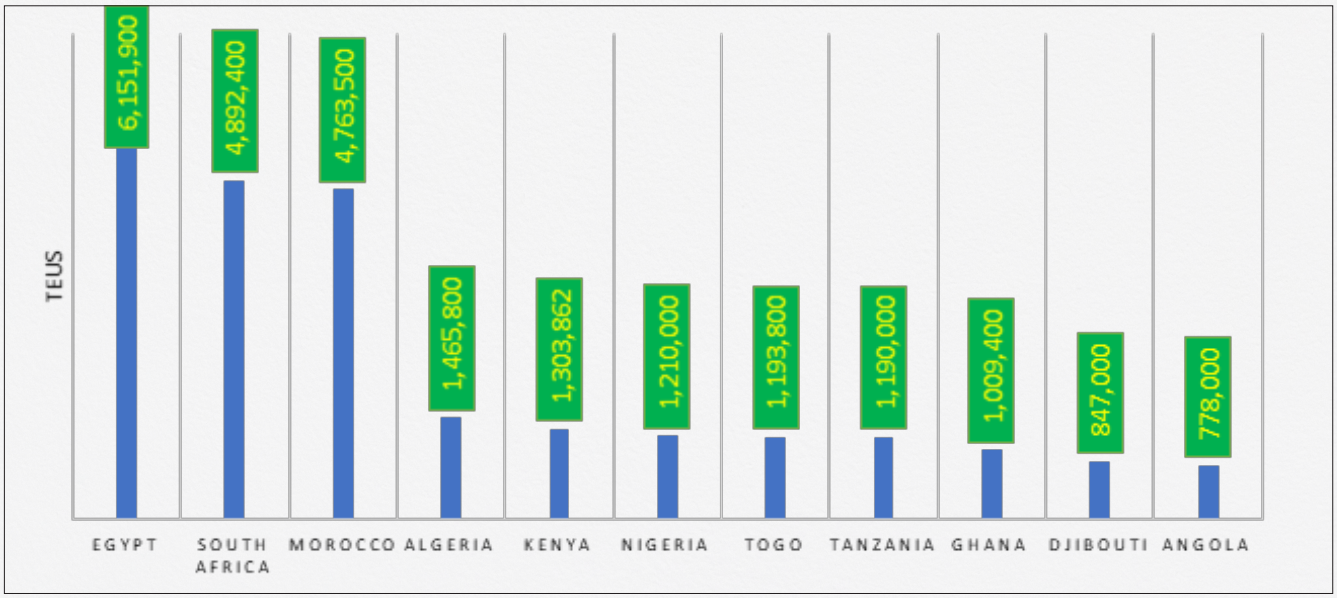
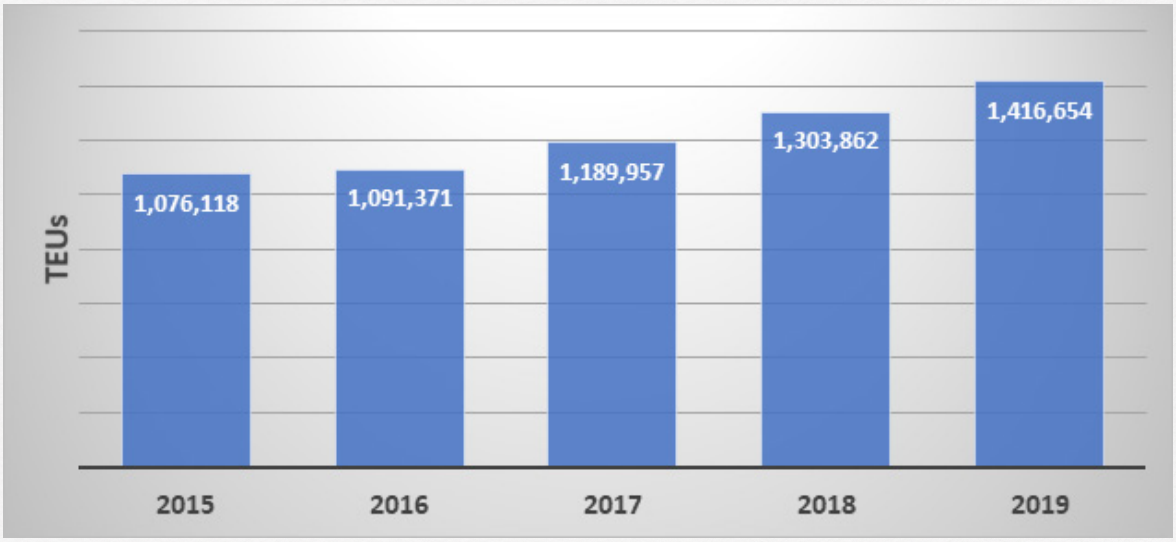
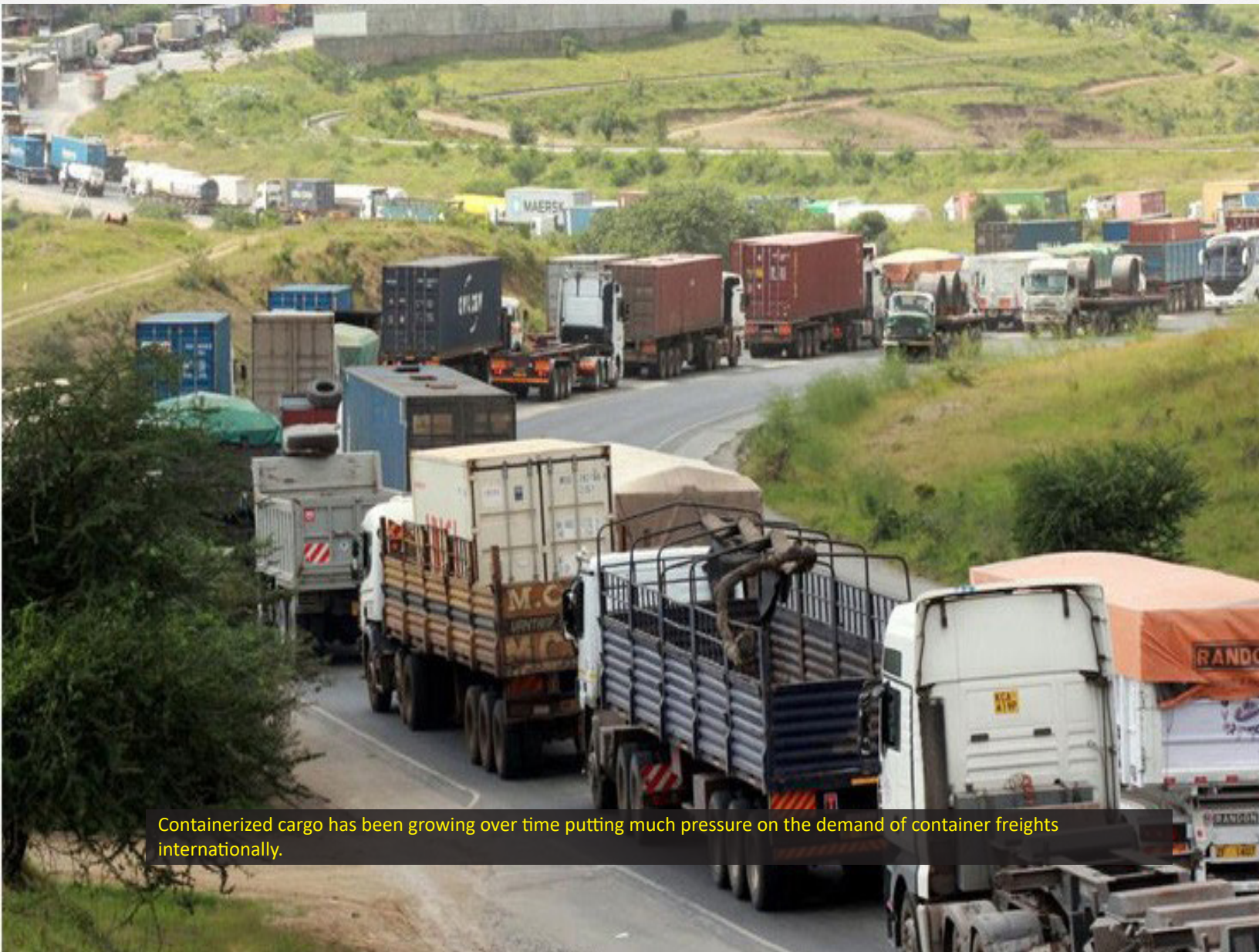


Figure 11: Total Annual Container Traffic (TEUs)

Source: Kenya Ports Authority (KPA), 2015- 2019





Containerized cargo has been growing over time putting much pressure on the demand of container freights internationally.

4.5 Volume of cargo haulage through rail

The port of Mombasa relies on road, rail, pipeline and inland waterways as the main modes of transport that run along the northern corridor which is the main link to the land-locked countries. This section analyses cargo movement by rail modal shift along the Northern Corridor.

The railway network along the Corridor comprises of Meter Gauge Rail (MGR) and the Standard Gauge Rail (SGR). The metre gauge railway line connects the Port of Mombasa to Nairobi - Nakuru – Uganda/Kampala through the border at Malaba. A branch route leaves the main railway line at Nakuru and extends to Kisumu on Lake Victoria. Whereas, the SGR line leaves the port of Mombasa to Nairobi route and extends to Naivasha.

There are 56 locomotives operating on the SGR from the port of Mombasa to ICD Nairobi at Embakasi out of which 8 are used for shunting, 43 locomotives are used for freight services and 5 are used for passenger services. For the case of MGR, there are a total of 1,138 rolling stock operating the line out of which includes 1,107 wagons; 6 locomotives are for shunting, 6 brake vans and 19 locomotives for the main line as at December 2019. Among the products hauled by MGR include; vegetable oil, wheat, steel coils and billets, containers (loaded), salt & rock and clinker among others.

Total volume haulage in tonnage (net) by the MGR for the period Jan to Dec 2019 was recorded as 412,632 net tones as shown in table 19 below. It can be noted that volume of cargo over the months was inconsistent. March, April and July 2019 had the highest volume of above forty thousand net tones while February and December 2019 registered the lowest volume nearly 26,187and 26,765 net tones respectively. Some of the products hauled by rail in 2019 were: steel, vegetable oil, Wheat, clinker, lubricants, diesel, furnace oil, salt and rock salt among others.

Table 19: Volume of cargo transported by the Metre Gauge Rail in net tones

Source: KRC 2018/2019

Month	2018	2019
Jan		34,849.29
Feb		26,187.31
Mar		40,826.29
Apr	36,521	46,711.98
May	31,849	36,931.27
Jun	28,864	38,550.44
Jul	41,244	40,143.03
Aug	35,639	26,621.00
Sep	39,011	37,001.05
Oct	33,514	27,195.64
Nov	32,339	30,849.74
Dec	33,755	26,764.75
Total Net Tones	**312,736**	**412,631.79**

Table 20 presents cargo haulage by SGR between Mombasa and Nairobi ICD. Statistics show that the total SGR throughput was approximately 412,584 TEUS for the period January to December 2019. Out of which imports constituted a lion's share of about 62 percent. Furthermore, empty containers that are railed back to Mombasa without cargo accounted for a significant proportion of about 34 percent of total SGR haulage throughput. There is need to implement policies that will boost exports.

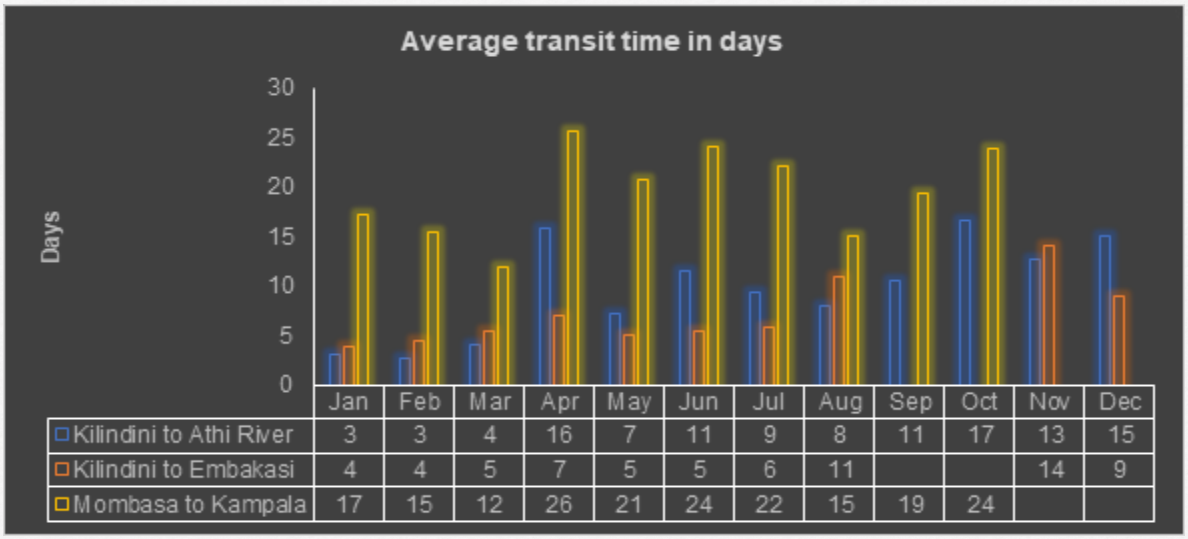
Table 20: Volume of cargo by the SGR

Source: KRC data Jan-Dec 2019

Month	Loaded Containers (TEUs)		Empty Containers (TEUs)	Weight (Tonnes)
	Imports	Exports		
Jan 2019	22,628	1,122	11,798	365,356
Feb 2019	18,194	1,234	11,636	308,540
Mar 2019	19,696	1,153	10,341	331,906
Apr 2019	21,862	1,086	10,004	356,906
May 2019	20,496	1,062	10,834	319,757
Jun 2019	20,938	1,197	11,315	337,024
Jul 2019	24,044	1,333	13,947	394,717
Aug 2019	23,014	1,312	12,736	369,647
Sep 2019	21,732	1,383	12,893	343,819
Oct 2019	21,890	1,160	12,114	342,877
Nov 2019	21,318	1,006	12,640	350,611
Dec 2019	21,106	999	11,361	337,934
TOTAL	256,918	14,047	141,619	4,159,094
Proportion	62%	4%	34%	

Figure 12 presents transit time by MGR from Kilindini to Nairobi and from Mombasa to Kampala in days. From the statistics, transit time is high and this is occasioned by the poor infrastructure of the railway line. However, plans are underway to upgrade as well as link the 1st and last mile in Nairobi from ICD to MGR yard for a seamless transition.

Figure 12: Average transit time for MGR in Kenya, 2019
Source: KRC data Jan to Dec 2019



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Kilindini to Athi River	3	3	4	16	7	11	9	8	11	17	13	15
Kilindini to Embakasi	4	4	5	7	5	5	6	11			14	9
Mombasa to Kampala	17	15	12	26	21	24	22	15	19	24		

Railway network in Uganda covers from Kampala to Malaba, Kampala to Kasese, Tororo to Gulu and to Pakwachi, Out of which only Kampala to Malaba has an active railway network. Uganda as at December 2019 is equipped with 689 wagons that are accessible against the required 1,424 wagons. Total trains ran by MGR for the period January to December 2019 in Uganda was recorded as 3,005 as shown in table 21 below. It can be noted that August 2019 recorded the highest train ran.

Total volume haulage in tonnage (net) by MGR for the period 2019 in Uganda was recorded as 194,125 net tones as shown in table 22 below. Out of which a total of a total of 58,458 tones were hauled from Kampala to Kilindini, Mombasa, Nairobi and Portbell. It can be noted that import accounted for the largest share of total volume

Table 21: Total number of trains ran in Uganda
Source: URC Jan-Dec 2019

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total trains ran	241	226	246	262	265	248	234	280	267	264	274	198

Table 22: Volume haulage in tonnes in 2019
Source: URC Jan-Dec 2019

Month	Imports	Exports	Local Haulage	Grand Total
Jan	8,777.60	2,516.00	2,414.00	13,707.60
Feb	9,920.50	762.7	2484	13,167.20
Mar	7,538.00	2655.57	4681	14,874.57
Apr	13,457.97	2,696.50	3,128	19,282.47
May	8,975.50	1,873.30	3,680	14,528.80
Jun	11,450.70	2,291.80	2,224	15,966.50
Jul	17,921.21	3,922.86	1,524	23,368.07
Aug	12,295.69	3,276.80	2,724	18,296.49
Sep	11,310.00	3,863.00	2,896	18,069.00
Oct	7,469.75	3,384.28	2,344	13,198.03
Nov	11,418.42	4,834.13	2,796	19,048.55
Dec	6,472.30	2,025.20	2,120	10,617.50
Total	**127,007.64**	**34,102.14**	**33,015**	**194,124.78**

Nairobi ICD is the largest and most active ICD in Kenya and is directly linked to the port of Mombasa by both the SGR and MGR railways.

4.6 Performance at Nairobi Inland container depot volume throughput

The Nairobi ICD is the largest and most active ICD in Kenya and is directly linked to the port of Mombasa by both the SGR and MGR railways. It is equipped with 4 Railway Mounted Gantry cranes, 8 Rubber Tyred Gantry cranes, 10 Reach Stackers, 30 Terminal Tractors, 67 Trailers, and 16 Forklifts to support loading and offloading operations at the ICD.

Table 23 presents the total volume of cargo handled at Nairobi ICD in 2018 and 2019. From the analysis, volume of exports & imports to/from Nairobi ICD increased two-fold by 62 percent from 257,972 TEUs in 2018 to 418,760 TEUs in 2019.The great performance is occasioned by the implementation and full use of the 485 km-long Standard Gauge line from the port of Mombasa to Nairobi ICD in January 2018. The ICD has a capacity of 450,000 TEUs thus operated at 93 percent of its installed annual capacity in 2019 when compared to 57 percent in 2018. This suggests that the ICD operated at optimal levels in 2019.

Under normal circumstances, ports and dry ports are required to operate at 70 percent of their installed capacity to give room for operations relating to discharge and receipt of cargo at the facility. Anything beyond that is considered congestion, which may result to inefficiency. The massive growth in utilization of the capacity of the Nairobi ICD is attributed to the growth in cargo hauled by the SGR.

Imports took a lion's share of the throughput at slightly above 60 percent, while exports registered 30 percent over the two-year period suggesting that countries using the ICD are net importers thus unfavorable trade balance. Further analysis shows that the volume of empty containers that are railed back to Mombasa port accounted for the majority of total exports at 85 percent and 91 percent in 2018 and 2019 respectively. The haulage of empty containers does not only affect the economic aspect of the shipping line business but also has profound environmental effects.

Table23: Total cargo volume handled at Nairobi ICD in TEUs- 2018 and 2019

Source: ICD Nairobi data 2018/2019

	Imports		Export		Export (Empty)		TOTAL TEUS	
Month	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**
Jan	934	23,836	316	1,007	442	11,895	1,692	36,738
Feb	2,808	19,030	513	1,188	636	11,298	3,957	31,516
Mar	9,161	19,200	1,214	1,199	1,118	10,559	11,493	30,958
Apr	12,154	22,323	767	1,071	2,015	9,993	14,936	33,387
May	12,854	22,066	1,175	1,065	5,501	10,706	19,530	33,837
Jun	16,767	21,315	1,167	1,104	5,845	11,654	23,779	34,073
Jul	19,529	24,236	1,126	1,367	8,275	14,214	28,930	39,817
Aug	19,652	23,150	1,034	1,302	8,144	12,499	28,830	36,951
Sep	19,323	21,975	1,133	1,297	6,984	13,285	27,440	36,557
Oct	21,172	22,294	1,178	1,094	8,652	12,064	31,002	35,452
Nov	20,888	22,364	1,012	1,014	10,710	12,630	32,610	36,008
Dec	22,410	21,106	1,066	999	10,297	11,361	33,773	33,466
TOTAL	**177,652**	**262,895**	**11,701**	**13,707**	**68,619**	**142,158**	**257,972**	**418,760**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Chapter 5

Efficiency and Productivity

Mombasa Port ship container yard

5.1 Introduction

Efficiency in simple terms is using the minimal amount of inputs to attain the highest amount of output. Efficiency requires reducing the quantity of resources used to produce a given output. In relation to the port, it would be rational to say the port which has a greater number of container gantry cranes available and dedicated container berth length would be in a situation to load/ unload container vessels more efficiently than its peers.

Port efficiency can only be achieved if port operations are integrated into the overall national port planning, that is considering multimodal connections to facilitate the flow of cargo between vessels and surface transportation modes including roads, rail, pipeline and inland waterways. It is therefore imperative to make investments to develop trading capacities such as ports and roads improvements, improved efficiency in customs administration and adoption of e-services use among others. An efficient port plays an important role in trade and transport facilitation since it enhances competitiveness, allowing countries to trade goods and services on time and with low transaction costs.

This chapter provides analysis on the efficiency and productivity at the port of Mombasa. Key performance indicators on port efficiency and productivity have been selected to measure performance. Cargo movement through the port undergoes numerous processes from arrival of vessels to the time it leaves, offloading/loading, up to the time the cargo is picked up once all outbound checks have been performed, documentation has been verified until the goods leave the port premises after all permits and clearances have been obtained. There is need to assess the efficiency of the port of Mombasa and the Corridor at large to pin point determinants of inefficiencies and address them to attain the expected outputs.

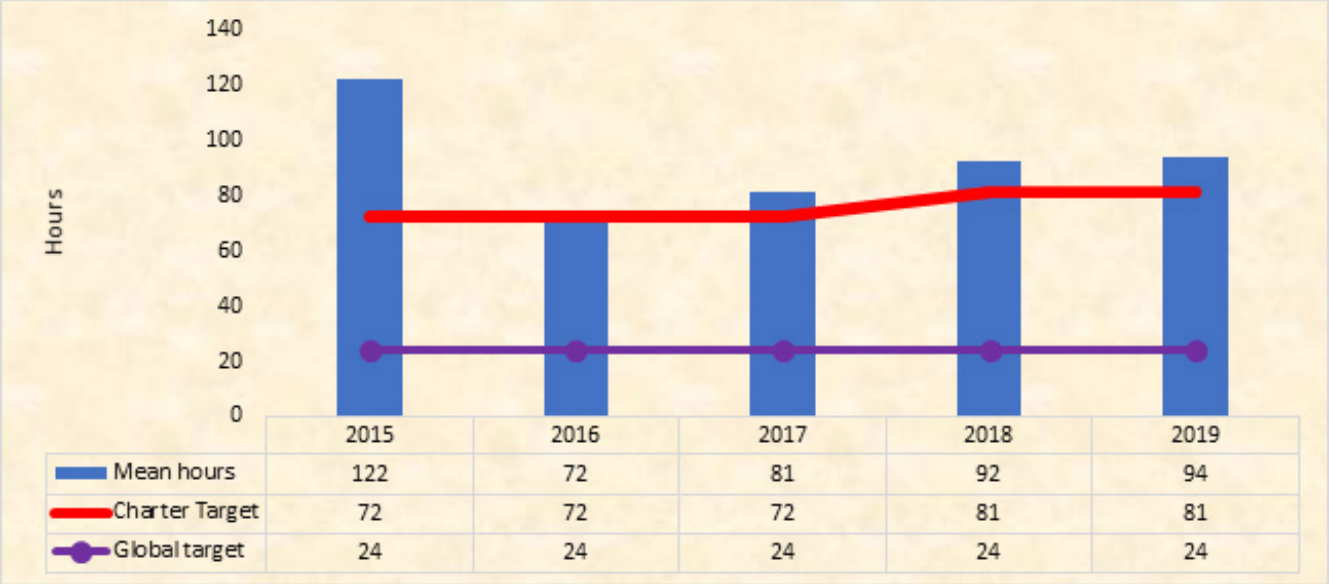
5.2 Ship Turnaround Time

The ship Turnaround Time is measured from the time the vessel arrives at the Port area (Fairway Buoy) to the time it leaves the port area demarcated by the fairway buoy

Ship turnaround time in port is a significant indicator of port efficiency. The quay length of a terminal can be used to evaluate the ship turn-around time of the terminal because it mirrors the size of a ship, which can be granted an allocation at a particular unused berth at a time. A small quay length means smaller number of berths and may result in unavailability of berths at a point in time, which may cause 'arrived ships' to wait at the break waters and this increases the cost of ship operations. Globally, the ultimate goal is to attain the 24 hours (1 day) ship turnaround global benchmark time.

The ship turn-around time is an accumulation of the two critical times, ship service time at berth and waiting time. Figure 13 gives a five-year annual performance for ship turnaround at the port of Mombasa since 2015. The Mombasa Port and Northern Corridor Community Charter aims to attain the target for vessel turnaround time as 81 hours by December 2020, 75 hours by December 2022 and 67 hours by December 2024. The Charter further established average ship turnaround time at the port of Mombasa as 3.8 days in December 2018. In 2019, the port recorded average turnaround time of 94 hours.

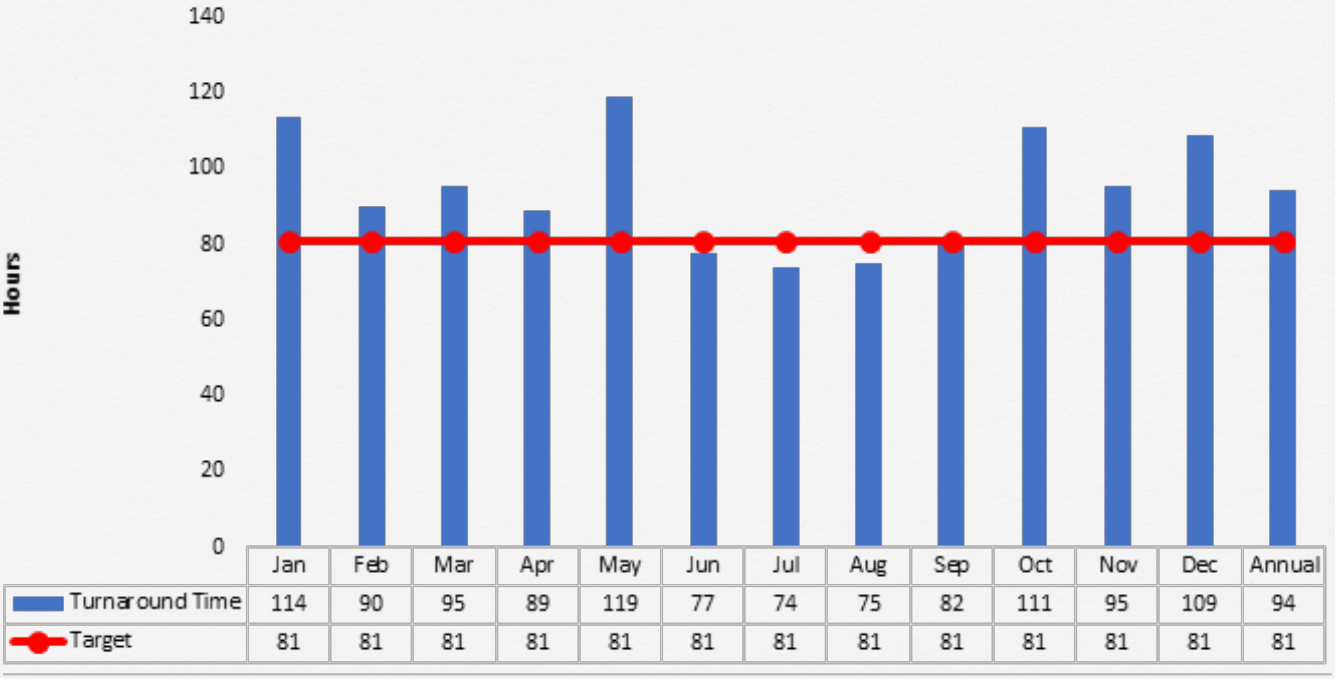
Figure 13: Average Ship turnaround time at the port of Mombasa in hours; 2015 to 2019
Source: KPA 2015 to 2019 data



	2015	2016	2017	2018	2019
Mean hours	122	72	81	92	94
Charter Target	72	72	72	81	81
Global target	24	24	24	24	24

In 2019, a total of 530 ships were called in at the port of Mombasa. In the recent past there have been a lot of initiatives at Mombasa Port geared towards enhancing capacity of the Port which includes; development of new container terminal, acquisition of cargo handling equipment, dredging and development of large berth. Currently the Port has been receiving larger vessels which take more time to service impacting on the ship turnaround time. As presented in figure 14, performance across the year was short of target except for months from June to September 2019. January, May, October and December recorded the highest turnaround time of over 109 hours.

Figure 14:Average ship turnaround time 2019 in hours
Source: KPA 2019 data



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Turnaround Time	114	90	95	89	119	77	74	75	82	111	95	109	94
Target	81	81	81	81	81	81	81	81	81	81	81	81	81

5.3 Vessel waiting time before berthing at the port of Mombasa

Average Vessel Waiting time before berth is the average of the time difference in hours from the time the ship enters the port area to the time of berthing. It is a component of ship or vessel turnaround time.

A reduction of the time a vessel spends at berth may have a considerable effect on the expected waiting time of other vessels and hence on the efficiency and productivity of the port. Therefore, improvement in cargo handling performance leads to a substantial saving in ship turnaround time. Waiting and queuing times at berthing area of port container terminals are the biggest problem that port managers encounter. Long wait times have a negative impact on port terminal efficiency and ship managers prefer to berth at a port terminal with low waiting time and high efficiency.

The Mombasa Port and Northern Corridor Community Charter established a baseline of 0.5 days in December 2018. Figure 15 shows median vessel waiting time decreased marginally from 13 hours in 2018 to 12 hours in 2019 which is within the port charter target of under a day (12 hours). The performance for this indicator over the years exceeds the previous set target of 24 hours. It is attributed to the implementation of the Fixed Berthing Window to allow shipping lines to plan their time, improved crane productivity and enough terminal capacity. Furthermore, there has been increased investment in both shore and off shore equipment's which includes acquisition of cranes, modern tugboats and pilot boats that have boosted berthing operations.

Figure 15: Median Vessel Waiting Time before Berth at the port of Mombasa in hours
Source: KPA from 2015 to 2019 data

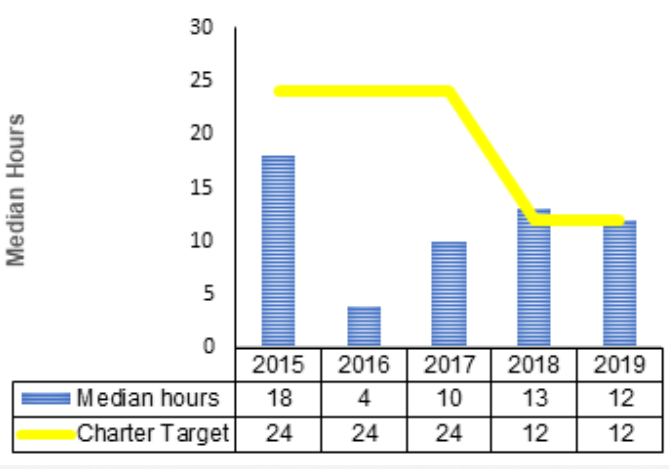
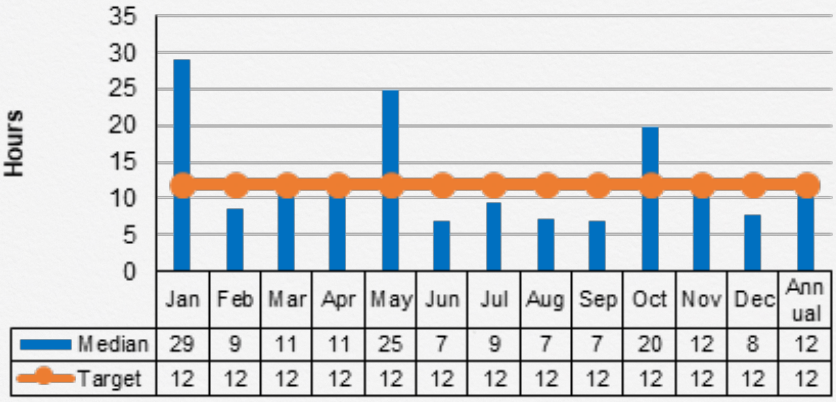


Figure 16 shows the performance in the vessel waiting time at the Port of Mombasa on monthly basis for the year 2019. Total number of observations during the year was 494. Cumulatively about fifty percent of the vessels spent time not exceeding 11.04 hours in 2019. Generally, there is good performance across the year which was within the target of under a day except for the months of January, May and October due to the rainy season. The positive performance could be attributed to the stringent pre-planning whereby the terminal knows in advance the vessels that will arrive and as such plan the berthing of vessels accordingly.

Figure 16: Waiting before berth median time(hours) for 2019
Source: KPA 2019 monthly data



5.4 Vessel Productivity (Gross Moves per Hour)

This is measured by the average gross moves (on-load, off-load and repositioning) per hour for vessels calling at the Port. The unit of measure is Moves per-ship per-hour.

The indicator focuses on Gross moves per hour on a crane's ability to move containers over the quay wall each hour. Table 24 presents the average Gross Moves per hour at the Port of Mombasa for container vessels that called in 2018 and 2019.

In the year 2018, a total of 543 vessels called at Mombasa Port delivering a total of 1,183,964 TEUs whereas in 2019 546 vessels called delivering a total of 1,306,510 TEUs. The Mombasa Port and North¬ern Corridor Community Charter targets to attain 38, 40 and 42 gross moves per hour for each vessel that calls by December 2020, 2022 and 2024 respectively. It can be noted that efficient ship operations in terms of Gross Moves Per hour has marginally improved from 30 moves in 2018 to about 32 moves in 2019. The improved productivity has been attributed to improved investment

and utilization of ship yard equipment by the KPA. This includes increase in number of Ship to Gantry cranes, Rubber Tyred Gantry (RTG) cranes, Terminal Tractors among others.

Table24:Vessel Productivity at the port of Mombasa 2018 and 2019

Source: KPA data 2018 and 2019

Year	No of ships	Total Moves	Gross Moves per hours	TEUs	Average TEUs Per ship
2018	543	855,118	30.23	1,183,964	2,187
2019	546	927,378	31.96	1,306,510	2,393

5.5 Containerized Cargo Dwell Time at the Port of Mombasa

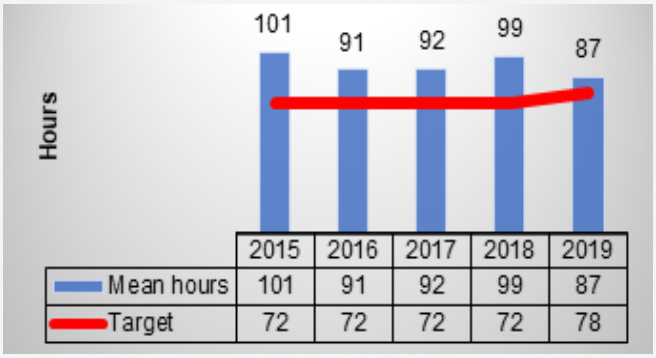
Cargo Dwell time is measured by the time elapses from the time the cargo arrives in the port to the time the goods leave the port premises after all permits and clearances have been obtained.

For the purpose of this report, the Cargo Dwell discussed is for import containers. The methodology applied in the cargo dwell time analysis, considers only cargo that arrives and exits the Port during a calendar month (i.e. based on entry inward date). For the purpose of the analysis, outlier cases of consignments held from clearance for more than 21 days due to non-compliance issues, court matters among others are excluded. The report uses the 'out date' to group the data on a monthly basis with the last day of the month being the cut-off day (at midnight); 21 days' grace period be applied to filter out outliers.

Average cargo dwell time at the port target is set at 78 hours by December 2020 as per the Mombasa Port and Northern Corri¬dor Community Charter; 60 hours by December 2022 and 48 hours by December 2024. Figure 17 provides a comparative analysis of average import containerized cargo dwell time at the port of Mombasa from 2015 to 2019. The Mombasa Port and Northern Corridor Community Charter established a baseline of 96 hours in December 2018. From the analysis, performance in dwell time has been improving over the years with 2019 recording average dwell time of 87 hours. This performance outdid the baseline of 96 hours in 2018 and is 9 hours better than the set target a pointer to enhanced efficiency.

Figure 17: Annual average containerized import cargo dwell time in hours

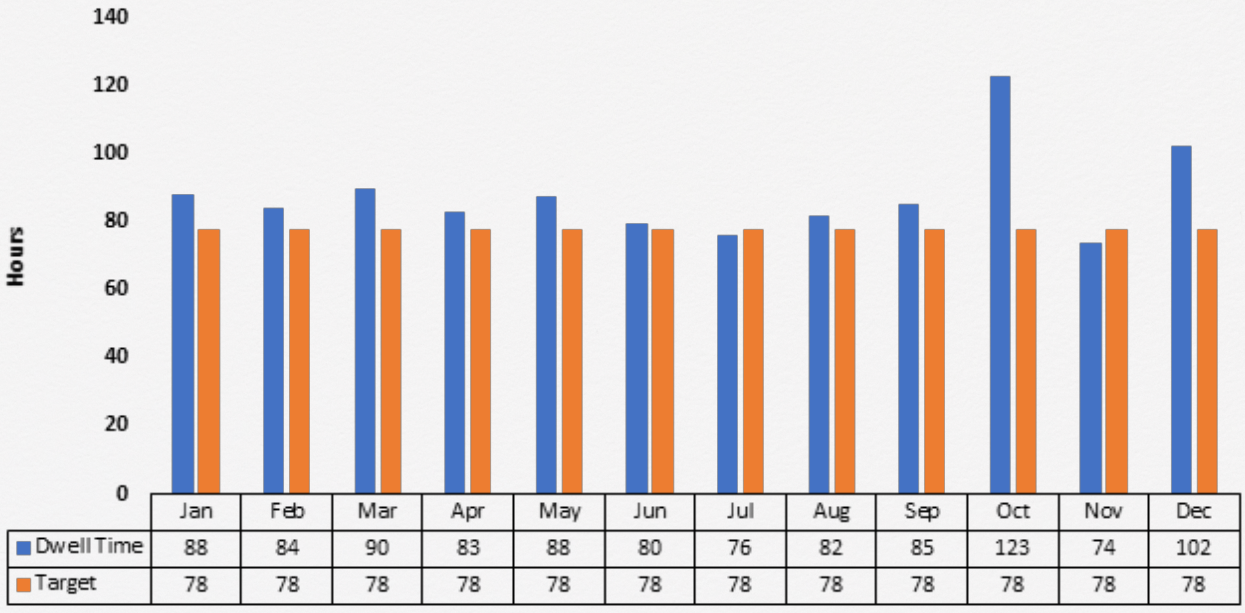
Source: KPA data 2015 to 2019



It is important to note that, various initiatives have been implemented to improve cargo port dwell time. Among them; implementation of the Standard Gauge Railway and road infrastructure construction along the port area, expansion and construction of additional terminals, acquisition of modern

Figure 18: Monthly Average Containerized Cargo Dwell Time for imports in 2019

Source: KPA data for 2019



equipment, improvements in documentation and clearance processes and automation of container handling processes.

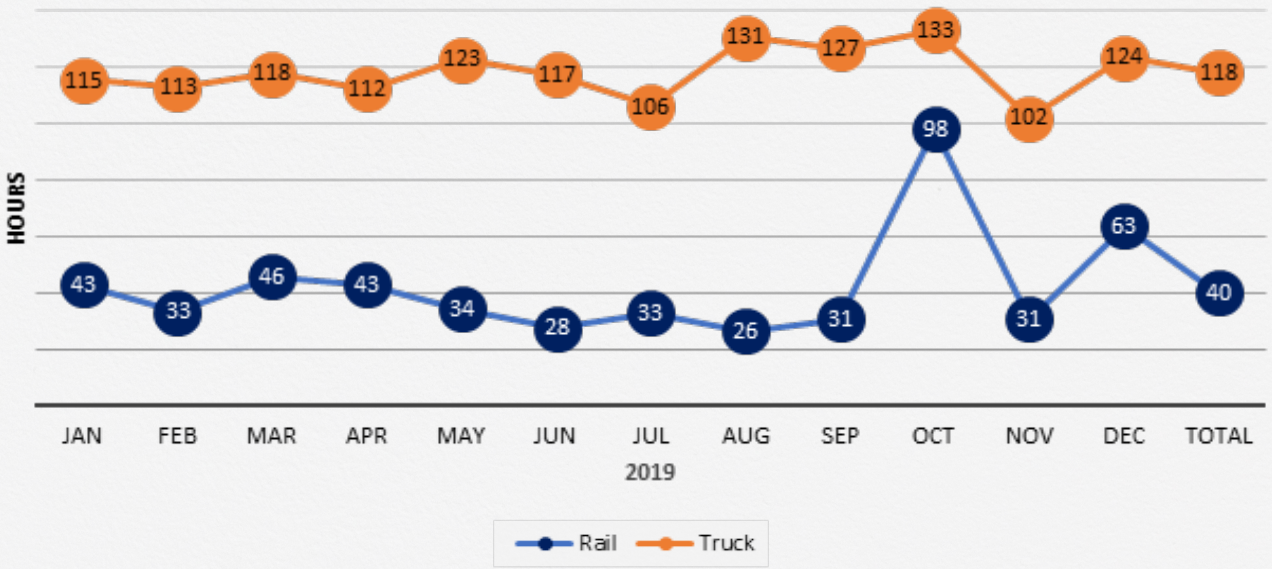
Accordingly, the dwell time of the import cargo is analyzed on a monthly basis as displayed in figure 18 for the year 2019.Performance of this indicator across the year of 2019 was short of target except for July and November. The month of October had the highest dwell time of 123 hours which could be linked to the longer ship turnaround time in the same month. When cargo arrives at the port of Mombasa, it undergoes multiple processes that take time and other cargo interveners are involved whose duration is uncertain, thus contributing to delays and costs.

Further analysis shows that 60 percent of the containers were transported out by road while 40 percent were hauled by rail. Average containerized cargo dwell time for imports at the port of Mombasa in 2019 was recorded as 87 hours. About half of the containers spent time not exceeding 53 hours while cumulatively 75 percent of containers spent under 127 hours. A comparison between the capacity of existing transportation infrastructure and future needs is core in planning purposes with regard to efficiency. Cargo terminals, where the intermodal transfer takes place, are widely considered as the most critical component of the transportation infrastructure.

An in-depth analysis on containerized cargo dwell time by mode of cargo evacuation for 2019 is presented in figure 19 below. Results show that dwell time for containers cleared by rail was faster at an average of 40 hours with about half of containers not exceeding 12 hours compared to 118 hours for containers evacuated by road. Fifty percent of the containers evacuated by road recorded an average dwell time not exceeding 92 hours.

Figure 19: Containerized cargo Dwell time by mode of cargo evacuation

Source: KPA data for 2019

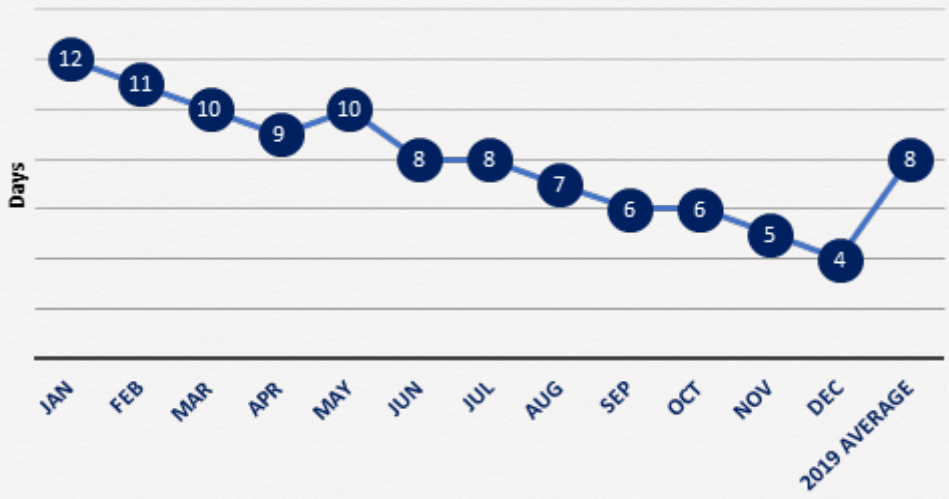


5.6 Containerized Dwell time at ICDs

Containerized Cargo Dwell time at ICDs is measured by the time that elapses from the time the cargo arrives in the ICD to the time the goods leave the ICD premises after all permits and clearances have been obtained.

For ICDs, the Cargo Arrival Time at the ICD is considered as the Arrival Time. Figure 20 illustrates average dwell time for containers at the ICD of Nairobi for the year 2019. It can be observed that performance was improving favorably over the months from a high of 12 hours in January to 4 hours in December 2019 record¬ing an annual average dwell time of 8 days. The performance is a pointer to enhanced efficiency at the ICD.

Figure 20: ICD Nairobi average cargo Dwell Time
Source: ICD Nairobi data for 2019



5.7 Time for customs clearance at the Document Processing Centre (DPC)

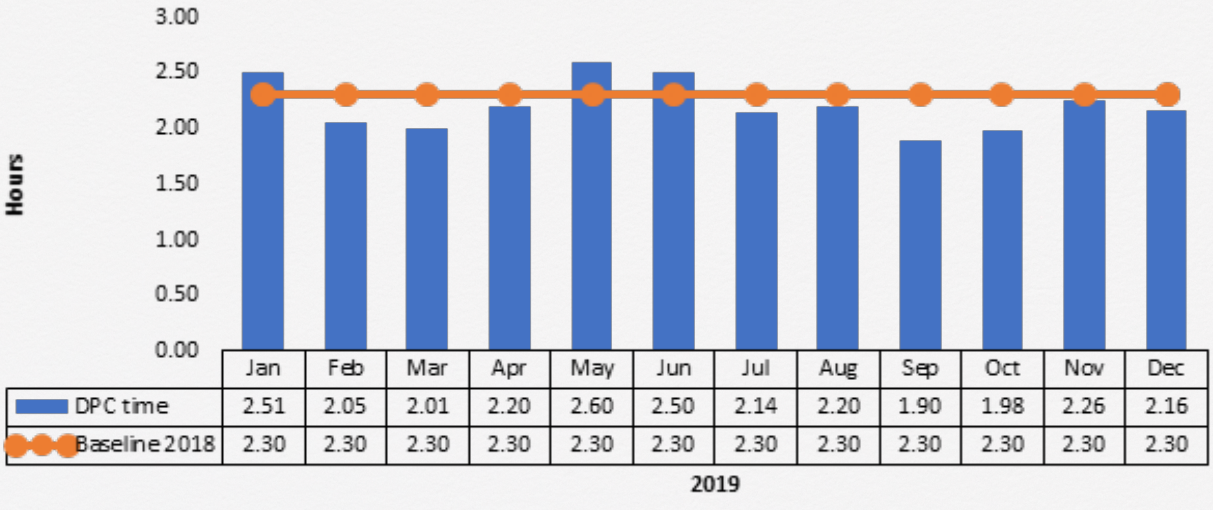
This refers to the time taken by Customs to pass an entry lodged by a clearing agent. This time bears a proportion to the total port dwell time.

Time taken at document processing center involves the following processes: first, a manifest is submitted electronically by Ships Agent to Document Processing Center in Nairobi; then the manifest is accepted in DPC and a manifest number is generated; in case there are any enquiries, the Ships Agent is sought for clarification before acceptance; the Clearing Agent submits declaration electronically to the SIMBA system; DPC proceeds with Clearance process; a Lodgment of import declaration is made and finally assessment of duty payable. This target heavily relies on the stability of the SIMBA system, integrity of clearing agents, quality of declaration by the relevant agents and Document volumes waiting pro¬-cessing.

The Mombasa Port and Northern Corridor Community Charter established a baseline of 2.3 hours in December 2018 as the average time taken at the DPC target and aims for this target to be real-time/instant by December 2020.

KRA commits to automate DPC process (Under ICMS) to be instant by accelerating DPC processes towards eventual completion and strengthen ICT infrastructure to minimize KRA customs' systems downtime and disruption. Performance of this target in 2019 is illustrated in figure 21 below.

Figure 21: Average time taken at the Document Processing Centre (DPC) in 2019
Source: KRA 2019 data



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
DPC time	2.51	2.05	2.01	2.20	2.60	2.50	2.14	2.20	1.90	1.98	2.26	2.16
Baseline 2018	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30

Results for 2019 show great improvement across the year when compared to the 2018 baseline of 2.3 hours except for the three months of January, May and June 2019.

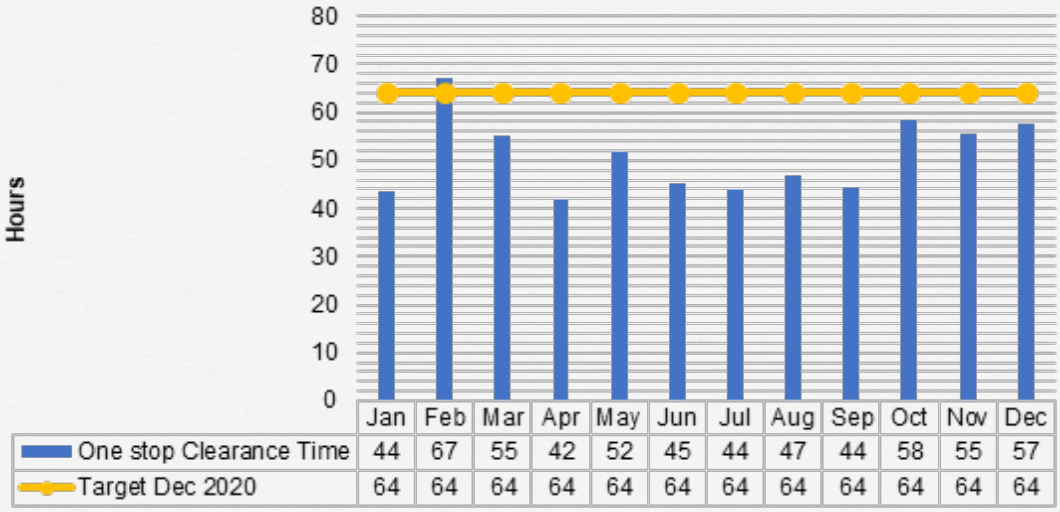
5.8 One Stop Centre Clearance Time at the port of Mombasa

One Stop Centre Clearance Time by measured as the average time taken from passing a registered customs entry to issuance of release order by customs.

The Mombasa Port and Northern Corridor Community Charter established a baseline of 80 hours in December 2018 as the average time taken at one stop center clearance and targets to achieve 64 hours by December 2020; 48 hours by December 2022 and then 24 hours by December 2024.As presented in figure 22, performance across the year was tremendous for all months which recorded positive achievement within set target of 64 hours except for February 2019 with one stop center clearance time of 67 hours. Performance varied over the months with the minimum time for the indicator being 44 hours. Further analysis shows that in 2018, the number of entries passed without stoppage by customs accounted for 70.2 percent in December 2018 and projects to increase to 74 percent by December 2020.

Automated gate clearance procedures and 24-hour operations have been fully implemented at the Port of Mombasa.

Figure 22:One Stop Centre Clearance time at the port of Mombasa 2019
Source: KRA 2019 data

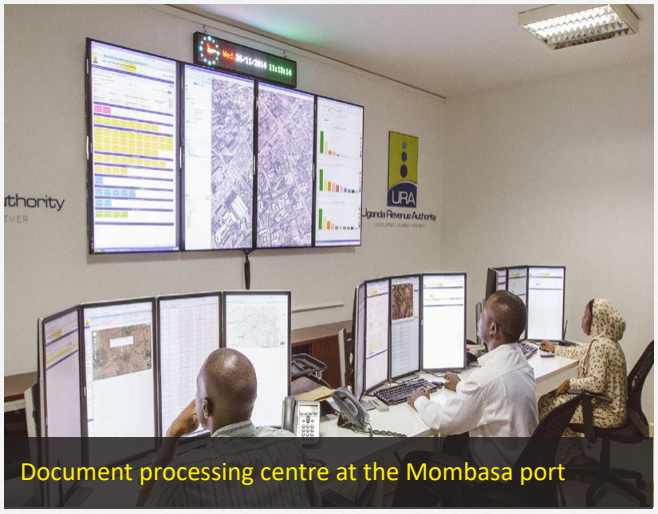


	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
One stop Clearance Time	44	67	55	42	52	45	44	47	44	58	55	57
Target Dec 2020	64	64	64	64	64	64	64	64	64	64	64	64

5.9 Delay after customs release at the port of Mombasa

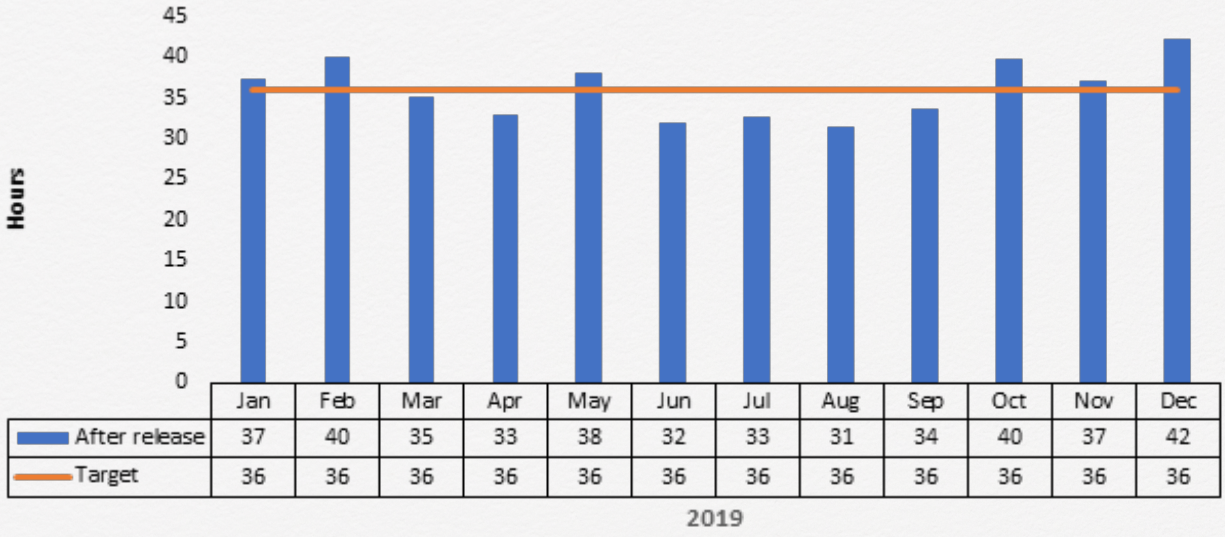
Delay after customs release refers to the time it takes to evacuate the cargo from the port after it is officially released by Customs.

The time after customs release has a significant bearing on the port dwell time. Results presented in figure 23 shows the time taken after customs have issued the transporter with a release order to actual exit of goods from the Port for the year of 2019.This time varied over the months ranging from a low of 31 hours to a high of 42 hours against the set target of 36 hours. Some of the commitments aimed at improving performance for this target include: automating gate clearance procedures and ensuring 24-hour operations which have been fully implemented. In addition, there have been great improvements in road infrastructure around the seaport and the Corridor at large as well as the implementation of Standard Gauge Rail which are bearing the desired outcomes to improve this indicator.



Document processing centre at the Mombasa port

Figure 23: Time taken to exit the Mombasa Port after customs release in 2019.
Source: KRA 2019 data



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
After release	37	40	35	33	38	32	33	31	34	40	37	42
Target	36	36	36	36	36	36	36	36	36	36	36	36

5.10 Rwanda Revenue Authority (RRA) customs release time and delays

The Mombasa Port and Northern Corridor Community Charter commits Rwanda Revenue Authority to facilitate fast processing release of transit cargo and to reduce clearance times for transit cargo. Figure 24 presents the time taken for Single Custom Territory (SCT) procedures for the year 2019 for Rwanda. The indicators analyzed include; customs entry release time, physical goods release processing time and delay after physical goods release time. The process of clearance under SCT is as follows:

- The clearing agent lodges an entry into ASYCUDA which is interfaced with other agencies under a single window system (Rwanda Electronic Single Window) that allows all the border agencies to interface with ASYCUDA when a consignment is dealt with at Mombasa.
- The Agent self-assesses taxes / bond security and pays taxes in the bank where applicable
- Customs processes and electronically issues entry release to Agent.
- If a consignment is dealt with at Mombasa, the Agent requests for physical release of goods from RRA Mombasa office; RRA issues a physical goods release order (Exit Note) to the Agent.
- Basing on the Exit Note, KRA processes final release of goods from the Port on Form C2 which accompanies the goods to exit border station and also seals the goods where applicable
- Seals are applied at Mombasa and the other agencies conduct their procedures when the truck/goods arrive at the trader's premise in Rwanda.

Delay after customs release has a significant bearing on the port dwell time.

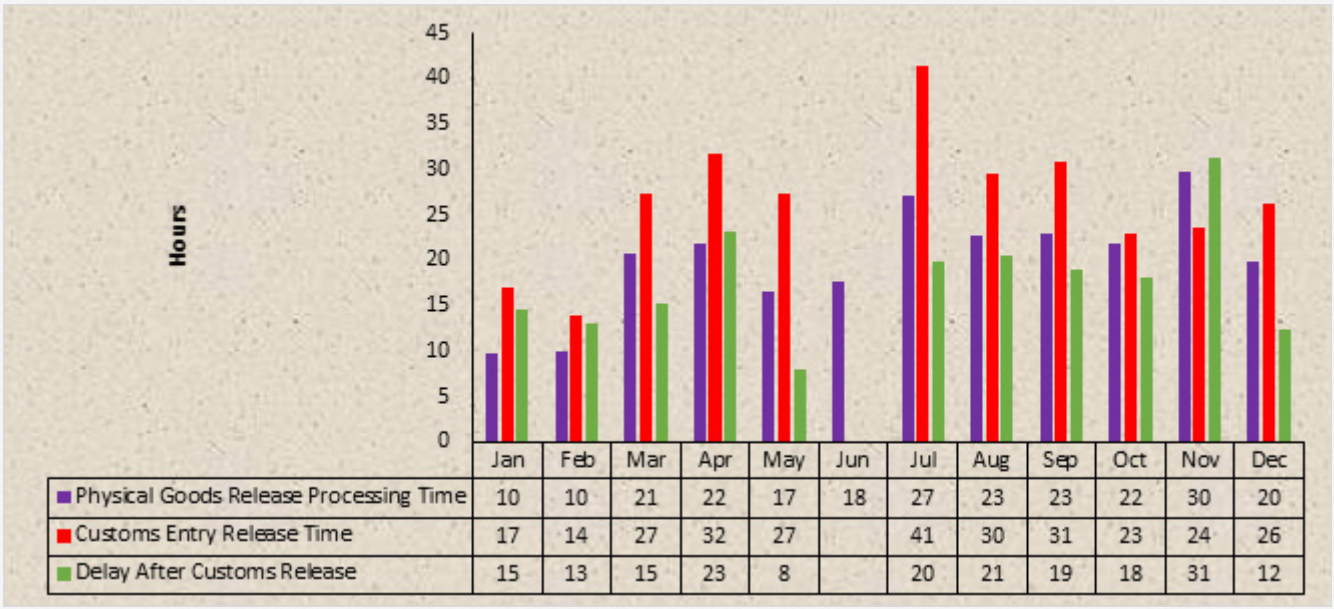
The time taken after issuance of Customs Exit Note to the time of Issuance of Form C2 (Physical Goods Release by KRA) widely varied over the year with a high of 31 hours in October and a low of 8 hours in May 2019. Similarly, the average time taken from passing a registered entry to the time of customs entry release (Customs issues a Release Order/T1) deteriorated during the review year. Performance for Physical Goods Release Processing time (defined as "the time taken from issuance of a Customs Entry Release Order/T1 to the time of Issuance of a Customs Exit Note) was not steady during the year under review as seen in the figure below.

Overall there is still a challenge of automated exchange of data among the Member States participating in the SCT framework of clearing goods, the said interface/platform for exchange of data on goods being cleared is not efficient. There is need to adopt a single transit system for the Northern Corridor for clearance of internationally traded goods as recommended by earlier studies in order to address this problem.

Kenya National Highway Authority (KeNHA) has installed High Speed Weigh in Motion (HSWIM) and multi deck weighing scales

Figure 24: RRA SCT processes release times at the Port of Mombasa

Source: RRA data 2019



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Physical Goods Release Processing Time	10	10	21	22	17	18	27	23	23	22	30	20
Customs Entry Release Time	17	14	27	32	27		41	30	31	23	24	26
Delay After Customs Release	15	13	15	23	8		20	21	19	18	31	12

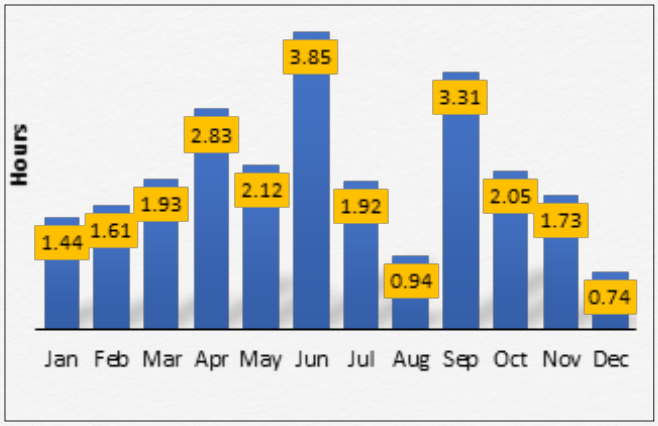
5.11 Dwell Time at MAGERWA ICD in Rwanda

This indictor is measured from the time the driver of the vehicle receives authorization to enter the MAGERWA gate to the time of departure of the truck from the terminal exit gate.

MAGERWA inland depot is a logistics inland cargo handling facility located in Kigali. The dry port was established in 1969 and offers storage facilities, equipment rental services and operates as a public bonded warehouse experienced in managing assorted varieties of cargo; Land freight, Air Freight, Transit goods among others. As the first custom bonded warehouses of Rwanda, the company has been handling most of the goods imported to, transiting through and exported.

Figure 25 presents statistics for 54,546 trucks that were assessed to determine dwell time in 2019. Analysis shows that the average dwell time at MAGERWA ICD in 2019 was 2 hours with monthly variations from a high of 4 hours in June 2019 to a low of 1 hour in December 2019. Most of the trucks are cleared within 2 hours.

Figure 25:Average truck dwell time at Magerwa
Source: Magerwa, Jan to Dec 2019



5.12 Weighbridge traffic along the Northern Corridor

The indicator measures the average number of trucks weighed per day at the various weighbridges in respective countries of the Northern Corridor.

Figure 26 illustrates average daily traffic at five weighbrigdes for both inbound and outbound trucks. Athi-River weighbridge recorded the highest annual average of weghbridge traffic while Webuye and Busia Weighbrigdes recorded lower traffic which majorly comprises of transit cargo heading to the border points of Malaba and Busia respectively.

Figure 26: Weighbridge traffic through Kenyan weighbridges
Annual Average, Weighbridge Traffic (2019)

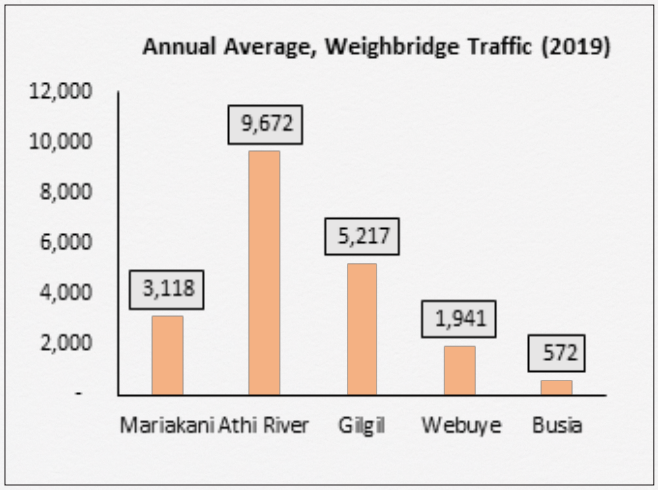
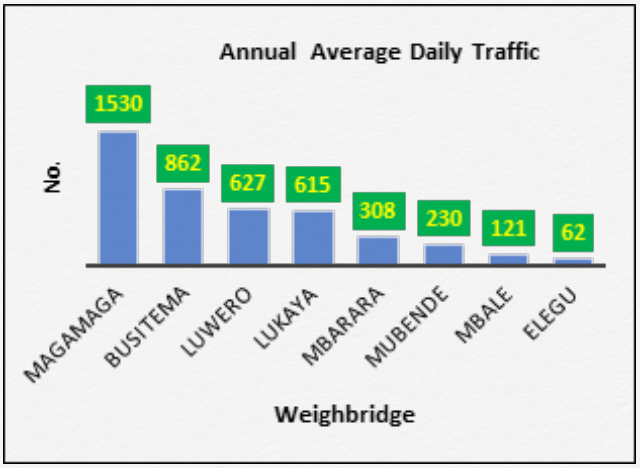


Figure 27 illustrates annual average daily traffic weighed for Uganda weighbridges along the Northern Corridor for the period covering January to December 2019.Analysis reveals that Magamaga and Busitema weighbridge recorded the highest traffic of 1,530 and 862 respectively over the period and Elegu weighbridge recorded the least traffic.

Figure 27: Weighbridge traffic through Ugandan weighbridges

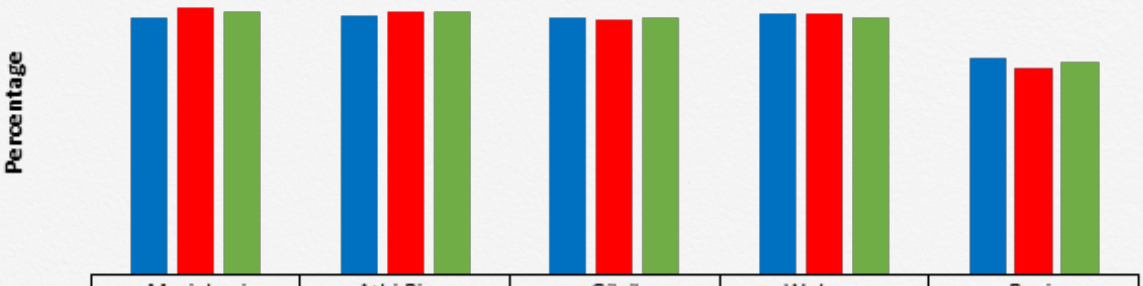


5.13 Weighbridge Compliance along the Northern Corridor

The indicator measures the percentage of trucks that comply with the gross vehicle weight and the vehicle axle load limits before and after re-distribution of cargo as stipulated in the EAC Vehicle Load Control Act.

Figure 28 presents level of compliance at Kenyan weighbridges along the Northern Corridor for both inbound and outbound trucks. Kenya National Highway Authority (KeNHA) has installed High Speed Weigh in Motion (HSWIM) and multi deck weighing scales at: Mariakani; Athi River; Gilgil and Webuye which are fully automated. In the analysis, weighbridges recorded a steady performance in terms of compliance levels of over 95 percent performance except for Busia weighbridge whose compliance level was steady at an average of 79 percent in 2019. Low compliance at the Busia weighbridge could be attributed to the weighbridge basing its compliance on three parameters; Gross Vehicle Weight, Axle Vehicle Weight and Axle Group Vehicle Weight. For the other weighbridges if an axle group is compliant the truck is allowed to proceed but for Busia each axle has to be compliant. This scenario is also witnessed at most static weighbridges. In addition, there is a possibility that the Busia weighbridge handle cargo that originates from the region and has not been weighed elsewhere. The target of 100% compliance has not yet been attained.

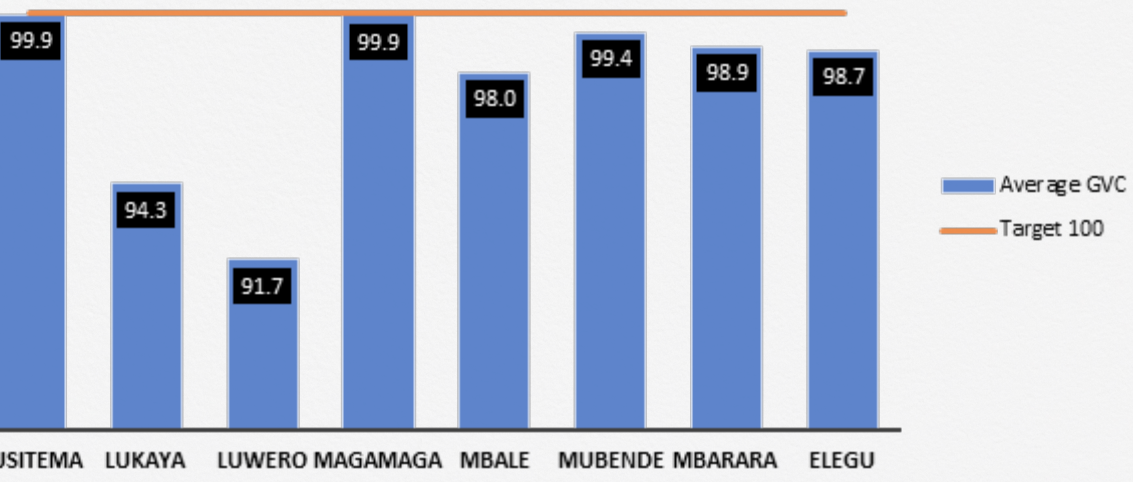
Figure 28: Weighbridge compliance at the Kenyan weighbridges
Source: KeNHA, data 2017 to 2019



	Mariakani	Athi River	Gilgil	Webuye	Busia
2017	95	96	95	97	80
2018	99	97	95	97	77
2019	98	98	95	95	79

Uganda has its Gross Vehicle Weight (GVW) limit at 56 tons. Enforcement is based on both Gross and Axle load limit. Figure 29 illustrates the level of compliance at the Ugandan weighbridges along the Northern Corridor. All the weighbridges reported recorded very high performance in terms of GVW compliance levels of above 90 percent performance. However, Compliance on the Axle Load Limit was still low (varying between 12 percent to 23 percent at all weighbridges occasioned by the weighbridges not implementing the high-speed weigh –in- motion. The target of 100% compliance has not yet been attained.).

Figure 29: Average Gross Vehicle Weight Compliance Level at weighbridges in Uganda
Source: KeNHA, data 2017 to 2019



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Chapter 6

Rates and Costs

6. Rates and Costs

Transport costs are summation of various costs incurred in moving a passenger or a unit of freight between a specific origin and destination. These costs are often passed on to consumers through the total cost of good. The total cost of transport can be inferred from whole costs associated with the logistics chain. Logistics costs are classified as; administrative costs, transport costs and inventory costs.

Port charges which are the charges that port users must pay for the services and facilities in the port are also part of these costs. There are several costs which are incurred for marine services when its vessel calls at a particular port. Such charges include pilot fees, tug boat charges, gauge, port & quay dues, communication expenses, administration charges, terminal handling expenses, storage and bunkering charges, commission fees, agency fees and waste processing charges.

Analysis of the total cost of the supply chain would be important, transport charges only forming a part of it. This chapter takes an analysis at transport rates incurred by traders in moving freight by road from origin and destination. The scope is limited only to the costs incurred by truckers and not the entire logistics costs. The discussion will be guided by data obtained from various trucking and transport companies in respective Member States of the Northern Corridor.

6.1 Transport rates by road in Northern Corridor Member States

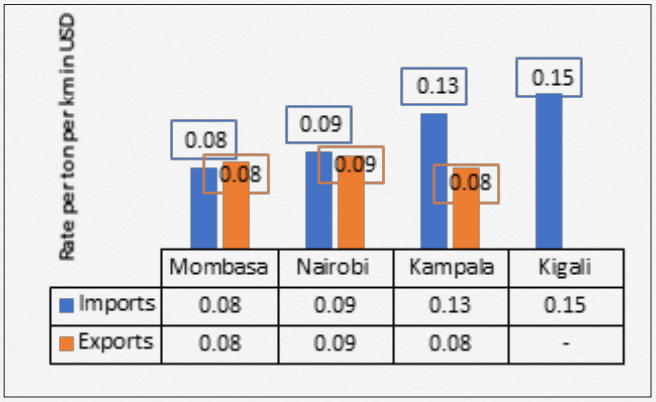
6.1.1 Transport Rates by road by Burundi Transporters

Figure 30 summarizes transport charges per kilometer per ton to Bujumbura in USD as of December 2019. The tariffs for imports from Kampala and Kigali to Bujumbura were much costlier per kilometer at USD 0.13 and 0.15 respectively. Tariff cost from Mombasa and Nairobi through Namanga costed the lowest at USD 0.08 and 0.09 per kilometer per ton respectively. It is important to note that transport rates are reducing substantively over the years. The lower tariff could be attributable to shorter distance and good road condition; Nairobi – Namanga route road is paved and there are fewer road blocks. It has only one mobile weighbridge and a road user charge of approximately 30 dollars. Some of the goods transported include; coffee, tea, iron, steel, cement and other construction materials. Most good from Kenya originate from Nairobi and Mombasa.

The number of road trips made during the period under review (2019), are very minimal averaging one roundtrip per month this may be due availability of cargo for transportation. There was no trip made from Bujumbura to Juba. The report recommends a qualitative survey to determine inefficiencies and bottlenecks along the Corridor and recommend ways that could lead to increased roundtrips, truck turnaround and hence operational efficiency for transporters.

Figure 30:Road transport tariff from/to Burundi per Ton per KM in USD December 2019

Source: "Association des Transporteurs Internationaux du Burundi", December 2019



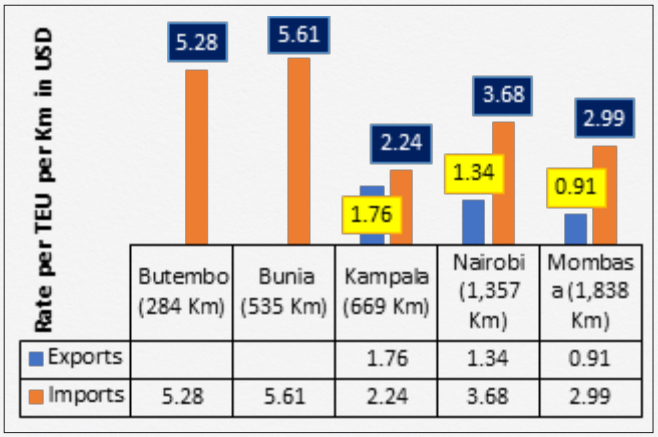
	Mombasa	Nairobi	Kampala	Kigali
Imports	0.08	0.09	0.13	0.15
Exports	0.08	0.09	0.08	-

6.1.2 Transport Rates by road by DRC Transporters

Figure 31 provides various costs incurred per TEU for imports and exports for road transport tariff from and to Goma to various destinations along the Northern Corridor. Data shows that transport rates for both imports and exports are charged differently based on the cargo destination. From the analysis, imports attract high/expensive freight charges as opposed to exports from the region. Imports from Bunia and Butembo attract higher freight charges of $5.6 and $5.3 per TEU/Km respectively than other destinations despite the shorter distance which was occasioned by poor road conditions on these stretches. The rates from Goma to Mombasa, Nairobi and Kampala were cheaper at $1.76, $1.34 and $0.91 respectively; possibly because most of the containers were empty. Comparing the cost of transport within DRC suggest that the rates in the other countries are cheaper.

Figure 31:Road freight charges from/to Goma per Km in USD as at Dec 2019

Source: FEC, December 2019



	Butembo (284 Km)	Bunia (535 Km)	Kampala (669 Km)	Nairobi (1,357 Km)	Mombasa (1,838 Km)
Exports			1.76	1.34	0.91
Imports	5.28	5.61	2.24	3.68	2.99

Table 25 provides a summary of the average number of round trips made by transporters from Goma to other destinations. The Goma-Kigali route registered the highest number of roundtrips with an average of 6 round trips. Number of roundtrips to Butembo, Bunia, Bujumbura and Kampala were 4 during the same period.

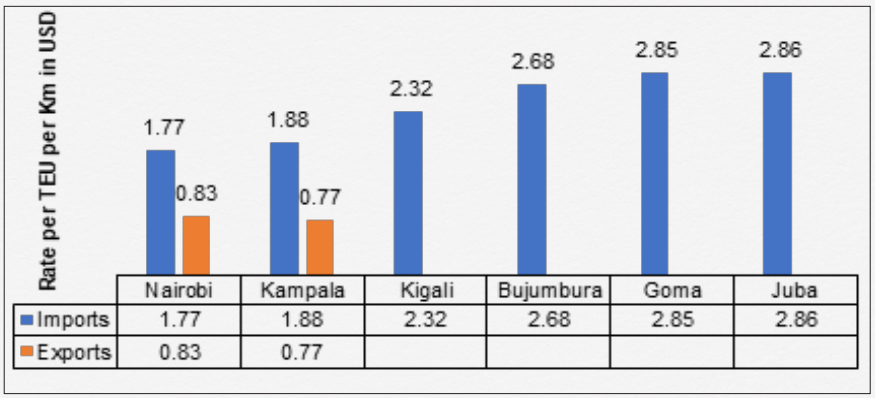
Table 25: Average number of Round trips done to the following destination in a month
Source: FEC, December 2019

From	To	Number of round trips
Goma	Kigali	6
Goma	Butembo	4
Goma	Bunia	4
Goma	Bujumbura	4
Goma	Kampala	4
Goma	Juba	2
Goma	Nairobi	2
Goma	Mombasa	2

6.1.3 Transport Rates by road by Kenya Transporters

Figure 32 provides the average transport tariff per container per km for moving a container from/to Mombasa to main destinations along the Northern Corridor. There were no exports from Kigali, Bujumbura, Goma and Juba. However, the average transport rates for exports from Kampala to Mombasa route was the cheapest at 0.77 USD per kilometer per truck load compared to Nairobi- Mombasa route which charged 0.83 USD per kilometer per truck load despite the shorter distance. Lack of return/exports from Juba route could be attributed to the distance and other concerns including security.

Figure 32: Road freight charges from/to Mombasa per Km in USD as at Dec 2019
Source: KTA, data December 2019



Further, analysis presented show that it was expensive to transport cargo from Mombasa to Bujumbura, Goma and Juba at a cost of USD 2.7 and 2.9 per container per kilometer respectively. This indicates that cross border logistics and other concerns including security have an impact on the cost of cargo transportation to different destination. It is notable that the cost for long distances remains high.

The Mombasa Port & Northern Corridor Community Charter provides the target of between 120,000 to 150,000 Km per year per truck as the annual distance trucks have to cover as a benchmark to international standards. Average distance (km) covered per truck from 2019 varied widely for different transporters ranging from 70,000 km to 80,000 km which is still below the Charter target.

The numbers of return trips are mainly influenced by distance to respective destinations for instance the highest number of round trips was recorded from Mombasa to Nairobi due to the short distance covered contrary to Goma and Bujumbura which recorded the lowest number of 1 trip per month as presented in table 26 below.

Table 26: The number of round trips in 2019 from Mombasa
Source: KTA, data December 2019

From	To	Distance in Km	No. of Round-Trips per month
Mombasa	Nairobi	481	5-6
Mombasa	Kampala	1,170	3
Mombasa	Kigali	1,682	2
Mombasa	Juba	1,662	2
Mombasa	Goma	1,840	1-2

Ever since the Standard Gauge Railway (SGR) freight service (Mombasa-Nairobi return route) was launched in January 2018, a number of trucks have opted to offer last mile connection as significant business moved from roads to the railway. From the data provided by transporters, average cost of transporting cargo by road from Nairobi ICD to within Nairobi environs is about USD250 – 350 whereas it costs around $ 350 – 450 to transport a TEU container from ICDN to outskirts of Nairobi.

A truck transports oil in Rwanda

6.1.4 Transport Rates by road by Rwanda Transporters

The number of licensed fleet in Rwanda has been increasing marginally over the years. Figure 33 presents the tariffs for transporting a 20 feet container either to or from Kigali for both imports and exports. From the analysis, imported cargo attracted higher freight charges than export cargo except for imports from Bujumbura. It is also evident that transportation costs per kilometer were cheaper for cargo originating from Mombasa and Nairobi which have the longest distances of 1,682 kilometers and 1,201 kilometers respectively.

On the contrary truck load per kilometer freight costs for shorter journeys like Bujumbura (275 Km) and Goma (156 Km) attracted expensive charges of over $6 for both export and import cargo. Transporters charged $ 3.90 per container per kilometer for both imports and exports to Kampala. High transports charges are an impediment to trade, it is incumbent upon policy makers on routes that return high costs to work on eliminating the logistical and infrastructural bottlenecks that may exist.

In the year 2019, the average distance covered per truck was approximately 70,000 kilometers per one year with an average 18 trips from Kigali to Mombasa return. Table 27 presents the total number of round trips in Rwanda in 2019. The Kigali – Kampala registered the highest number of roundtrips with an average of 7 round trips followed closely with Kigali-Goma registering 7 roundtrips, 5 for Bujumbura, 4 for Nairobi and 2.5 for Mombasa over the same period. It is evident that in spite of the higher freight costs alluded to earlier, Goma remains among the key cargo destination from Kigali.

Figure 33: Road freight charges from/to Kigali in USD as at Dec 2019

Source: ACPLRWA December 2019

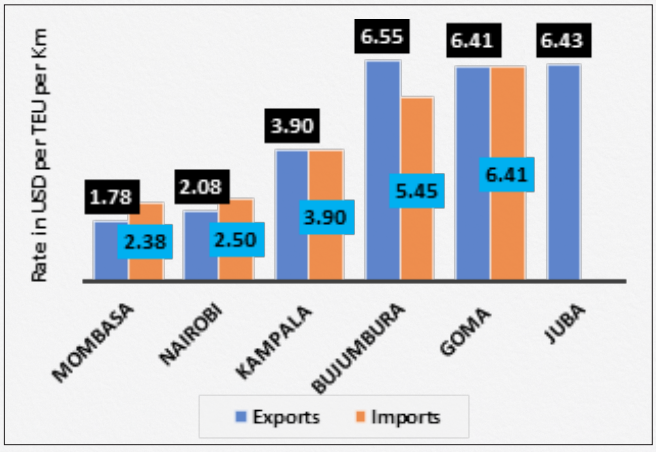


Table 27:The number of round trips in 2019 from Kigali

Source: ACPLRWA December 2019

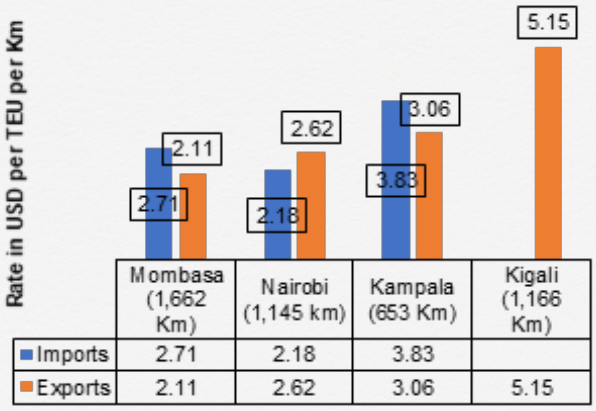
From	To	Number of Round Trips
Kigali	Goma	6
Kigali	Kampala	7
Kigali	Bujumbura	5
Kigali	Juba	1
Kigali	Nairobi	4
Kigali	Mombasa	2.5

6.1.5 Transport Rates by road by South Sudan Transporters

Figure 34 shows the road transport rates from or to Juba and other towns in the Northern Corridor Member States in US dollars per kilometer. South Sudan is vast and has some of the longest distances covered by transporters. The transport rate varied across the Member States with exports from Juba to Mombasa attracting a lower charge of $ 2.11 per TEU per kilometer when compared to others irrespective of the long distance. Imports from Nairobi to Juba attracted a cost of $2.18 for a TEU per Km while from Mombasa the cost stood at $2.71. The Juba – Kigali route recorded the higher cost per kilometer standing at $5.15 per TEU per kilometer implying that cross border logistics and other concerns including security have an impact on the cost of cargo transportation to different destination.

Figure 34: Current transport tariff in USD for South Sudan transporters in 2019

Source: B $ S group of companies, 2018



	Mombasa (1,662 Km)	Nairobi (1,145 km)	Kampala (653 Km)	Kigali (1,166 Km)
Imports	2.71	2.18	3.83	
Exports	2.11	2.62	3.06	5.15

6.1.6 Transport Rates by road by Uganda Transporters

Figure 35 presents the transport rate in Uganda per container per Kilometer for exports from Kampala and for imports to Kampala in USD as at December 2019. From the analysis Butembo and Bunia routes recorded expensive transport rates of above $ 5 per TEU per Kilometer for exports. Similarly, imports from Butembo and Bunia attract higher tariff per kilometer at $ 3.9 and $4.3 respectively despite the short distance. Conversely Kampala – Mombasa has the cheapest tariffs on exports followed very closely by Kampala- Nairobi.

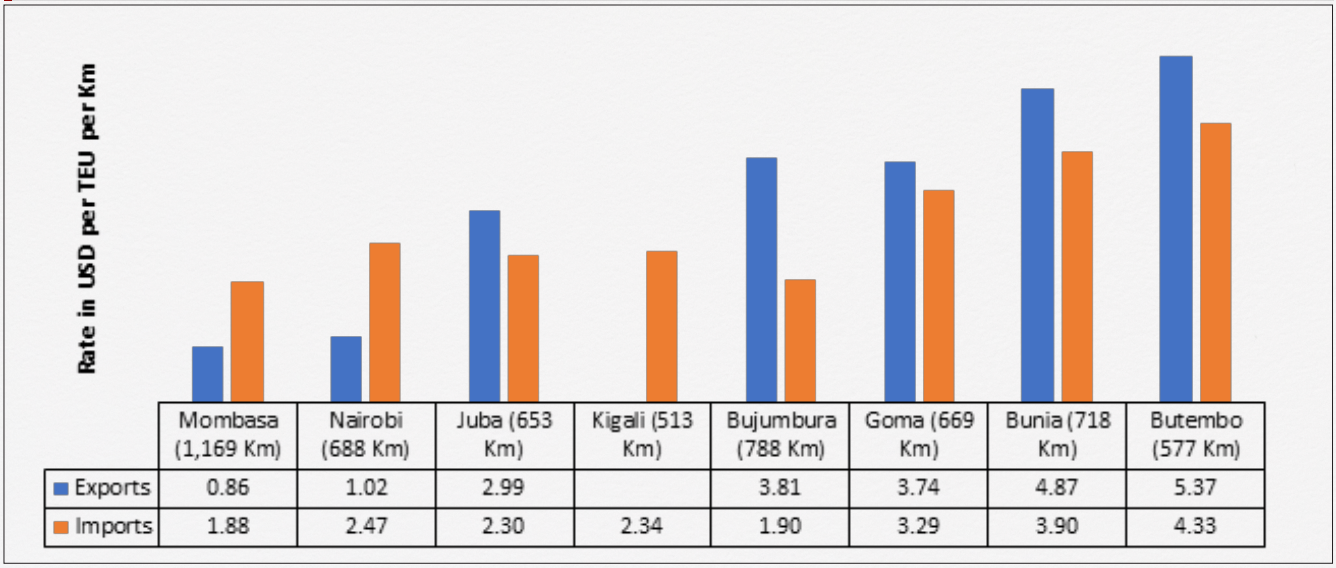
Further analysis shows that cost of transporting cargo from Mombasa to Kampala was cheaper than Kigali -Kampala despite being longer distance. A number of challenges were highlighted among them was that:

- Uganda police do not recognize COMESA insurance certificate for foreign registered vehicles passing through Uganda;
- Traffic jams in the major cities especially Kampala should consider stopping licensing the fourteen-seater commuter passenger service vehicles;

Table 28 provides a summary of the average number of round trips made by transporters from Kampala to other destinations per month. Data indicates that the most active routes were Kampala to Mombasa and Kampala- Nairobi with an average of 5 round trips per month compared to other destinations. The other destinations that had an average of 4 round trips per month were Kampala to Juba and Kigali. From the data, average annual distance covered by a truck in kilometers in 2019 was 130,000 kilometers.

Figure 35:Current transport tariff in USD ($) by Kampala Transporters

Source: Uganda National Transporters' Association (UNTA) December 2019



	Mombasa (1,169 Km)	Nairobi (688 Km)	Juba (653 Km)	Kigali (513 Km)	Bujumbura (788 Km)	Goma (669 Km)	Bunia (718 Km)	Butembo (577 Km)
Exports	0.86	1.02	2.99		3.81	3.74	4.87	5.37
Imports	1.88	2.47	2.30	2.34	1.90	3.29	3.90	4.33

Table 28: The number of round trips done to the following destination in a month
Source: Uganda National Transporters' Association (UNTA) December 2019

From	To	Number of round trips
Kampala	Mombasa	5
Kampala	Nairobi	5
Kampala	Juba	4
Kampala	Kigali	4
Kampala	Goma	3
Kampala	Bujumbura	3
Kampala	Bunia	2
Kampala	Butembo	2

6.2 Pipeline Fuel tariff in NC Member States

In Kenya, pipeline transportation rates are as published by the Energy and Petroleum Regulatory Authority (EPRA) from time to time as per the section 11 (b) of the Energy Act, 2019 that. The current fuel tariffs were published in November 2019 presented in table 29 below. The tariff is expected to be cheaper in the long run. The effective date of the above set tariffs is 15th November, 2019.

Table 29: Applicable Pipeline Fuel Tariff (Ksh/m³/km)
Source: Kenya gazette vol. CXXI, No. 152 dated 8th November 2019

Financial year	Applicable Tariff (Ksh/m³/km)
2019 - 2020	4.20
2020 – 2021	3.90
2021 - 2022	3.70

The breakdown for local and export tariff is as follows:

Table 30: Transport rates for tankers in KShs as of December 2019
Source: Kenya gazette vol. CXXI, No. 152 dated 8th November 2019

	Distance in km	Tariff 2019/20	Tariff 2020/21	Tariff 2021/22
Applicable tariff (Ksh. /m³/km)		4.2	3.9	3.7
Moi Airport (USD/m³)		17.46	17.32	16.44
Jomo Kenyatta Airport (USD/m³)	450	17.46	17.32	16.44
Nairobi Terminal (Ksh. /m¹)	450	1,768.91	1,755.00	1,665.00
Nakuru Terminal (Ksh. /m¹)	619			
Local (Ksh./m³)		2,433.23	2,414.10	2,290.30
Export (USD/m³)		24.02	23.83	22.61
Eldoret Terminal	796			
Local (Ksh./m³)		3,129.00	3,104.40	2,945.20
Export (USD/m³)		30.89	30.65	29.07
Kisumu Terminal	795			
Local (Ksh./m³)		3,125.07	3,100.50	2,941.50
Export (USD/m³)		30.89	30.61	29.04

The data from Kenya shows the charges for clicker and oil are charged per ton depending on the destinations. For instance, Mombasa – Tororo charges are 60 USD per Ton; Mombasa – Jinja ranges between 62 -65 USD per Ton and Mombasa – Kampala varies between 70 – 75 USD per Ton.

The data from Rwanda also shows the transport rates charged by fuel tankers per cubic metre per kilometer. The cost of transporting by a tanker from Mombasa and Dar-es-salaam stood at $130 per cubic meter. The cost of transporting by fuel tankers from Eldoret and Kisumu was $60 per cubic meter, $70 from Nakuru and $90 from Nairobi.

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Chapter 7

Transit Time and Delays

RECTS allows Revenue Authorities in Rwanda, Uganda and Kenya to jointly and electronically track and monitor goods (whose taxes have not been paid) along the Northern Corridor from Loading (Departure) to destination.

7.1 Introduction

The main objective of the Northern Corridor is to facilitate seamless trade flow among the Member States. The discussion presented in this chapter examines transit time in respective Member States of the northern corridor, border crossing, weighbridge crossing times, stoppage locations, causes and delays time at major nodes of the corridor. Data sources are from road survey data using ArcGIS Mobile application, electronic systems of Revenue Authorities namely; Regional Electronic Cargo Tracking System (RECTS), ASYCUDA, Single Custom Territory (SCT) and SIMBA system. Transit time is greatly affected by stoppages along the Corridor. Some of the main stoppage reasons include; drivers' personal reasons, police checks, weighbridges, company checks, road conditions, custom checks among other reasons.

Transit time is measured by the average time transit trucks take to move from origin to destination. There are various sources of data for this indicator including ASYCUDA, SIMBA, RECTS and SCT. Transit time is key indicator of efficiency on the Corridor and has a direct bearing on the costs of goods.

7.2 Transit Time under RECTS

Regional Electronic Cargo Tracking System (RECTS), connecting Kenya, Rwanda and Uganda was implemented in March 2018 with the objective of reducing the cost of cargo transportation along the Northern Corridor. RECTS allows Revenue Authorities in Rwanda, Uganda and Kenya to jointly and electronically track and monitor goods (whose taxes have not been paid) along the Northern Corridor from Loading (Departure) to destination within Kenya, Rwanda and Uganda. Burundi, DRC and South Sudan have not yet acquired ECTS. Currently KRA has about 3,000 R-ECTS gadgets accounting for only 15 percent of the transit cargo along the Corridor. Not all goods are tracked using ECTS. The scope of analysis on this indicator is only for goods tracked with the ECTS gadgets.

7.2.1 Transit time in Kenya under the RECTS

Using RECTS data, Transit Time is measured from the time exits the port gate to the time the truck arrives at exit border station such Busia, Malaba and Taveta for goods leaving Kenya by road.Malaba and Busia borders are the main exit borders for Kenya.

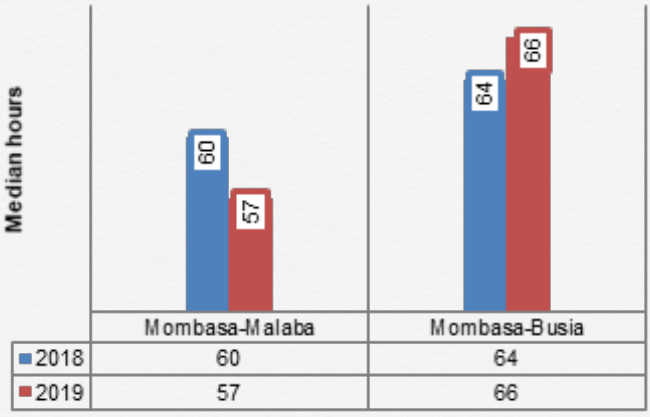
Based on the Mombasa Port and Northern Corri¬dor Community Charter, the set target for transit time from Mombasa to Malaba is 60 hours by December 2020; 40 hours by December 2022 and 36 hours by December 2024. On the other hand, the Charter target for transit time from Mombasa to Busia is 65 hours by December 2020; 45 hours by December 2022 and 36 hours by December 2024.TheCharter established a baseline of 84hourson both routes as at December 2018.

The distance between Mombasa to Malaba is 933 km. Figure 36 provides a comparative analysis of transit time from the port of Mombasa in 2018 to 2019. In 2018, a sample of 1,059 trucks was used in 2018 whereas 235 trucks were analyzed in 2019 on the Mombasa- Malaba route. As aforementioned, the number of RECTS gadgets is very minimal. Transit time from Mombasa to Malaba improved marginally from 60 median hours in 2018 to 57 median hours in 2019. The positive performance is within the Charter target of 60 hours and was occasioned by improvement/expansion of road in-

frastructure, implementation of the High-Speed Weigh in Motion (HSWIM) weighbridges, implementation of the SCT framework for clearance of goods, one-stop border points among others clearly an indication to enhanced efficiency.

Mombasa-Busia route covers a distance of approximately 947 Km. Busia offers an alternative entry and exit route for goods to Uganda and other Northern Corridor Member States. Traffic on this section is a quarter of total traffic at Malaba border. Results show steady performance on transit time from Mombasa to Busia of 66 median hours in 2019 against the Charter target of 65 hours. Mombasa to Malaba remains the fastest route with an average speed of 16 kms per hour whereas Mombasa-Busia route had an average speed of 14 kms per hour in 2019.

Figure 36: Transit time from Mombasa to Malaba and Busia borders
Source: KRA-RECTS data 2018 and 2019



7.2.2 Transit time in Uganda under the RECTS

Transit time in Uganda is defined as the time taken to move cargo from the entry border station to the various destinations in Uganda, it includes stoppage times.

Figure 37 below shows comparative transit times in Uganda using data from the Regional Electronic Cargo Tracking System (RECTS) for goods from Malaba border. The transit time varied on different routes depending on a number of factors such as distance, status of the road, non-tariff barriers among others. Malaba-Elegu route recorded the highest traffic both in (Jan-Dec) 2018 and 2019 of 1,789 and 746 counts respectively. Malaba to Mpondwe and Oraba routes recorded traffic of 372 and 325 trucks respectively in 2019. Further, analysis show that transit time over the two-year period was steady except for Malaba to Kampala which recorded almost double transit time from 25 median hours in 2018 to 46 median hours in 2019 suggesting that the factors constraining cargo movement on the route were prevalent.

The average speed per hour on the Malaba-Kampala route deteriorated from 10 kms per hour in 2018 to 5 kms per hour in 2019 which was occasioned by congestion due to weather conditions, high number of black spots on the route and longer time to clear and disarm the ECTS for trucks destined to Bonded Warehouses and Transit Sheds in Kampala that slowed the speed. Contrary, Malaba- Oraba was the fastest route with a speed of 26 kms per hour as well as Malaba-Elegu and Malaba- Goli routes with an average speed of 24 kms per hour in 2019 each. Malaba-Mpondwe route recorded speed of 19 kms per hour in 2019.

Figure 37: Transit time from Malaba border to Various destinations in hours
Source: URA-RECTS data 2018 and 2019

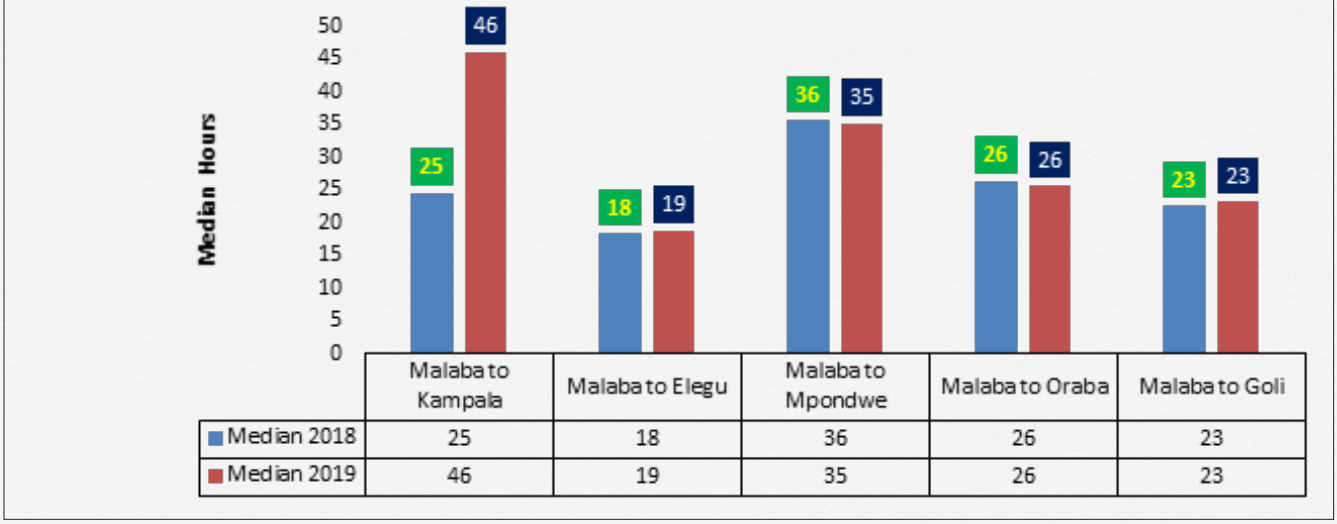
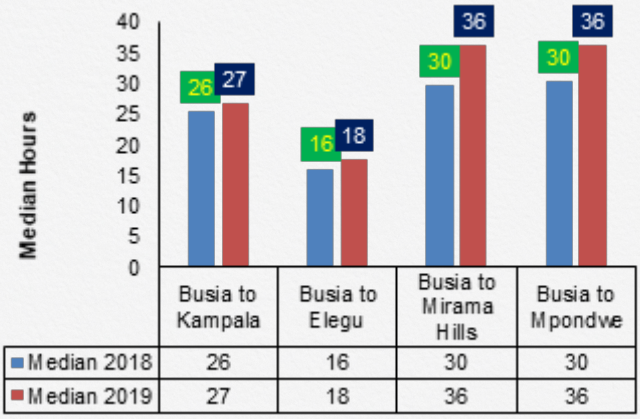


Figure 38 below shows comparative transit times in Uganda from Busia border to Kampala, Elegu, Mirama Hills and Mpondwe. Data shows that average transit time deteriorated marginally on all the routes over the review period. It

can also be noted that Busia to Kampala is the slowest route averaging 7 Kms per hour despite the shorter distance compared to Busia- Elegu route that averaged 30 Kms per hour over the review period. Sometimes it takes longer for the RECTS gadgets to be disarmed when a truck arrives at destination; this, can contribute to an increase in transit time. Further, whereas Busia border work 24/7, Bonded Warehouses in Kampala where some of the cargo is deposited pending clearance do not operate 24/7.

Figure 38: Transit time from Busia border to various destinations in hours

Source: URA-RECTS data 2018 and 2019



	Busia to Kampala	Busia to Elegu	Busia to Mirama Hills	Busia to Mpondwe
Median 2018	26	16	30	30
Median 2019	27	18	36	36

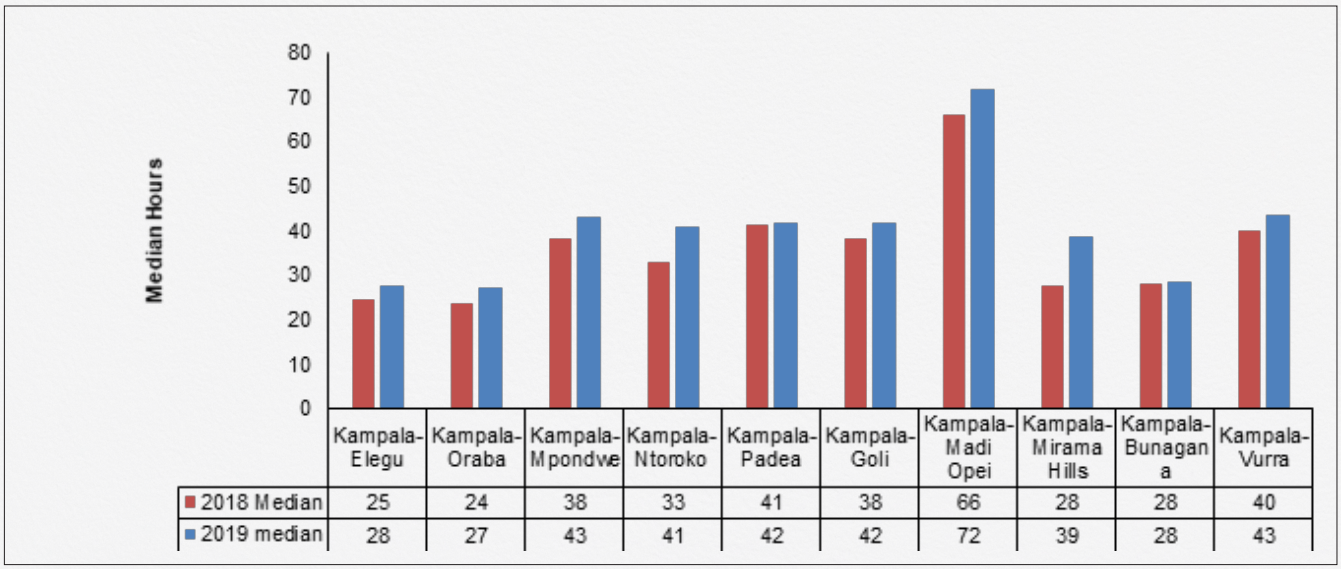
Figure 39 provides transit time from Kampala to various borders with South Sudan, DRC and Rwanda in 2019 (January-December). Traffic on Kampala to Elegu route was the highest with 7,301 trucks followed by Kampala to Oraba route with 1,744 trucks; Kampala to Mpondwe 1,615 trucks; Kampala to Ntoroko 1,324 counts; Kampala to Padea 1,315 trucks and Kampala to Goli 1,225.

All the destinations from Kampala have seen a marginal increase in average transit times in 2019 when compared to 2018. However, it should be noted that it takes shorter time from Kampala to Oraba (21 kms per hour) and Bunagana (18 kms per hour) which are the longest routes than Kampala to Ntorokoand Mpondwe the slowest route averaging 9 kms per hour and 10 kms per hour respectively.It was noted that there was a lot of traffic on the Ntoroko route and the Fort portal – Ntoroko road passes through a mountainous area which could have attributed to long transit time especially during the rainy season. Some sections on the Mpondwe route were under construction in 2019.

Transit time is the time taken to move cargo from the entry border station to the various destinations, it includes stoppage times.

Figure 39: Transit time from Kampala to Various destinations in hours

Source: URA-RECTS data 2018 and 2019



	Kampala-Elegu	Kampala-Oraba	Kampala-Mpondwe	Kampala-Ntoroko	Kampala-Padea	Kampala-Goli	Kampala-Madi Opei	Kampala-Mirama Hills	Kampala-Bunagana	Kampala-Vurra
2018 Median	25	24	38	33	41	38	66	28	28	40
2019 median	28	27	43	41	42	42	72	39	28	43

7.2.3 Transit time in Rwanda using RECTS

The indicator measures the time a truck is allowed (electronically in Rwanda Revenue Authority's system) to commence the transit journey to the time the bond is cancelled on the exit border.

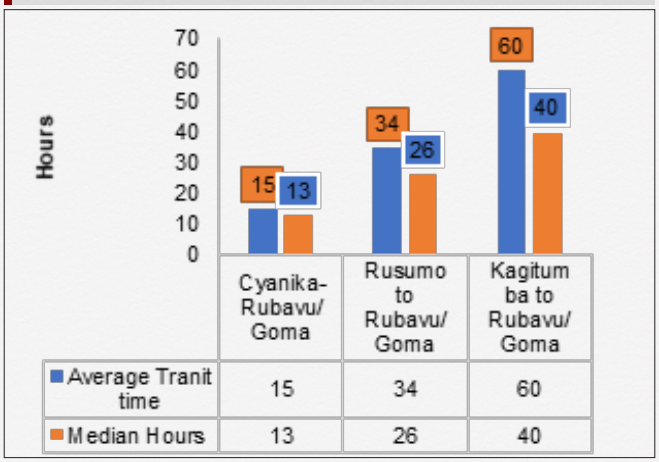
Rwanda has three entry borders namely: Kagitumba/Mirama Hills; Gatuna/Katuna and Cyanika/Cyanika. The exit borders from Rwanda include: from Rubavu/Goma; Akanyaru-Haut/ Kanyaru Haut; Mururu/Rusizi and Nemba/Gasenyi.

The report notes that since the month of March 2019, data shows no traffic was recorded on Gatuna border mainly due to temporally closure of Gatuna border for construction. The construction works for at the OSBP was expected to be completed by July/August 2019.Therefore, traffic through Gatuna border was diverted to Kagitumba and Cyanika borders. It is also noted that the number of RECTS seals on some transit routes were quite few with some having very few records. Therefore, the routes have not been analyzed since the average figures may not be adequate for conclusive analysis.

Figure 40 presents transit time in Rwanda to the exit border of Rubavu/Goma in 2019 using the Regional Electronic Cargo Tracking System. A total number of 318, 416and 20 trucks were sampled for real time cargo trucking from Cyanika, Rusumo and Kagitumba to Rubavu border respectively. From the analysis, average transit time from Cyanika to Rubavu was 15 hours recording a median of 13 hours. Average transit time from Rusumo to Rubavu was 34 hours recording a median of 26 hours. Transit time from Kagitumba to Rubavu was 60 hours recording a median of 40 hours. Rusumo-Rubavu route was the fastest with an average speed of 9 kms per hour whereas Cyanika-Rubavu and Kagitumba-Rubavu recorded an average speed of 4 and 5 kms per hour respectively. The slow speed in Rwanda is attributed to the winding terrain of the road and time taken after arrival of truck at the border before the R-ECTS is disarmed.

Figure 40: Transit time from Cyanika/Rusumo and Kagitumba to Rubavu border

Source: RRA-RECTS data Jan-Dec 2019



Transit time from Kagitumba border to various destinations is presented in figure 41 below. For analysis, a sample of 111 trucks from Kagitumba to Akanyaru Haut was considered. This route covers a distance of 369 kilometers, recorded average transit time of 36 hours with a median of 19 hours. A total of 261, 228 and 225 trucks were sampled from Kagitumba to Nemba (281 km), Mururu (440 km) and Kigali (212 Km) respectively. Kagitumba- Nemba route was the fastest route with an average speed of 21kms per hour whereas the slowest route Kagitumba -Mururu recorded an average speed of 7 kms per hour.

Figure 41: Transit time from Kagitumba border to various destinations

Source: RRA-RECTS data Jan-Dec 2019

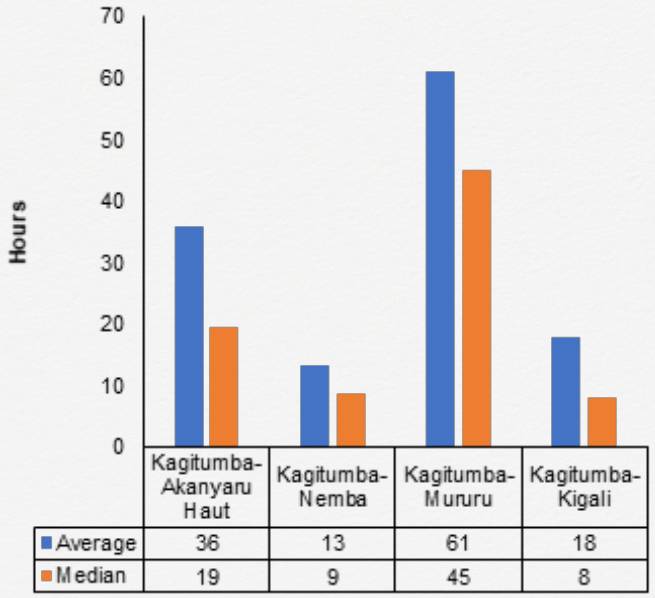


Figure 42 below presents transit time for Rwandan exports from Kigali various borders with DRC. Principal destination for Rwanda exports is DRC accounting for approximately slightly over 50 percent share of Rwanda trade with Northern Corridor Member States. Transit traffic sampled under RECTS from Kigali to Rubavu in 2019 was 684 trucks, Kigali to Mutara was 150 trucks and Kigali to Mururu was 124 trucks for the year under review. Average transit time from Kigali to Rubavu was 27 hours recording a median of 19 hours with an average speed of 6 kms per hour. Average transit time from Kigali to Mutara and Mururu was 48 hours recording a median of 40 hours. The average speed per kilometer per hour was 5 during the same review period.

Figure 42: Transit time for Rwanda exports from Kigali to Rubavu, Mutara and Mururu
Source: RRA-RECTS data Jan-Dec 2019

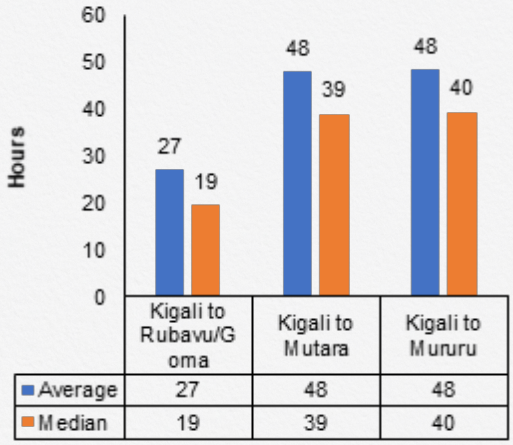
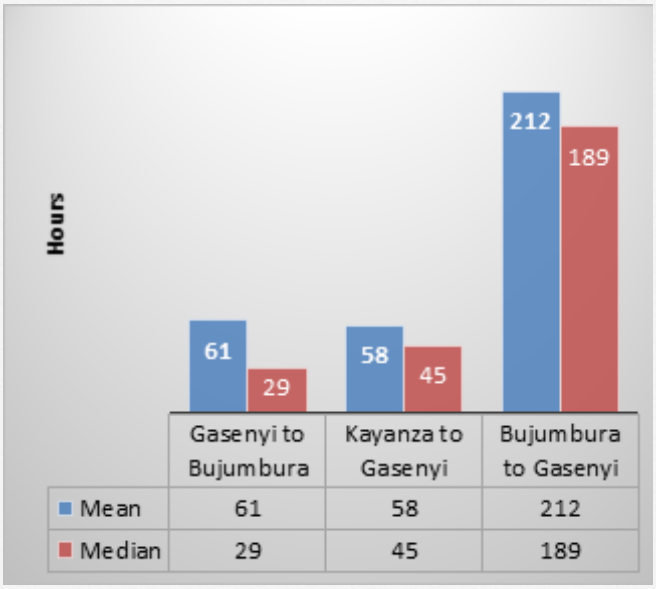


Figure 43: Transit time in Burundi under SCT
Source: OBR-ASYCUDA data Jan-Dec 2019



7.3 Transit time under ASYCUDA System

7.3.1 Transit time in Burundi

Transit time in Burundi was measured from Kanyaru Haut and Gasenyi to the major nodes and customs border points of Bujumbura Port and Kayanza.

The main Northern Corridor route runs from Kanyaru –Haut/ Akanyaru haut to Bujumbura through Kayanza and connects with DRC through the Gatumba/Kamvira border post. In addition, the route through Gasenyi connects with the main route at Kayanza.

Figure 43 shows average transit time from Gasenyi- Bujumbura both inbound and outbound and transit time from Kayanza to Gasenyi in 2019. A total of 1,872 trucks were sampled for analysis on the number of trucks Kayanza to Gasenyi, 376 trucks for Bujumbura to Gasenyi route and 103 trucks for Gasenyi to Bujumbura route.

Average transit time from Gasenyi to Bujumbura (imports) was recorded as 61 hours with a median of 29 hours in 2019. On the other hand, average transit time from Bujumbura to Gasenyi(export route) was significantly high averaging 212 hours with a median of 189 hours during the same review period suggesting that barriers to cargo movement still exist along the route an indication of prevailing inefficiencies. However, the long transit delays on the routes were attributable to the steep terrain and road conditions.

7.3.2 Transit time in Rwanda-ASYCUDA

The distance from Cyanika to Rubavu is about 90 km. Movement of a total of 2,349 and 1,820 trucks was analyzed in 2018 and 2019 respectively. The average transit time on the route improved significantly from 34 hours in 2018 to 19 hours in 2019 as shown in figure 44 below.

Figure 44: Transit time from Cyanika to Rubavu in hours
Source: RRA, ASYCUDA data Jan to Dec 2019

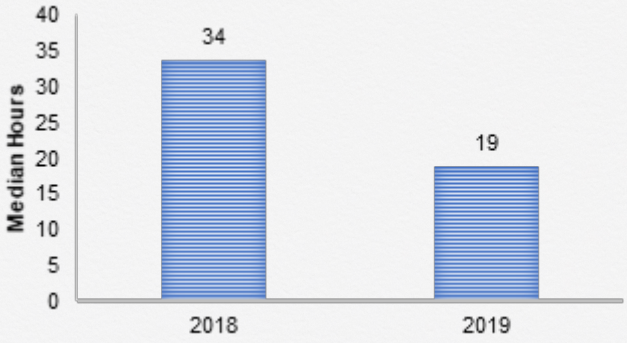


Table 31 presents transit time from Kagitumba border to various destinations in Rwanda. It can be noted that, time taken varies depending on the distance. However, Kagitumba - Kigali is the slowest route averaging 5 Kms per hour compared to Kagitumba to Cyangungu and Kagitumba to Kigali and Kagitumba to Nemba routes that averaged 12 Kms per hour over the review period.

Generally, transit time measured using RECTS is different from transit time measured using ASYCUDA data and the former shows lower transit times since the latter involves a lot of human interference in acknowledgement of arrival of trucks at the different destinations.

Table 31: Transit time in Rwanda from Kagitumba
Source: RRA, ASYCUDA data Jan to Dec 2019

Route	Distance	Number of Trucks	Average transit time	Median Hours
Kagitumba to Mururu	440	4,768	75	54
Kagitumba to Nemba	281	1,947	24	18
Kagitumba to Akanyaru Haut	369	1,312	42	23
Kagitumba to Cyangungu	426	1,146	37	34
Kagitumba to Bugarama	466	607	66	47
Kagitumba to Rubavu	368	384	48	42
Kagitumba to Kigali	212	136	44	25

7.4 Road survey to assess causes of delays along the Northern Corridor

The Northern Corridor Secretariat conducts road transport surveys to gather information relating delays causes and reasons for delays along the transit route from transporters and truck drivers. The report uses phone surveys whereby questionnaires have been incorporated into the Android application using Survey 123 for ArcGIS from the Google play store. As such the drivers can fill in the information from the time, they start their journey, at any stop point and at the time they reach their destination. Stoppages along the Corridor are a major driver of inefficiency along the Corridor. Stoppages and other delays occasion high administrative and operation costs for moving goods along the Corridor and is a hindrance to trade in the region.

7.4.1 Sample population

Table 32 below presents the sampling distribution for the trucks during the road survey according to country of destination for the year 2019. Analysis shows that cargo was destined for Uganda and Kenya accounting for the largest part of share of 45 percent each. Cargo destined for Rwanda was 5 percent, South Sudan and DRC each with one percent.

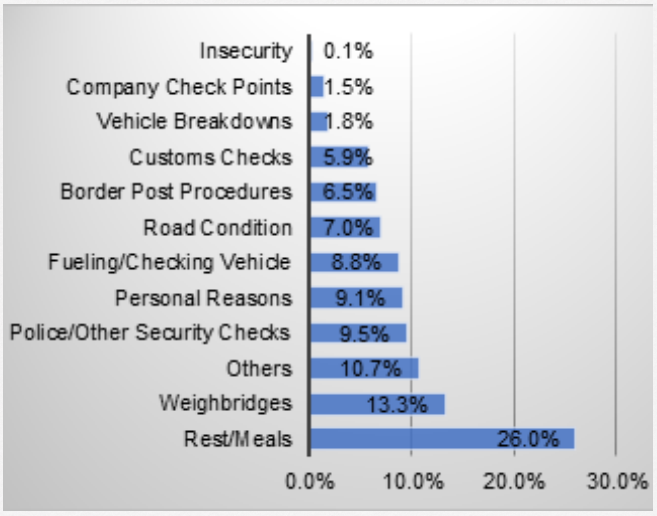
Table 32: Sampling and distribution
Source: Road Transport Survey, 2019

Destination	Frequency	Proportion
Uganda	543	45%
Kenya	540	45%
Rwanda	58	5%
Juba	15	1%
DRC	12	1%
Bujumbura	3	0.3%
others	28	2%
Total	**1,199**	**100%**

7.4.2 Stoppages reasons for Cargo along the Northern Corridor

The frequency of stoppages by drivers along the Corridor is occasioned by various factors. Figure 45 provides for the reasons that lead to stoppages along the Corridor with their respective percentage of occurrence. Rest/meals procedures and weighbridges account for the highest percentages26 percent and 13.3 percent respectively for all stoppages. Police/other security checks accounted for 9.5 percent. unnecessary stoppages translate into higher transit times and higher cost of doing business as well as inefficiency. The Northern Corridor Secretariat in conjunction with the Member States is in the process of implementing the Roadside Stations with a variety of amenities and wellness centers for drivers along the Corridor. This will ultimately reduce the delays along the Corridor caused by unnecessary stops. The drivers will be able to access a variety of amenities at one stop; the Road Side Station instead of making multiple stops along the Corridor in such for the amenities.

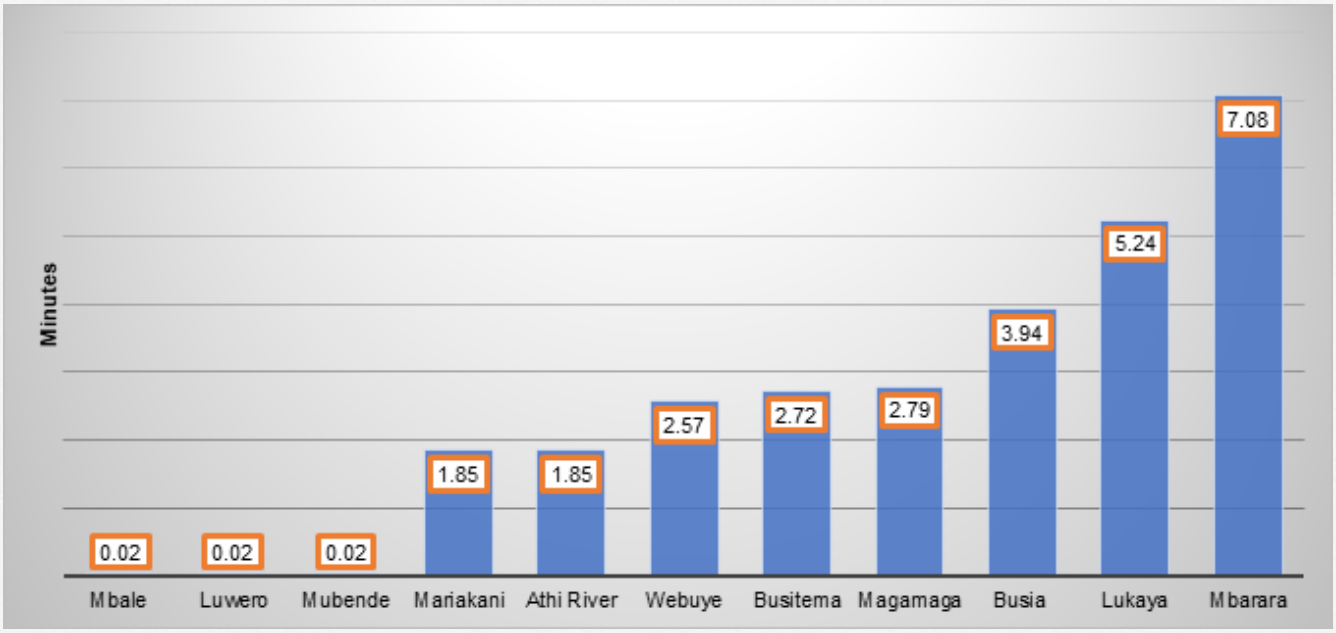
Figure 45: Prevalence stoppage reasons
Source: Road Transport Survey, 2019



7.4.3 Crossing times at weighbridges along the Northern Corridor

Crossing times at weighbridges is a major determinant of time taken to transport cargo along the Corridor. Figure 46 shows the average crossing at the weighbridges along the Northern Corridor in minutes for the year 2019. From the results, Mbarara, Lukaya and Busia weighbridges had the highest average crossing times of 7 minutes, 5 minutes and 4 minutes respectively.

Figure 46: Weighbridge crossing time
Source: Road Transport Survey, 2019

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Chapter 8

Intraregional Trade

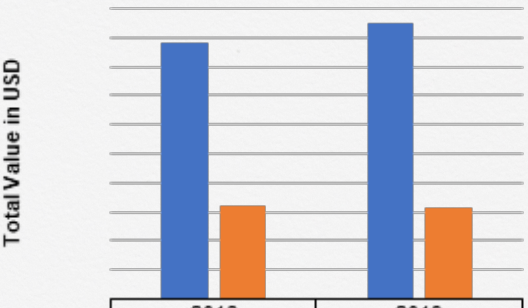
Informal trade on the shores of Lake Victoria

8.1 Introduction

African countries have acceded to various regional trade agreements including ACFT Agreement with the economic objectives of reducing trade barriers and encouraging economic growth. One of the key ways in achieving higher economic growth and regional integration is through intra-regional trade. Below is an analysis on trade flows among the Northern Corridor Member States. Aggregate statistics are presented for the individual Member States for the year 2019. Comparative analysis is also made with the previous year of 2018. The data were obtained from countries' own trade data.

Figure 47: Share of Burundi trade within NC in US$ (Jan to Dec 2018 and 2019)

Source: Burundi Bureau of Statistics (ISTEEBU) Jan 2018 – Dec 2019



	2018	2019
Imports	88,433,297	94,739,964
Exports	32,386,605	31,710,725

8.2 Formal Trade between Burundi and Other NC Member States

Data for January to December presented in figure 47 below, shows that Burundi had an overall trade valued approximately US$ 120.8 million in 2018 which grew by 4.7 percent to US$ 126.5 million trading with all Northern Corridor Member States except South Sudan. Out of which, share of imports accounted for over 70 percent whereas exports share accounting for the remaining value at about 30 percent.

Table 33 presents value (in USD) of imports to Burundi from Members States of the Northern Corridor except South Sudan. The total value of imports for the period January to December 2019 was valued at USD 94.7 million a growth of 7.1 percent when compared to 2018 which recorded aggregate value of USD 88.4 million in the same period. Kenya was the top customer of Burundi imports followed closely by Uganda. Kenya exports to Burundi saw an annual increase of 20 percent in 2019 (Jan-Dec). Similarly, Rwanda exports to Burundi increased by 73 percent from USD 4.5 million in 2018 to USD 7.9 million in 2019. Growth in exports to Burundi from Uganda and DRC for the period January to December 2019 reduced significantly by 9 percent and 29 percent respectively.

The majority of Burundian imports originate from Asia principally Saudi Arabia, China, United Arab Emirates and India, the EAC countries bloc particularly Tanzania, Kenya and Uganda were among the top ten. The others were the European Union market.

Table 33: Share of Burundi monthly Imports in USD 2018 and 2019
Source: Burundi Bureau of Statistics (ISTEEBU) Jan to Dec 2018and 2019

Import	DRC		Kenya		Rwanda		Uganda		TOTAL	
Value	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Jan	99,104	200,367	2,206,662	3,484,217	387,340	455,803	2,888,481	3,754,480	5,581,587	7,894,868
Feb	33,605	129,670	2,848,969	3,915,558	353,946	343,311	2,613,739	2,099,193	5,850,259	6,487,731
Mar	176,348	255,168	2,818,950	3,716,583	648,080	388,506	3,195,288	6,309,802	6,838,666	10,670,059
Apr	138,679	469,213	3,248,540	3,579,357	241,912	794,956	3,067,864	2,238,489	6,696,995	7,082,015
May	352,089	581,538	3,356,213	3,460,371	464,872	442,636	3,064,643	2,086,982	7,237,817	6,571,526
Jun	696,047	278,225	2,870,416	4,885,255	306,963	670,139	3,284,593	2,651,712	7,158,019	8,485,332
Jul	892,318	92,461	4,725,571	2,875,359	257,941	532,982	3,065,411	2,998,053	8,941,241	6,498,855
Aug	543,023	281,729	3,821,349	5,026,828	417,544	1,451,744	4,772,837	2,807,451	9,554,753	9,567,753
Sep	421,391	173,557	3,422,624	5,177,700	398,384	725,021	4,134,666	2,918,656	8,377,065	8,994,933
Oct	199,262	81,821	3,435,266	3,399,053	411,014	997,942	4,275,145	4,017,547	8,320,687	8,496,364
Nov	202,907	97,837	3,242,986	4,266,322	196,832	635,259	2,771,790	3,019,885	6,414,515	8,019,304
Dec	165,732	151,896	3,227,039	3,207,822	460,521	417,505	3,608,401	2,194,001	7,461,693	5,971,224
Total	3,920,505	2,793,482	39,224,585	46,994,426	4,545,349	7,855,804	40,742,858	37,096,252	88,433,297	94,739,964

Table 34 shows a summary of exports between Burundi and all Northern Corridor Members States except South Sudan on an annual basis. Analysis for January to December 2019 shows that total trade volumes in exports reduced marginally by 2.1 percent from USD 32.4 million in 2018 to USD 31.7 million in 2019 which was occasioned by reduction in exports to Kenya and Rwanda by 31 percent and 51 percent respectively during the same review period. Burundi exports to DRC accounted for 64 percent of Burundi total export trade. Burundi exports to Uganda accounted for 20 percent of her total exports. Exports to Kenya and Rwanda from Burundi accounted for 8 percent each of the total exports in 2019.

United Arab Emirates accounted for a significant proportion market for Burundi exports at a total value of USD 70 million followed by DRC at a value of USD 20 million in 2019. The other top ten market destinations for Burundi exports included; Pakistan, Belgium, Switzerland, Germany, Egypt, Singapore, China and Rwanda.

Table 34: Share of Burundi monthly Exports in USD 2018 and 2019
Source: Burundi Bureau of Statistics (ISTEEBU) Jan.2018 to Dec. 2019

Exports	DRC		Kenya		Rwanda		Uganda		TOTAL	
Value	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Jan	1,915,395	1,246,896	505,022	415,438	77,832	163,199	621,657	444,147	3,119,906	2,269,680
Feb	1,227,191	1,667,812	552,136	237,351	98,360	227,598	633,698	466,178	2,511,385	2,598,939
Mar	1,713,979	1,377,552	536,012	165,748	50,793	468,683	300,508	521,414	2,601,292	2,533,398
Apr	1,413,446	3,163,071	370,842	98,319	122,045	176,265	602,659	773,968	2,508,992	4,211,624
May	1,619,598	1,868,796	266,534	104,184	276,330	534,023	145,316	738,041	2,307,778	3,245,044
Jun	1,571,581	1,213,476	290,008	237,063	1,736,179	158,754	467,145	422,087	4,064,913	2,031,380
Jul	1,333,935	1,353,575	30,877	150,003	1,833,628	252,926	230,066	619,454	3,428,506	2,375,958
Aug	1,836,530	1,276,912	193,029	293,903	423,005	316,515	309,718	341,749	2,762,282	2,229,078
Sep	2,273,454	1,674,009	272,333	393,070	129,880	118,646	138,264	329,790	2,813,931	2,515,515
Oct	1,393,906	1,816,425	140,626	289,282	182,453	61,021	169,700	173,868	1,886,685	2,340,595
Nov	1,439,175	1,317,044	259,830	204,198	148,887	11,663	652,779	528,470	2,500,671	2,061,375
Dec	1,165,610	2,303,027	375,029	12,597	170,967	62,998	168,659	919,517	1,880,264	3,298,140
Total	**18,903,800**	**20,278,595**	**3,792,278**	**2,601,156**	**5,250,359**	**2,552,291**	**4,440,169**	**6,278,683**	**32,386,605**	**31,710,725**

8.3 Formal Trade between DRC and Other NC Member States

DRC had an overall annual trade value of about US$ 869.7 million trading with Northern Corridor Member States except South Sudan in 2019. Out of which, share of exports accounted for only a mere 5 percent while imports share absorbed majority of total trade accounting approximately 95 percent as shown in Figure 39. From the statistics, it is evident that DRC is a net importer when trading with the NC countries bloc.

Figure 48: Share of DRC trade within NC in 2019 (Jan to Dec in US$)
Source: Transport Observatory Analysis/NCTTCA2019

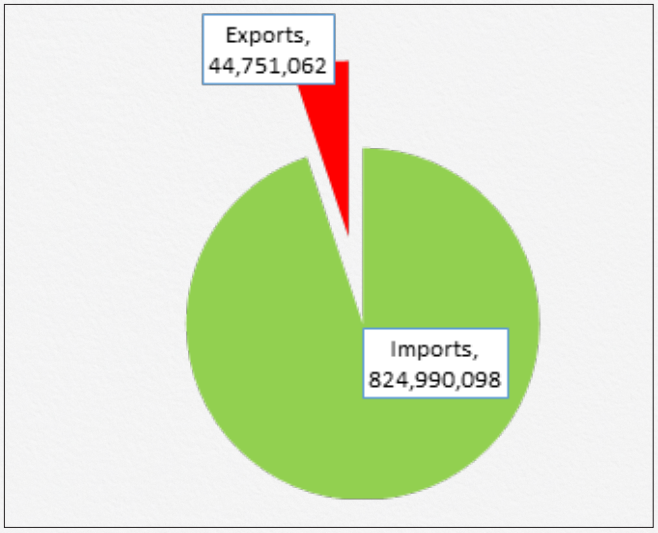


Table 35 provides trade statistics (exports) between DRC and other Northern Corridor Member States for the period January to December 2019. DRC formal exports to the region were valued at approximately US$ 45 million. Over the review period, Kenya provided principal market for DRC exports at about 44 percent value for her exports. DRC sales to Uganda and Rwanda accounted for 22 percent and 28 percent respectively.

Table 36 provides trade statistics (imports) between DRC and other Northern Corridor Member States in 2019. DRC formal imports to the region were valued at approximately US$ 825 million. Rwanda was the main market for DRC imports accounting for half of DRC import value at 49 percent followed by Uganda at 30 percent and Kenya 18 percent during the same period under review.

Table 35:Share of DRC monthly Exports in USD for 2019
Source: Transport Observatory Analysis/NCTTCA2019

Exports Value USD	Burundi	Kenya	Rwanda	Uganda
Jan 2019	200,367	151,712	921,707	679,257
Feb 2019	129,670	396,469	689,687	692,023
Mar 2019	255,168	825,508	914,544	936,662
Apr 2019	469,213	2,749,199	1,435,542	1,320,527
May 2019	581,538	1,957,113	1,115,459	886,946
Jun 2019	278,225	1,834,964	1,296,413	731,638
Jul 2019	92,461	1,425,189	950,116	785,486
Aug 2019	281,729	2,343,433	1,080,269	769,107
Sep 2019	173,557	1,375,740	1,259,410	925,004
Oct 2019	81,821	2,162,465	978,640	578,867
Nov 2019	97,837	2,233,334	807,466	593,250
Dec 2019	151,896	2,064,148	918,212	1,172,075
Grand Total	**2,793,482**	**19,519,274**	**12,367,465**	**10,070,841**

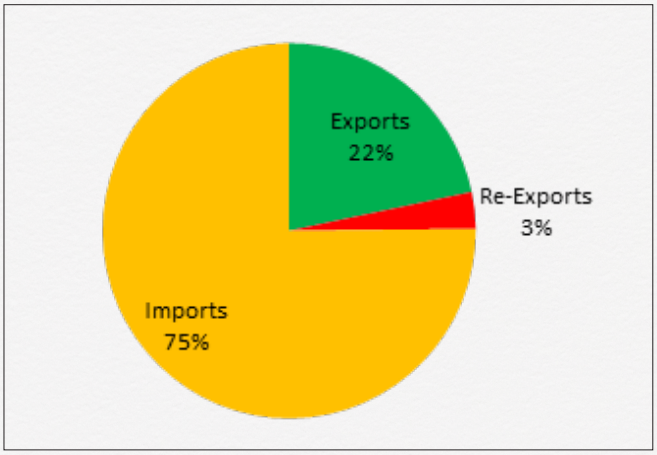
Table 36: Share of DRC monthly Imports in USD for 2019
Source: Transport Observatory Analysis/NCTTCA2019

Imports Value USD	Burundi	Kenya	Rwanda	Uganda
Jan 2019	1,246,896	12,610,456	31,652,946	19,268,340
Feb 2019	1,667,812	11,815,887	27,937,121	17,375,479
Mar 2019	1,377,552	10,730,914	32,501,751	19,945,341
Apr 2019	3,163,071	18,293,714	33,871,459	20,706,816
May 2019	1,868,796	14,170,683	33,874,293	24,992,995
Jun 2019	1,213,476	11,958,639	38,363,741	17,477,384
Jul 2019	1,353,575	10,622,749	36,965,996	20,831,231
Aug 2019	1,276,912	14,857,456	37,612,350	21,728,351
Sep 2019	1,674,009	8,566,492	30,828,673	22,382,508
Oct 2019	1,816,425	10,823,612	38,251,209	23,559,631
Nov 2019	1,317,044	12,298,028	29,979,665	21,642,095
Dec 2019	2,303,027	13,403,341	33,585,303	19,224,855
Grand Total	**20,278,595**	**150,151,971**	**405,424,508**	**249,135,024**

8.4 Formal Trade between Kenya and Other NC Member States

Figure 49 presents Kenya overall international trade statistics for the period covering Jan-Dec 2019. Total trade in Kenya in 2019 was valued at about USD 23.96 billion. Out of this total trade volume of about US$ 24 billion, about 75 percent (worth US$ 18 billion) comprised of imports share. The analysis shows that Kenya had a negative trade balance as a result of higher imports compared to exports and borrows from foreign States to pay for the imports. The export-import ratio was 1: 3.

Figure 49: Kenya Total trade in (US$) Jan-Dec 2019
Source KNBS data Jan-Dec 2018 and 2019



On the other hand, total trade volume in Kenya with the Northern Corridor Member States was valued at US$ 1.6 billion in 2019 representing an annual decline change of 5 percent when compared to 2018 as shown in table 37 below. Considering trade in Kenya with other peers of NC bloc, Kenya is a trade surplus with exports accounting for over 60 percent.

Table 37: Kenya Total trade with NC States in (US$) Jan-Dec 2018 and 2019
Source KNBS data Jan-Dec 2018 and 2019

	2018	2019
Exports NC	942,394,647	1,031,359,529
Imports NC	519,951,053	377,219,521
Re-exports NC	202,100,498	164,686,695
Total trade with NC	**1,664,446,198**	**1,573,265,744**

***Note the currency has been converted from Kenya Shillings to USD using exchange rate of 1 USD to 100 KShs*

Imports declined by (27) percent to USD 377,219,521 in 2019 from USD 519,951,053 in 2019. This was mainly occasioned by a 31 percent decrease, 15 percent decrease and 4 percent decrease in imports from Uganda, South Sudan and Burundi respectively during the same period. Contrary, imports from DRC and Rwanda increased in 2019 when compared to 2018 as shown in table 38 below. Uganda still emerges as the top destination for Kenya's imports approximately slightly above 90 percent of all imports from the Northern Corridor Member States. The main imports from NC Member States to Kenya included; dairy produce; Tobacco; sugar; wood and related products; tea and oil-cake and other solid residues

Table 38: Share of Kenya Imports in USD 2018 and 2019
Source KNBS data Jan-Dec 2018 and 2019

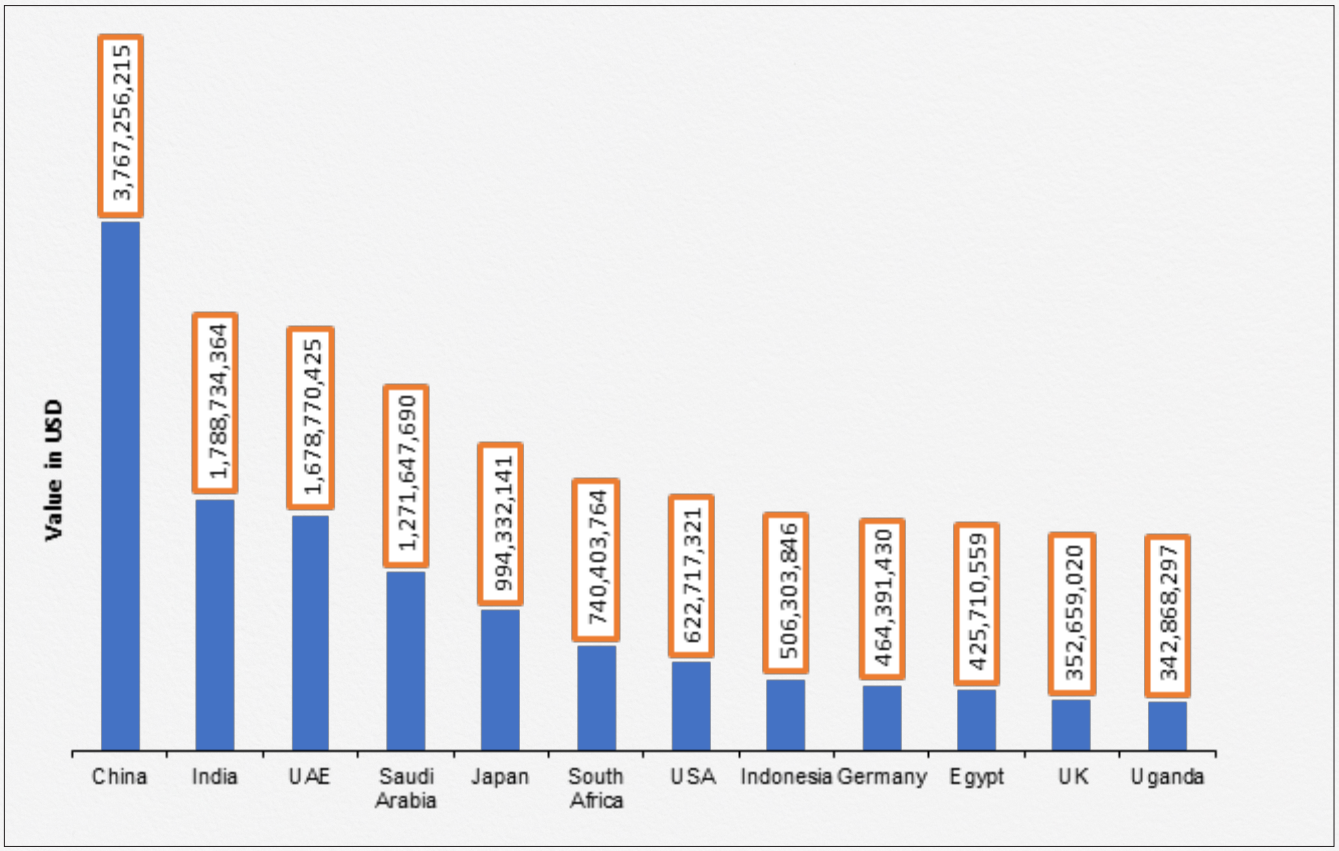
Value USD	BURUNDI		DRC		RWANDA		SOUTH SUDAN		UGANDA	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Jan	11,500	54,493	1,440,458	151,712	624,514	3,025,078	1,202	1,868	69,430,476	22,930,857
Feb	48,947	75,515	847,474	396,469	1,723,263	748,055	-	2,276	55,456,769	22,556,296
Mar	5,060	79,500	1,093,346	825,508	906,686	804,620	18,260	17,945	43,050,316	22,393,168
Apr	35,202	21,300	1,042,304	2,749,199	1,118,577	486,649	630	34,958	37,135,603	22,401,484
May	80,706	1,042	2,317,942	1,957,113	1,470,893	842,416	45,647	4,129	49,589,289	25,802,976
Jun	19,815	20,775	936,911	1,834,964	692,870	1,237,894	6,901	265	45,439,721	23,451,257
Jul	11,426	23,755	754,814	1,425,189	1,255,655	754,420	8,936	-	40,584,106	30,572,569
Aug	72,225	29,981	604,825	2,343,433	714,355	863,894	525	13,209	34,214,762	31,213,839
Sep	110,823	37,652	512,160	1,375,740	812,027	2,057,800	53,580	15,884	36,664,111	51,057,896
Oct	146,292	27,165	827,368	2,162,465	910,759	1,726,026	-	627	30,866,958	37,289,205
Nov	52,329	119,814	1,686,293	2,233,334	820,729	802,690	-	303	30,978,462	32,582,031
Dec	83,277	159,786	826,666	2,064,148	812,751	693,213	27,620	46,953	20,945,937	20,616,719
Total	**677,602**	**650,779**	**12,890,561**	**19,519,274**	**11,863,079**	**14,042,755**	**163,301**	**138,417**	**494,356,510**	**342,868,297**

***Note the currency has been converted from Kenya Shillings to USD using exchange rate of 1 USD to 100 KShs*

As shown in figure 50, about 53 percent of Kenya's top total imports were mainly from Asia in particular China which accounted for 21 percent, India 10 percent, UAE 9 percent, Saudi Arabia 7 percent, and Japan 6 percent of all total imports in 2019. Kenya also imported from South Africa at a value of approximately USD 740 million. The top import products in 2019 were; Petroleum oils and oils products, Palm oil and related, medicaments, cereals & wheat, iron and steel, motor vehicles.

Figure 50: Top market for Kenya Imports in USD in 2019

Source KNBS data Jan-Dec 2019



***Note the currency has been converted from Kenya Shillings to USD using exchange rate of 1 USD to 100 KShs*

Table 39 presents formal domestic exports from Kenya to other Member States of the Northern Corridor. Statistics show that exports from Kenya increased significantly by an annual positive change of 9 percent from US$ 942,394,647 in 2018 to US$ 1,031,359,529 in 2019. This was attributed to the increase in exports to all Northern Corridor countries from Kenya except for DRC which saw an annual decline of 8 percent when compared to 2018. In 2019, exports from Kenya to Burundi increased by an annual growth of 12 percent; Rwanda by 43 percent; South Sudan by 8 percent and Uganda by 4 percent when compared to 2018. However, Uganda still emerges the top destination for Kenya's exports products accounting for slightly above 50 percent of total exports compared to other Northern Corridor Member States. The leading exports were pharmaceutical products, iron & steel, palm oil, petroleum oil not crude, Sugar confectionery, footwear, tobacco products, tea, horticulture and coffee.

Figure 51 illustrates the top leading market for Kenya exports in the world for the year 2019 (Jan-Dec). Uganda topped the market with a value of about USD 531 million followed closely by USA with a value of USD 501million an equivalent of 10 percent each of the total exports for 2019. Pakistan and Netherlands accounted for 9 percent each of total exports during the same review period. The rest of the top markets included; United Kingdom (8 percent), Tanzania (5%), Rwanda, Egypt and UAE at 4 percent each. DRC and South Sudan accounted for 2 percent each of total exports. The leading exports from Kenya to global market were; Tea accounting for 22 percent of all domestic exports followed by flowers accounted 10 percent of exports; Coffee 4 percent; Titanium ores and concentrates at 3 percent; Horticulture and medicaments accounted for 2 percent each and articles of apparel and clothing accessories accounted for 1 percent of all exports.

Table 39: Share of Kenya exports in USD for 2018 and 2019

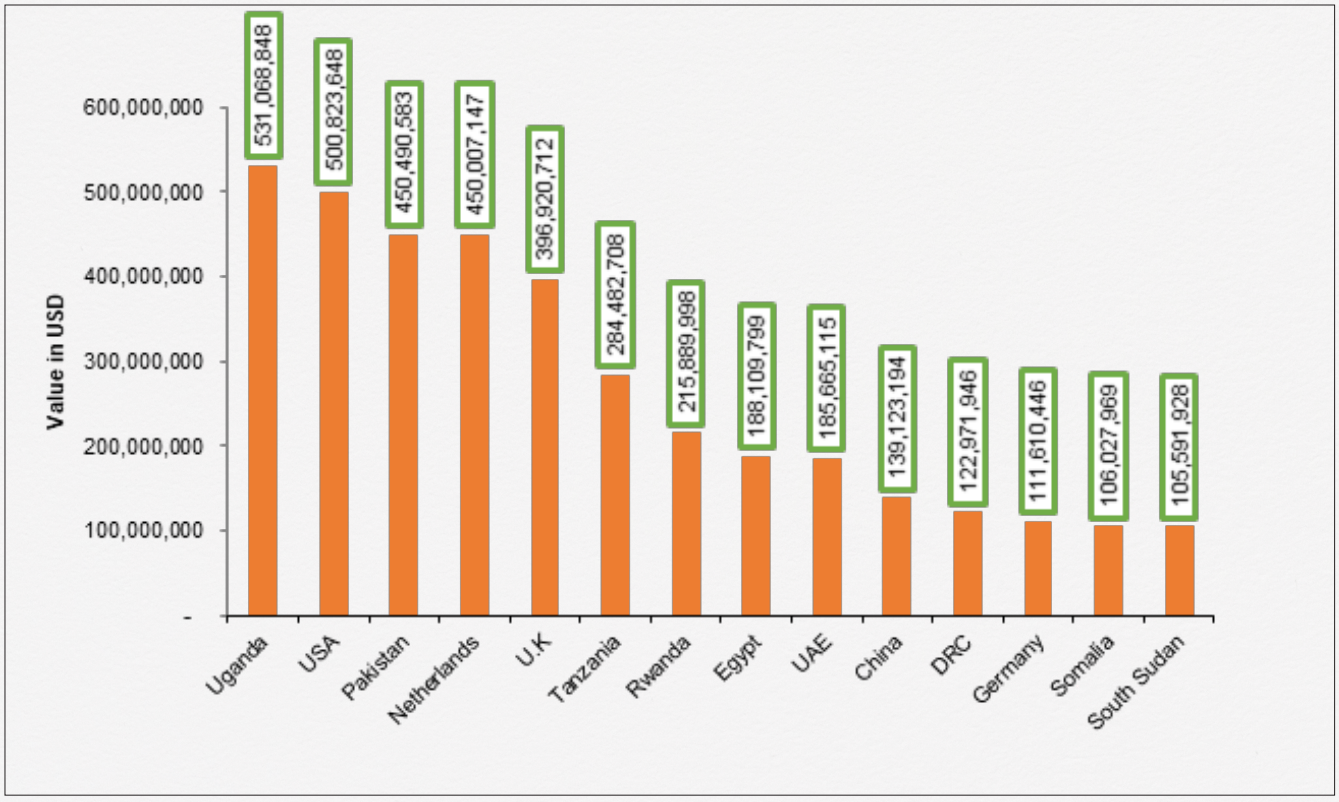
Source KNBS data (Jan-Dec) 2018 and 2019

Exports	BURUNDI		DRC		RWANDA		SOUTH SUDAN		UGANDA	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Jan	3,260,891	8,785,434	10,227,085	9,682,580	10,523,686	10,434,383	12,240,255	7,050,520	35,223,942	43,446,986
Feb	3,905,832	3,651,191	10,108,855	11,402,566	10,984,733	12,695,281	6,550,852	8,161,456	44,899,846	43,537,469
Mar	4,239,518	3,230,171	11,247,777	9,595,056	12,845,445	15,706,816	8,059,144	8,431,993	49,087,771	45,073,328
Apr	3,883,899	4,735,279	12,063,090	10,093,656	11,340,502	15,040,065	7,554,962	14,377,820	34,416,554	41,075,300
May	4,105,437	3,461,870	16,454,979	10,394,491	13,976,527	18,720,597	9,397,431	14,347,117	49,427,421	41,181,221
Jun	3,646,882	5,268,472	10,577,605	10,248,397	11,896,711	17,717,351	15,805,863	6,099,020	43,574,860	45,884,997
Jul	6,187,282	2,986,143	9,826,693	10,029,727	14,025,117	21,503,312	6,384,788	5,751,697	37,038,888	45,494,842
Aug	5,408,437	4,832,844	10,878,039	11,418,269	14,856,303	22,902,074	5,217,061	5,989,572	44,496,631	38,616,534
Sep	4,732,010	5,323,284	11,139,493	8,189,275	11,992,177	20,019,705	4,569,179	7,289,700	40,996,532	51,490,799
Oct	3,457,757	4,341,124	12,797,165	9,964,750	12,259,914	20,733,028	8,604,158	9,111,801	42,930,684	49,398,249
Nov	3,564,612	4,066,488	9,199,601	10,449,826	15,818,945	20,979,163	7,168,060	11,647,573	46,191,600	45,727,728
Dec	3,378,765	5,154,509	8,698,953	11,503,352	10,721,957	19,438,223	6,605,081	7,333,658	41,720,412	40,141,395
Total	**49,771,322**	**55,836,808**	**133,219,335**	**122,971,946**	**151,242,017**	**215,889,998**	**98,156,834**	**105,591,928**	**510,005,141**	**531,068,848**

***Note the currency has been converted from Kenya Shillings to USD using exchange rate of 1 USD to 100 KShs*

Figure 51: Top market for Kenya Exports in USD in 2019

Source KNBS data Jan-Dec 2019



***Note the currency has been converted from Kenya Shillings to USD using exchange rate of 1 USD to 100 KShs*

The KNBS data also shows that Kenya's re-exports to the other NC Member States saw a significant decline by 19 percent from US$ 202 million in 2018 to US$ 165 million in 2019. Table 40 provides formal re-exports statistics between Kenya and the other Northern Corridor Member States in USD. Uganda provided the largest market share for Kenya's re-exports accounting for over half of the total re-exports to the Northern Corridor region.

Table 40: Share of Kenya Re-Exports in USD 2018 and 2019

Source KNBS data Jan-Dec 2018 and 2019:

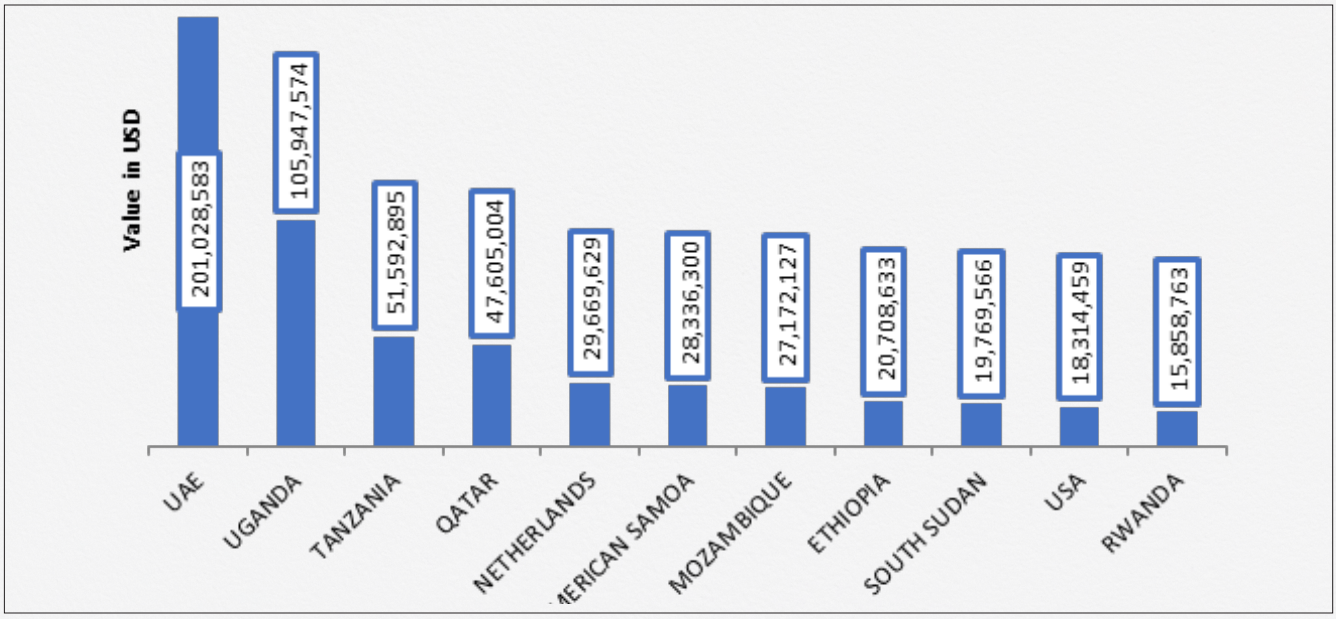
Value USD	BURUNDI		DRC		RWANDA		SOUTH SUDAN		UGANDA	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Jan	473,093	4,707,915	1,089,750	978,465	2,927,876	1,545,656	2,927,383	3,076,422	12,264,703	11,165,051
Feb	637,106	328,372	1,512,182	1,162,044	413,321	1,507,734	6,098,347	1,195,172	13,475,822	8,949,275
Mar	601,940	570,588	1,416,814	514,713	1,135,858	370,210	2,713,438	399,002	6,718,398	9,986,850
Apr	713,673	1,412,437	1,183,718	1,912,137	8,200,058	1,086,737	6,616,757	1,317,968	8,199,268	3,203,449
May	1,160,349	270,224	1,560,967	1,072,547	3,776,192	2,392,495	4,804,741	2,924,364	7,287,587	6,429,871
Jun	811,620	595,002	755,910	1,534,445	1,710,242	1,016,137	908,363	2,439,940	5,645,459	7,438,830
Jul	2,437,279	358,349	1,956,921	582,961	593,022	3,795,202	1,545,403	1,138,740	8,482,642	11,192,404
Aug	2,005,241	472,959	1,667,337	506,752	3,439,187	1,295,364	439,487	504,566	8,615,732	7,151,337
Sep	1,997,626	781,848	2,331,886	470,179	377,217	1,102,766	750,776	1,271,262	11,291,317	9,402,119
Oct	2,963,314	1,307,211	2,514,312	1,088,350	858,862	482,170	1,295,387	1,671,125	12,158,278	10,763,695
Nov	1,081,283	439,578	1,876,040	842,878	1,848,202	501,072	1,956,828	3,182,749	6,288,645	9,627,721
Dec	1,272,246	178,125	685,505	1,022,713	1,899,989	763,220	1,394,029	648,256	8,335,570	10,636,971
Total	**16,154,770**	**11,422,608**	**18,551,342**	**11,688,184**	**27,180,026**	**15,858,763**	**31,450,939**	**19,769,566**	**108,763,421**	**105,947,574**

Note the currency has been converted from Kenya Shillings to USD using exchange rate of 1 USD to 100 KShs

The top ten export partner for Kenya were; UAE 27 percent, Uganda 14 percent, Tanzania 7 percent, Qatar 6 percent, Netherlands 4 percent, Ethiopia 3 percent and South Sudan 3 percent as shown in figure 52 below. The main products exported were tea, horticultural products, coffee, petroleum products, fish, cement and apparel.

Figure 52: Top market for Kenya Re-exports in USD in 2019

Source KNBS data Jan-Dec 2019:



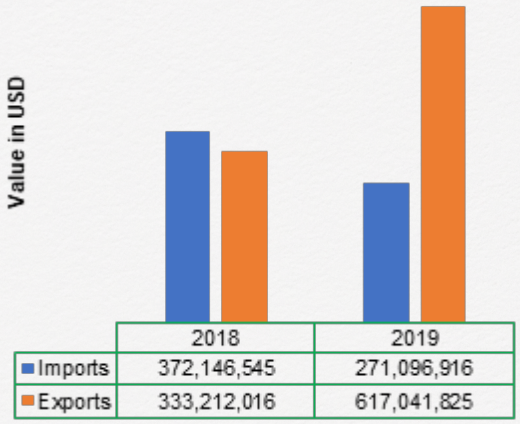
Note the currency has been converted from Kenya Shillings to USD using exchange rate of 1 USD to 100 KShs

8.5 Formal Trade between Rwanda and Other NC Member States

Figure 53 presents Rwanda overall trade statistics with NC countries in (Jan- Dec) 2018 and 2019. Total trade in Rwanda with other Northern Corridor Member States increased significantly by an annual growth of 26 percent from around US$ 705 million in 2018 to about US$ 888 million in 2019; an indication to growth in trade volumes. Exports grew significantly by an annual change of 85 percent from US$ 333 million in 2018 to US$ 617 million in 2019, whereas imports decreased by annual percentage change of 27 percent during the same period. In 2019, exports accounted for 69 percent of total trade with NC member States and imports accounted for 31 percent suggesting Rwanda was a net exporter.

Table 41 shows the value of commodities imported to Rwanda from other Northern Corridor Members States. Imports from DRC and Kenya to Rwanda increased significantly by an annual growth of 48 percent and 47 percent respectively in 2019 when compared to 2018. Contrary, imports from Uganda and Burundi to Rwanda deteriorated in 2019 when compared to 2018 by 83 percent and 55 percent respectively. In 2019, the principal market for Rwanda imports was Kenya which took the largest share at an equivalent of 82 percent of total Rwanda imports. Top ten import products included: Soap and related products; Iron and Steel products; Tubes and Pipes; Medicaments: Palm oil; Sugar and confectionary; Salt; Packaging of goods; Footwear; Cotton products; and Medical instruments.

Figure 53: Share of Rwanda trade within NC in 2018 and 2019 (Jan to Dec in US$)
Source: National Bank of Rwanda 2018 and 2019



As shown in table 42, DRC is the largest formal export partner for Rwanda accounting for 66 percent of all export trade while Uganda and Kenya share was18 percent and 7 percent respectively. Exports increased significantly in 2019 in all Northern Corridor Member States except exports to Kenya which reduced from US$ 119 million in 2018 to US$ 45 million in 2019. The main export earnings for the period covering January to December 2019 were generated from the following commodities, namely petroleum and related products; Bran; Rice; Cereals products; Wheat; Palm Oil; prepared food; second hand clothes; dried leguminous vegetables; Fats and oils; and Fish products.

Table 41: Share of Rwanda Imports in USD 2018 and 2019
Source: National Bank of Rwanda 2018 and 2019

Imports	Burundi		DRC		Kenya		South Sudan	Uganda	
Value	2018	2019	2018	2019	2018	2019	2019	2018	2019
Jan	545,353	584,505	1,401,819	921,707	13,076,903	10,110,153	-	57,837,517	17,219,908
Feb	306,889	143,397	1,739,649	689,687	12,569,280	9,381,075	-	45,569,365	13,942,044
Mar	305,731	203,480	1,752,430	914,544	12,481,030	13,714,090	-	45,048,358	1,756,416
Apr	382,939	281,396	305,844	1,435,542	11,340,502	16,065,263	20,095	1,123,394	906,684
May	390,701	164,272	339,474	1,115,459	13,976,527	21,502,879	0	1,000,535	140,154
Jun	394,883	58,015	180,738	1,296,413	11,896,711	18,728,196	1,098	1,724,563	156,196
Jul	310,555	269,562	159,612	950,116	14,025,117	20,582,656	0	1,061,857	374,423
Aug	308,508	171,647	223,834	1,080,269	14,856,303	23,175,743	0	892,380	204,649
Sep	319,098	20,289	122,601	1,259,410	11,992,177	20,888,406	113,563	805,556	71,211
Oct	297,060	29,466	752,909	978,640	11,553,381	21,750,599		18,756,730	18,592
Nov	337,418	64,385	542,521	807,466	12,393,462	22,618,137		16,533,789	94,857
Dec	588,164	18,323	848,347	918,212	10,687,910	23,159,853		18,086,121	23,776
Total	**4,487,299**	**2,008,736**	**8,369,778**	**12,367,465**	**150,849,303**	**221,677,050**	**134,755**	**208,440,165**	**34,908,909**

Table 42: Share of Rwanda Exports in USD 2018 and 2019

Source: National Bank of Rwanda 2018 and 2019

Country	BURUNDI		DRC		KENYA		SOUTH SUDAN		UGANDA	
Exports	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Jan	1,023,031	4,625,266	9,824,797	31,652,946	33,445,923	8,322,583	40,911	362,315	4,516,158	2,891,911
Feb	1,069,045	680,917	9,347,771	27,937,121	25,507,402	7,440,644	20,711	4,487,778	2,259,581	1,103,543
Mar	2,487,448	1,362,225	14,371,617	32,501,751	29,627,904	7,892,135	101,276	3,282,269	6,388,417	3,293,725
Apr	280,771	3,447,778	8,663,711	33,871,459	1,118,577	618,675		1,727,063	1,238,627	4,422,760
May	301,708	6,657,099	11,006,407	33,874,293	1,470,893	480,351		2,249,052	1,076,106	30,228,269
Jun	197,895	1,359,154	8,159,577	38,363,741	692,870	401,716		1,095,387	873,139	11,352,069
Jul	155,541	893,891	9,690,806	36,965,996	1,255,655	3,479,388		2,308,379	1,341,094	8,021,961
Aug	142,744	2,265,519	9,320,350	37,612,350	714,355	740,529		172,146	1,337,007	16,983,733
Sep	185,448	2,258,022	8,773,578	30,828,673	812,027	12,192,371		480,155	1,062,735	2,314,291
Oct	2,966,898	4,210,583	27,809,433	38,251,209	8,546,002	3,268,929	468,308	454,776	1,761,505	14,506,551
Nov	1,390,894	6,000,833	30,298,123	29,979,665	7,914,986	396,415	445,059	1,821,501	877,087	13,087,877
Dec	4,839,745	3,254,379	26,606,115	33,585,303	7,665,117	222,561	466,494	268,132	1,252,637	2,229,710
Total	**15,041,168**	**37,015,666**	**173,872,285**	**405,424,508**	**118,771,711**	**45,456,299**	**1,542,759**	**18,708,953**	**23,984,093**	**110,436,400**

8.6 Formal Trade between Uganda and Other NC Member States

As presented in figure 54, total trade volume in Uganda for the period January to December 2018 and 2019. Uganda total trade value grew by an annual increase of 15 percent to approximately US$ 11.3 billion in 2019 from US$ 9.8 billion in 2018. Out of which exports accounted for 32 percent of total trade valued at US$ 3.56 billion in 2019 while imports were valued US$ 7.69 billion representing 68 percent of total trade volume. This suggests that globally, Uganda is a net importer with unfavorable trade balance. The main export products for Uganda to the world included; Semi-manufactured gold, Coffee, Fuel products, Fish, Cocoa beans, Cement, Tea and Cotton. United Arab Emirate, Kenya, South Sudan, DR Congo, Italy and Turkey were top markets for Uganda exports. whereas, China, India, United Arab Emirate, Kenya, Tanzania, Saudi Arabia, South Africa, Venezuela and Japan were principal market for Uganda imports in 2019. The main import products were the Semi-manufactured gold, fuel products, medicaments, crude palm oil and iron and steel.

Total trade volume in Uganda with respect to Northern Corridor Member States was valued at approximately US$ 1.96 Billion in 2019. Out of which US$ 809 million accounting 42 percent of total trade volume as imports and US$ 1,197 million; representing 58 percent of total trade volume as exports implying that Uganda was a net exporter among her NC peers.

Figure 54: Uganda Total trade in (US$)

Source: UBOS, Uganda Jan-Dec2018 and 2019

Table 43 provides import statistics between Uganda and other Northern Corridor Member States for the year covering 2019. Uganda formal imports to the region were worth US$ 809 million. Kenya emerges the top source for Uganda's imports (accounting for 95 percent) worth approximately US$ 769 million compared to other Northern Corridor Member States. The main imports are Semi-manufactured gold, Lubricants, iron, steel, salt, medicaments, Waste and scrap of

tinned iron or steel and motor vehicles. The top ten countries that Uganda imported goods from are: China, India, Indonesia, Japan, Kenya, Saudi Arabia, South Africa, Tanzania, United Arab Emirates and United States of America.

cent. This is an indication of positive regional trade agreements that have expanded the country's export markets. Main exports from Uganda to NC Member States included; Cement, Tea, Palm Oil, Milk and cream, Sugar products, Tobacco, Electrical energy, Maize and Wheat products

Rwanda and Uganda significantly increased their intra-regional trade as a share of their total trade in 2019. In 2018, overall, the share of intra-Northern Corridor trade was about 2 percent for Burundi; 13 percent for DRC; 33 percent for Kenya; 14 percent for Rwanda and 38 percent for Uganda.

Table 43: Share of Uganda Imports in USD, 2019

Source: UBOS, Uganda Jan-Dec 2019

Imports	BURUNDI	DRC	KENYA	RWANDA	SOUTH SUDAN	GRAND TOTAL
Jan	45,118	679,257	63,822,158	1,302,554	355,370	66,204,456
Feb	78,245	692,023	72,116,611	725,536	704,068	74,316,484
Mar	107,590	936,662	61,136,740	1,820,899	549,989	64,551,880
Apr	171,928	1,320,527	67,578,653	2,038,580	484,670	71,594,358
May	331,594	886,946	57,049,634	1,864,971	836,963	60,970,109
Jun	101,073	731,638	70,712,801	804,646	389,586	72,739,744
Jul	50,693	785,486	66,218,387	973,898	324,395	68,352,859
Aug	2,814,925	769,107	56,825,578	828,662	1,400,224	62,638,496
Sep	46,634	925,004	71,644,623	1,301,500	293,496	74,211,257
Oct	96,907	578,867	54,301,283	824,778	430,231	56,232,065
Nov	2,987,429	593,250	59,971,297	938,599	479,358	64,969,933
Dec	2,848,685	1,172,075	67,249,262	800,496	226,795	72,297,312
Grand Total	**9,680,821**	**10,070,841**	**768,627,028**	**14,225,118**	**6,475,145**	**809,078,952**

As illustrated in table 44 below, products exported from Uganda were destined to Kenya 39 percent, Sudan 31 percent, DRC 22 percent, Burundi 5 percent and Rwanda 4 per-

Table 44: Share of Uganda Exports in USD

Source: UBOS, Uganda Jan-Dec 2019

EXPORTS	BURUNDI	DRC	KENYA	RWANDA	SOUTH SUDAN
Jan	4,176,038	19,268,340	17,818,137	16,965,252	34,138,924
Feb	2,819,291	17,375,479	19,357,535	14,513,240	36,699,084
Mar	4,047,911	19,945,341	26,440,805	2,643,323	40,690,868
Apr	3,676,798	20,706,816	33,227,354	1,164,036	31,781,372
May	3,499,652	24,992,995	72,100,732	798,923	27,658,124
Jun	3,570,839	17,477,384	41,117,126	1,261,592	24,108,675
Jul	5,468,725	20,831,231	28,291,538	652,384	22,739,512
Aug	4,588,427	21,728,351	41,229,792	807,567	28,987,325
Sep	3,582,684	22,382,508	43,556,802	1,011,568	22,146,806
Oct	5,714,833	23,559,631	50,005,071	668,034	24,539,231
Nov	5,567,481	21,642,095	39,895,076	780,615	26,581,078
Dec	4,674,098	19,224,855	29,385,173	675,197	31,557,579
Grand Total	**51,386,777**	**249,135,024**	**442,425,141**	**41,941,731**	**351,628,577**

Chapter 9

Road Safety

Kalimbini area: Long and straight stretch with a slight descent from the Nairobi side prompting motorists to overspeed and overtake recklessly

Pedestrian dangerously crossing a highway at grade despite provision of a footbridge

9.1 Introduction

Road safety refers to the methods and measures used to prevent road users from being killed or seriously injured. Studies have proved that road traffic accidents constitute a significant loss of human lives and properties, thus hampering the country's economic growth. According to the World Bank road safety statistics (2018), road crashes claim 1.35 million lives every year, 93 percent of them in developing countries. As a result, African countries had committed to reducing accident fatalities by 50 percent by 2020 following the UN Road Safety Decade and the African Action Plan for the Road Safety – 2011-2020. Road Safety has therefore become a major challenge for our Northern Corridor region in general. All Northern Corridor Member States are not exempted as road safety has become a big challenge albeit tremendous efforts made in the development and improvement of transport infrastructure.

The chapter presents analysis on causes of road traffic crashes along the Northern Corridor. Details are also given of the road user categories, nature of crashes with respect to time, age and gender groups of road users, most at risk of being killed or injured on the roads.

9.2 Road safety in Kenya

The Government of Kenya through National Transport and Safety Authority (NTSA) has been implementing traffic laws that will see minimal loss of lives through road crashes. However, there are still cases of road accidents in Kenya along the Northern Corridor routes. Figure 55 below gives the distribution of fatalities in Kenya along the Northern Corridor based on gender for the April to December 2019. There were 367 fatalities reported with male constituting 87 percent of the total fatalities. Most of the fatalities were prevalent on Mombasa-Nairobi- Nakuru route.

Figure 55: Number of fatalities by gender (Apr-Dec 2019)

Source: NTSA Apr-Dec 2019

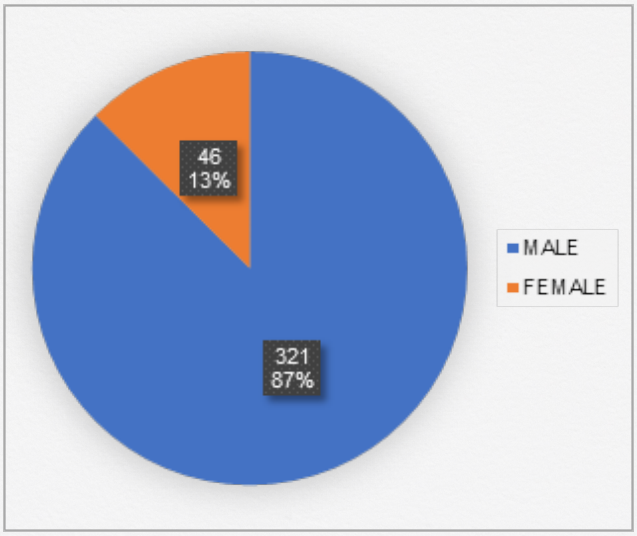


Table 45 shows the distribution of fatalities that occurred based on type of vehicle along the Northern Corridor during the same review period. Most of the fatalities were attributed to accidents caused by commercial vehicles/ trucks accounting for 34 percent followed closely by privately owned vehicles at 32 percent. Public service vehicles accounted for 14 percent whereas motorcycle recorded 5 percent.

Table 45: Distribution of Fatalities based on Type of Vehicle
Source: NTSA Apr-Dec 2019

TYPE OF VEHICLE	NO. FATALITIES
COMMERCIAL	125
PRIVATE	117
PSV	53
MOTOR CYCLE	20
UNKNOWN	45
GOVERNMENT	7
TOTAL	367

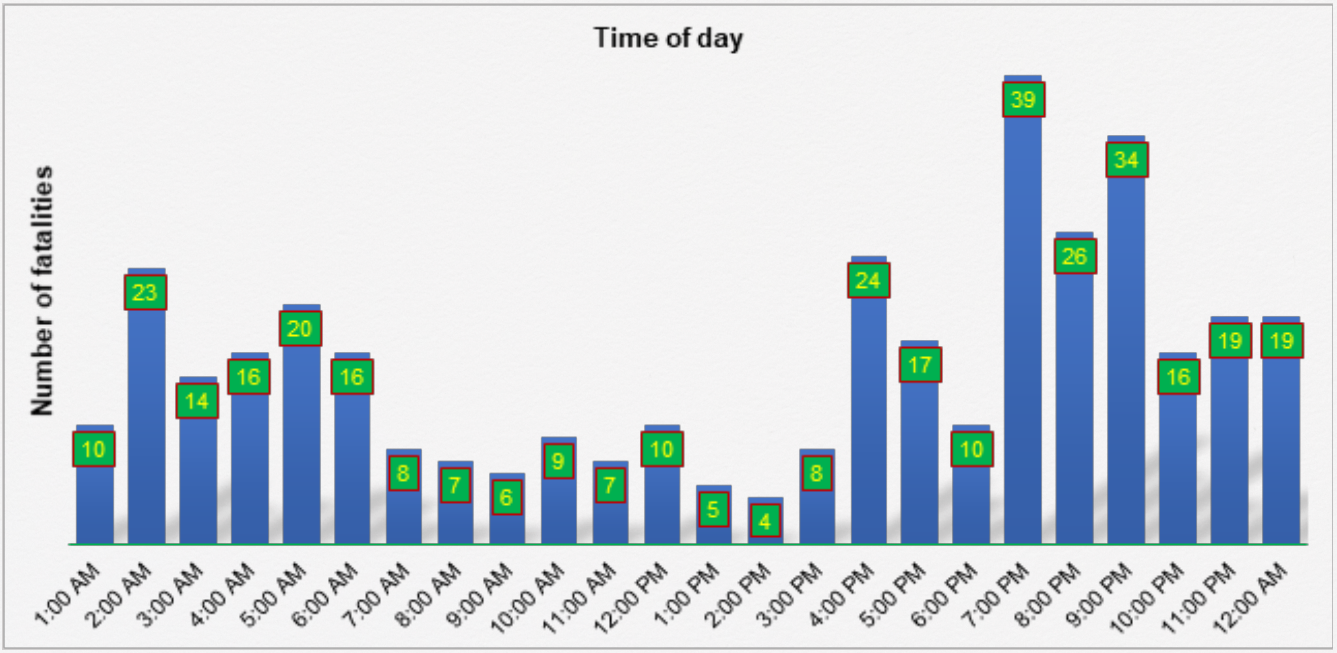
Figure 56 shows most of the accidents occur between time of the day with the lowest visibility accounting for 69% of all accidents that were reported. The poor visibility time of the day runs from 7.00 pm to 6.00 am. This suggests that road infrastructure and signage need to be enhanced to ensure improved road safety for those who drive after dusk; furthermore there is need for installation of street lights at black spots along the Northern Corridor. Most of the accidents were reported from on Friday (15%), Saturday (19%) and Sunday (18%).

The main resulting causes of accidents in particular fatalities were highly attributable to overtaking improperly and misjudging clearance which accounted for 43 percent cumulatively of all crashes. Non-compliance with traffic rules and regulations including failing to keep near the side or to proper traffic lane also was among the leading causes of fatalities. It is noted that 16 percent of the crashes the cause was not established as shown in table 46.

Table 46: Causes of Accidents in Kenya along the Northern Corridor
Source: NTSA Apr-Dec 2019

Cause of accident	No. of Fatalities	Proportion
Overtaking improperly	88	24.0%
Misjudging clearance	71	19.3%
Cause not traced(hit and run)	60	16.3%
Non-compliance with traffic rules and regulations	56	15.3%
Losing control	49	13.4%
Stepping, walking or running off footpath or verge into road	17	4.6%
Crossing road not masked/masked by stationary vehicle	13	3.5%
Walking or standing in road	5	1.4%
Excessive speed	4	1.1%
Failure of tyres and wheels	2	0.5%
Falling when inside or falling from vehicle	1	0.3%
Stationary vehicle dangerously placed	1	0.3%

Figure 56: Distribution of Fatalities based on Time
Source: NTSA Apr-Dec 2019



9.3 Road Safety in Rwanda

Following the NCTTCA multi-sectoral black-spot mapping survey in Rwanda in 2019, it was identified that Kigali –Huye -Akanyaru (NR-1), Kigali -Musanze -Rubavu(NR-2) and Kigali -Gatuna (NR-3), have twenty-eight (28) black spots. Generally, all the main roads in Rwanda are in a well-maintained condition with no signs of distressed pavement or failing road shoulders along the national truck roads. Ministry of Infrastructure, Rwanda (MININFRA), are implementing measures to curb possibility of accidents through strict enforcement and general discipline among the public and specifically road users.

Table 47 presents the distribution of fatalities in Rwanda based on road section along the Northern Corridor for the period April to December 2019. based on the data, a total of 176 number of accidents were reported during this review period. Most fatalities were on Kigali-Huye –Akanyaru accounting for 22 percent of total accidents along the corridor in Rwanda followed closely by Kigali-Kayonza section 19 percent. Accidents on Kigali-Huye -Akanyaru section occur mostly between 7:00-11.00 pm. due to the winding terrain of the road and poor visibility. Similarly, accidents on the Kigali-Kayonza section occur between 3:00 pm-10:00 pm due to wrong maneuver and overspeeding.

Major causes of accidents were attributed to over speeding, wrong maneuvers and reckless driving. The report proposes strict law enforcement against over speeding, drunk driving and non-compliance with traffic rules to enhance road safety in Rwanda.

Table 47: Number of accidents distributed by road section (Apr-Dec 2019)

Source: Ministry of infrastructure/Rwanda National Police

Road Safety data	Fatal	Serious	No of accidents	Time of accident
Kigali-Huye - Akanyaru (NR1)	22	17	39	07:00 – 23:00
Kigali -Musanze -Rubavu (NR2)	15	12	27	05:00 – 22:00
Kigali -Gatuna (NR3)	4	3	7	12:00 – 17:00
Kigali-Kayonza (NR4)	18	16	34	15:00 – 22:00
Kicukiro -Nemba (NR5)	8	6	14	16:00 – 21:00
Huye-Kitabi -Buhinga (NR10)	2	2	4	19:00 – 21:00
Ruhwa-Bugarama-Rusizi-Buyinga-Karongi-Rubavu (NR11)	12	10	22	05:00 – 17:00
Muhanga-Rubengera (NR15)	2	3	5	12:00 – 17:00
Muhanga-Ngororero-Mukamira(NR16)	5	4	9	13:00 – 19:00
Musanze -Cyanika (NR17)	3	2	5	12:00 – 19:00
Kayonza-Gabiro-Kagitumba (NR24)	7	3	10	15:00 – 23:00

Compared to previous year, the number of road accidents has been decreasing with 2019 recording a decrease of approximately 17 percent from 5,661 cases that were recorded in year 2018.Some of the ongoing road safety initiatives in Rwanda include:

- Gerayo Amahoro (Reach safe) campaigns: Rwanda introduced the "Gerayo Amahoro" campaign, which means 'reach safe' in English, on May 2019. The campaign intends to bring reforms in the area of road safety and safeguard road users from traffic accidents that had become rampant in previous years. The year-long campaigns aim to reach out to all categories of road users to educate them on safe road use mainly on preventing reckless human behaviors and raising awareness against distractive driving. The campaign is engaging radio and television talk-shows and use of social platforms, roadshows and physical sensitisation at bus parks across the country, in churches and mosques, in sports gatherings and in the schools to reach out to different road users.

- Installation of speed governors in public and commercial vehicles to control the speed of business vehicles. The installation of devices comes to enforce the February 2015 Presidential Order relating to installation of speed governors into public service and other commercial vehicles to control the speed of business vehicles, which was viewed as one of the leading causes of fatal accidents. The hi-tech device limits vehicles to the maximum speed of 60 kilometres per hour and has the capacity to trim down the speed to at least 25 kilometres per hour every time the vehicle attempts to exceed the set maximum velocity. It also has a storage computer which allows controllers or traffic officer to check the previous speed of the vehicle, and errors if the device was tempered with.

- Installation of CCTV cameras along National paved roads to curb traffic accident. There are ongoing works to install closed- circuit television (CCTV) cameras along National paved roads as part of efforts to check traffic accidents and ensure road safety. The project aimed at reducing accidents caused by careless driving such as talking on phone while driving as well as over speeding. Additionally, the Police plans to introduce a device called "on-body camera" that shall be an electronic device attached on a Policeman body to detect cars that violate traffic rules and immediately punish the offenders. These cameras inform the offenders via SMS and this is an automatic activity. Fixed cameras have been installed in specific area along Kicukiro-Nemba (NR5), Kigali-Kayonza (NR4), Kayonza-Kagitumba (NR24), Kigali-Muhanga (NR1) and Kigali-Musanze (NR2) roads network.

Chapter 10

Recommendations

10.1 Recommendations

Arising from the findings of this report the following recommendations are proposed:

(i) Intraregional trade

- Informal cross border trade is an important segment of the regional economy and provides livelihood to large sections of the population. It is crucial for policy makers to design interventions that support the ease of doing business for informal traders with appropriate gender inclusion considerations. It is furthermore incumbent upon policy makers to ensure that women are supported to enhance incomes and access more opportunities for trade including in exports. It is recommended that member countries should enhance data collection and reporting on performance of ICBT to support making evidence based policy interventions.

- There is also need to harmonize methods and templates for collection and presentation of statistics to allow for comparisons and measurement of trade flows between Member States.

- The Member States should harmonize documentation requirements for clearance of goods traded across border stations cleared under the COMESA Simplified Trade Regime (STR). Furthermore, harmonize the threshold value for goods that can be cleared under the STR by adopting the threshold value recommended by COMESA.

(ii) Quality of infrastructure

- The report notes that the quality of transport infrastructure has greatly improved in all countries. However, the report notes that the size of the region's economy is expanding and generating demand for efficient transport systems.

- It is therefore recommended that countries should put more efforts to continue the infrastructure development as envisaged in the regions Northern Corridor Transport Infrastructure Master Plan. In the same breath, it is vitally imperative to pursue policies and allocate resources to maintain and protect roads and other transport modes against damage to ensure optimum returns on the infrastructure are harnessed.

- It was reported that even without adding extra cargo on trucks during their transit journeys along the Corridor, trucks comply with the vehicle load limits at some weighbridges but fail to comply at others. It was observed that whereas at some weighbridges if a truck complies with the axle group load it is cleared at others in addition each individual axle of the axle group has to comply to the load limit for it to be cleared.

- It is recommended that the Authorities in charge of weighbridges in the Member States harmonize enforcement of vehicle load limits.

(iii) Transit time and Delays

- There is room to improve transit time and minimize delays along the transport corridor. Improving the coordination, full automation and collaboration mechanism among border agencies for faster clearance of goods at border. Joint border and cross-border Committees should be reinforced and their functioning more streamlined.

- It is recommended that the Member States implement the guidelines on formation and strengthening of Joint Border Committees which were approved by the NCTTCA Policy Organs.

- It is also noted that growth of Cities and other urban centers along transport routes have led to rise in traffic congestion which aggravates delays for transit traffic and other road users traversing through the cities.

- It is recommended that countries should consider redesign of urban plans including development of by-passes. Furthermore, adopt policies that limit use of small number seater Public Service Vehicles in cities and big urban centers.

- Additionally, the use ECTs is still low therefore impacting on the quality of data and information required on analysis causes of stoppages and delays.

- It is recommended that more vehicles should be fitted with these devices and given adequate technical support. This will serve well to augment information obtained from road surveys and other secondary sources.

- The report notes that, data on time taken for border processes from DRC had very few observations from January to December 2019 with quite few borders. This implies that from the data provided by DGDA may not adequate for objective and conclusive analysis.

- Therefore, the report recommends a survey to be conducted to understand and propose appropriate methodology for data capturing given DRC is vast and has many borders.

(iv) Road Safety

- Road accidents remain as a persistent problem across all transport routes and occasion massive costs and losses to traders. The report shows that a large number of accidents are linked to errors in driver judgment and other human based errors.

- It is recommended that efforts should be enhanced to reach out to all categories of road users to educate them on safe road use mainly on preventing reckless human behaviors and raising awareness against distractive driving. In addition, improving the quality of services provided by roadside stations should be enhanced to ensure road users have adequate opportunity to rest, service their vehicles and have access to prompt assistance during distress. Roadside Stations with a variety of amenities and wellness centers for drivers along the Corridor are desired.

- It was reported that some vehicles are modified after importation to carry more cargo or more passengers for which they were not designed which raises safety concerns of such vehicles on the roads.

- It is recommended that any modification of a vehicle to transport more cargo or passengers should be approved by the vehicle licensing or registration Authority of the Member State to ensure that the modifications do not compromise safety of the vehicle

(v) Border posts

- The developments of One Stop Border Posts have hailed as an effective strategy in improving cross border trade. However, the agencies working at these OSBPs still face a number of challenges which constrain their operations to fully achieve the benefits of OSBPs.

- It is recommended that countries should endeavor to address challenges that relate to inadequate infrastructure at many of these border posts including housing for staff, amenities such as schools and hospitals, holding grounds for quarantined animals, insufficient water resources and in some cases unreliable power supply and not the least human capacity and skills shortfalls in a number of critical areas.

(vi) Railway Transport

- The development of the Standard Gauge Railway has revolutionized cargo transport from the port of Mombasa. To enhance the economic viability of the SGR, it is important to pursue the implementation of the railway Master Plan that proposed for rejuvenating existing railways serving Tanzania, Kenya, Uganda and extending them initially to Rwanda and Burundi and eventually, to South Sudan, Ethiopia and beyond. The linking of these systems will ultimately enhance performance and ensure optimum and viable utilization of the railway system. In addition, there is need to develop feeder roads and railways to ensure last mile connectivity that would make use of railway more attractive.

A driver gets documents cleared at a one stop border post

(vii) Inland water ways

- Inland water ways are crucial part of transport systems in the region that could potentially reduce distances and cost of transport and connects various countries. The key focus waterways are Lake Victoria and Lake Tanganyika. It is recommended that joint efforts by countries should be mobilized to address the numerous challenges that face Lake Transport. These include; poor operating systems, insufficient equipment, shallow channels, water hyacinth and narrow berths that inhibit navigation and docking

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