Shippers Council of Eastern Africa

LOADS OFF YOUR MIND

The East African Logistics Performance Survey

2018

Main Report

SURVEY CONDUCTED BY

AESDC Africa Economic & Social Development Consultants

WITH FUNDING FROM

TRADE MARK EAST AFRICA

Growing Prosperity Through Trade

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ABBREVIATION AND ACRONYMS

AEO	Authorized Economic Operator
ASYCUDA	Automated System for Customs Data
CCS	Charter Consortium Secretariat
CCTTFA	Central Corridor Transit Transport Facilitation Agency Agreement
CET	Common External Tariff
CFA	Clearing and Forwarding Agents CFA
CFS	Container Freight Stations
CFSA	Container Freight Stations Association
COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of Congo
DVS	Department of Veterinary Services
EAC	East Africa Community
ECTS	Electronic Cargo Tracking System
FEU	Forty Foot Container Equivalent Unit
FGD	Focus Group Discussion
FT	Foot
GDP	Gross Domestic Product
HSWIM	High-Speed Weigh in Motion
ICD	Inland Container Deport
ICMS	Integrated Customs Management System
ISCOS	Inter-governmental Standing Committee on Shipping
JKIA	Jomo Kenyatta International Airport
KAM	Kenya Association of Manufacturers
KEBS	Kenya Bureau of Standards
KeNHA	Kenya National Highways Authority
KENTRADE	Kenya Trade Network Agency
KEPHIS	Kenya Plant Health Inspectorate Service
KEPSA	Kenya Private Sector Alliance
KIFWA	Kenya International Freight Warehousing Association
KMA	Kenya Maritime Authority
KNESWS	Kenya National Electronic Single Window System
KPA	Kenya Ports Authority
KPC	Kenya Pipeline Company
KPI	Key Performance Indicators
KRA	Kenya Revenue Authority
KRB	Kenya Roads Board
KRC	Kenya Railways Corporation
LPI	Logistic Performance Index
LPS	Logistics Performance Survey
MGR	Meter Gauge Railway
MPCC	Mombasa Port Community Charter
NCTTCA	Northern Corridor Transit Transport Coordination Authority
NTB	Non-Tariff Barriers

OSBP	One Stop Border Post
OSIS	One-Stop Inspection Station
PPP	Public Private Partnership
SCEA	Shippers' Council of East Africa
SCT	Single Customs Territory
SGR	Standard Gauge Railways
TAZARA	Tanzania Zambia Railways Authority
TEU	Twenty Foot Equivalent Container Unit
TMEA	Trademark East Africa
TOR	Terms of Reference
TPA	Tanzanian Ports Authority
TRC	Tanzania Railways Corporation
TTF	Trade and Transport Facilitation
UAE	United Arab Emirates
UNCTAD	United Nations Conference on Trade and Development
USD	United States Dollar

EXECUTIVE SUMMARY

The efficiency and cost of freight transport services play a critical role in the competitiveness of international trade and by extension the economic performance of a country. SCEA undertakes an annual East Africa logistic Survey (LPS). It examines the cost, time, and complexity aspects of the East Africa Logistics Chain. The LPS provides a comprehensive regional comparison tool to measure trade and transport facilitation friendliness of the EAC countries. The findings and recommendations inform the core advocacy agenda for the Council and the private sector to pursue.

The LPS 2018 has for the first time in its history tackled the important issue of port connectivity. The United Nations Conference on Trade and Development[1] (UNCTAD) in 2004 developed the Liner Shipping Connectivity Index (LSCI) to determine countries' positions within global liner shipping networks. The latest country-level LSCI statistics were published in July 2019. The LSCI is an indicator that covers more than 900 ports over the 2006-2019 period. The LCSI uses five components:

- The number of ships deployed to and from each country's seaports;
- Their combined container-carrying capacity;
- The number of companies that provide regular services;
- The number of services and the size of the largest ship;

In Africa, the best-connected countries are Egypt, Morocco, and South Africa. Morocco has seen a sharp increase of its liner shipping connectivity index because of its investments in trans-shipment. In Eastern Africa, Djibouti has significantly improved its connectivity, benefiting from private investments in the ports trans-shipment operations. Kenya and Tanzania continue to demonstrate very low connectivity and this weakens the regions competitiveness in relationship with other regions in the world.

While some economies have such as China has shown a remarkable increase in connectivity in the last 10 years there has been very little positive progress for Kenya and Tanzania. Djibouti is the outstanding exception in the region with significant positive connectivity increases in the last ten years. South Africa, Nigeria, and Ghana have on the other end of the scale shown negative growth in connectivity.

This report prescribes a number of measures the region will need to undertake in order to improve the regions connectivity. These measures are included in detail section "4.1.2 What can be done to improve a port's connectivity?" of this report.

[1] UNCTAD is the part of the United Nations Secretariat dealing with trade, investment, and development issues. The organization's goals are to: "maximize the trade, investment, and development opportunities of developing countries and assist them in their efforts to integrate into the world economy on an equitable basis". UNCTAD was established by the United Nations General Assembly in 1964 and it reports to the UN General Assembly and United Nations Economic and Social Council.

The LPS 2018 also collects information on key stakeholder's perception on the quality of infrastructure and key logistics processes including efficiency of clearance operations, trader level of competence, transparency of customs departments and advancements in the use of paperless systems.

In rating the border clearance operations, Rwanda scored the highest at 3.6 out of 5, Tanzania came second with a score of 3.4, Kenya scored 3.1 while Burundi scored 3.0 and Uganda, 2.5 out of 5. The high score in Rwanda can be attributed to the high use of ASYCUDA. In addition, they have also adopted the use of a new mobile friendly web application, which can be used to declare goods to Rwanda Customs, while crossing a border

In relation to trader competence, the respondents rated Tanzania as the highest with a score of 3.1. This can be attributed to the high punitive action that can be taken on anyone who is not compliant in Tanzania. Burundi and Uganda were rated as the lowest at only 2.5 out of 5. Rwanda scored 2.7 and Kenya 2.6.

As far as transparency of customs are concerned , Kenya scored the highest with a score of 3.0 out of 5 followed by Rwanda and Tanzania with 2.9, Uganda 2.5 and last was Burundi with a score of 2.0 out of a probable 5. The high score of Kenya can be attributed to the recent reforms and anti-corruption purge that has taken place in the recent past.

The respondents were requested to score the transparency of other government agencies. Kenya scored the highest with a perception index of 3.4 followed by Tanzania at 3.3, Burundi at 2.7, Rwanda at 2.6 and Uganda came in last with a perception index score of 2.4 out of 5 most of the agencies have delegated their responsibilities to KRA and therefore the process are as transparent as the customs process.

In adoption of paperless systems, Rwanda came scored high with a perception index score of 3.9 followed by Kenya with a score of 2.7, Tanzania with 2.6, at the bottom came Burundi and Uganda with a score of 2.5 out of a probable 5.

The East African Region has over the last 10 years engaged in a number of reforms which include but are not limited to: Upgrading Road and Upgrading Rail Networks, Upgrading Customs Management Systems, The Authorised Economic Operator (AEO) Program, Simplifying Rules of Origin, Rationalizing Customs Procedures and Documentation, Implementing One Stop Border Posts, Harmonization of Vehicle Axle Load Limits, Establishing a Single Customs Territory, Electronic Cargo Tracking, Expansion of port capacity, Development of Port Community Charters and Establishing National Single Window Systems. The region has however made little or no progress in other important areas such as development of enabling environment for multi modal transport operations, implementation of initiatives to improve Freight Flow Balances, gender equality in transport, Driver training and vehicle quality.

Progress has been made over the years through the just mentioned reforms however the pace of reforms is slow leading to a situation where even though the region is making progress other global players are making much faster progress thereby leading to an expansion in the gap in logistics competitiveness and efficiency.

In conclusion, one can make the general observation that the "Logistics Performance" in 2018 can be described as being flat. The region has made little progress in relation to its performance in 2017. Stakeholder's perception on performance for Burundi, Kenya Tanzania shows a slight decline in performance. A notable exception in the performance of these countries is the increase in perception on the performance of rail in Uganda and Kenya. This is as a result of the development of phase one SGR in Kenya and whose operations have started to mature. In Uganda, there are efforts to revive the old Meter Gauge Railway (MGR). The MGR from Tororo to Kampala continues to function and the Ugandan Railways Corporation with support from the EU is investing in upgrading Uganda's MGR.

Rwanda is the only country that has shown significant improvement in perceptions across the board i.e. in airports, ports roads and warehousing. Burundi has on the other had seen a significant increase in performance in one area i.e. is roads however, Burundi as mentioned before shows a slight decline in performance in all other areas.

1 BACKGROUND

1.1 The Role of Shippers' Council of East Africa

The Shippers' Council of East Africa (SCEA) serves as a representative body of cargo owners. SCEA seeks to represent East African cargo owners in all matters that affect the competitiveness of East Africans global supply chains[2]. SCEA strives to understand the infrastructural, human resource, and other needs and requirements of its members to influence relevant stakeholders through collaborative efforts. SCEA works closely with relevant government departments on national and regional freight logistics policy for trade enabling infrastructure as well as services.

In 2011 SCEA, conducted a "Kenyan Logistics Performance Survey" and this was followed up by an East African logistics performance survey (LPS) in 2016. SCEA uses the LPS data to generate knowledge for its members, provide information for benchmarking, lobbying, and advocating for policy changes. This helps the different East African countries to bridge the logistics performance gaps and build stronger connectivity among nations to facilitate efficient trade flows between the East African countries.

1.2 Rational for Specific focus on Logistics

There is need to understand logistics performance at the country level in order to better evaluate and target Trade and Transport Facilitation (TTF) policy efforts over time and across countries. Lower costs for logistics reduce the cost of delivering products, thereby encouraging sales, increasing trade, opening new markets and generally encouraging business[3].

Performance evaluation also helps to improve the efficiency of supply chains and the functioning of related infrastructures, services, procedures, and regulation. A sound and comprehensive set of national-level performance indicators is critical for high-level policy dialogue, preparation, and implementation. Policymakers need a better understanding of:

- The level of logistics costs in absolute terms and relative to other costs;
- The main drivers of logistics costs;
- How costs and deficiencies in performance affect certain sectors in the economy.

2 https://www.shipperscouncilea.org

3 World Bank Policy Research Working Paper 4558 -Improving Logistics Costs for Transportation and Trade Facilitation by Julio A. Gonzalez, Jose Luis Guasch and Tomas Serebrisky

Logistics disparity among nations has caused connectivity problems in trade routes and subsequent time delay and additional logistics costs in global supply chain[4]. Understanding logistics performance and costs at the country level is important in order to better evaluate and target policy efforts not only in the transport sector, but also across sectors. Lower costs for logistics reduce the cost of delivering products nationally as well as internationally, thereby encouraging sales, increasing trade, opening new markets and generally encouraging business5

The LPS is an annual publication of the council that examines the cost, time, and complexity aspects of the East Africa Logistics Chain. It provides the most comprehensive regional comparison tools to measure trade and transport facilitation friendliness of the EAC Countries. The survey is also designed to identify specific bottlenecks on the logistics chain such as policy and regulatory frameworks, infrastructure capacities, as well as operational challenges that impede the seamless flow of goods on the logistic chain.

Apart from informing the wider stakeholder on the sector performance, the recommendations of the survey inform the council's core advocacy agenda. Its first version was published in 2011, and it has since been updated 2012, 2014, 2015, and 2016.

1.3 Objectives of the Survey[6]

The objective of this survey is to establish key performance indicators namely cost, time, and complexity, compare the Central and Northern corridors, identify key factors affecting logistics performance in East Africa and propose a suitable ranking of Logistics Performance for EAC Partner States through a comparison of cost, efficiency, complexity and perception indicators. The assignment further interrogate reasons that led to a reverse in the ranking of Kenya and possibly the other EAC partner states in the World Bank led LPI for 2018.

The LPS dataset will be instrumental in identifying key bottlenecks on the corridor and help identify needs and priorities necessary in the trade facilitation and logistics reforms. A policy research paper to highlight key policy gaps and propose measures to address them will be developed.

4 National Logistics Performance Benchmarking for Trade Connectivity – An Innovative Approach Using World Bank Logistics Performance Index Database. Available from: https://www.researchgate.net/publication/281714450 National Logistics Performance Benchmarking for Trade Connectivity an Innovative Approach Using World Bank Logistics Performance Index Database [accessed Jun 15 2019].

5 Rantasila, Karri; Ojala, Lauri (2012) : Measurement of national-level logistics costs and performance, International Transport Forum Discussion Paper, No. 2012-4, International Transport Forum, Paris, http://dx.doi.org/10.1787/5k8zvv79pzkk-en

6 Extracted directly from the contractual terms of reference

The survey also make comparisons with better performing regions of the world especially amongst the top ten countries in the World Bank ranking and with top Africa Countries as per the WB LPI, identify international best practices and make appropriate policy proposals that are necessary to improve the logistics environment in East Africa and improve the competitiveness of shippers.

1.4 The Task Order

The Logistics Performance Survey 2018 has defined the following tasks to be completed by the consultant:

I. Establish key performance indicators for logistics performance in East Africa based on the three performance dimensions namely: cost, time and complexity;

II. Compare and contrast the Central and Northern corridors performance in East Africa;

III. Propose a suitable ranking of Logistics performance for EAC Partner States based on the logistics dimensions of cost, efficiency, complexity perception;

IV. Interrogate reasons that led to a reversal in the ranking of Kenya and possibly the other EAC partner states in the World Bank led LPI for 2018;

V. Identifying key bottlenecks on the corridors;

VI. Identify trade facilitation priorities;

VII. Develop a policy research paper highlighting key policy gaps align with the propose measures to address them;

VIII. Identify international best practices and make appropriate policy proposals;

1.5 Deliverables

The following are the four deliverables on this assignment:

1.5.1 Inception Report of the Study:

- Executive summary
- Background
- Objectives of the survey
- Scope
- Deliverables
- Methodology
- Survey administration
- Sampling plans
- Reports and deliverables
- Project work plan
- Tools

1.5.2 Interim Study Report Including:

- **Draft SCEA Logistics Performance Survey Report - 2018:** Which compares individual EAC Partner States based on the efficiency, cost, complexity, and perception of transport and logistics services providers and its environment, establish impact of ongoing initiatives.
- **The SCEA Policy Research Paper 2018:** Highlighting the policy regulatory, gaps and a proposed specific and actionable measures to address them
- **SGR & ICD Policy Recommendations** - 2018**:** Standalone report on how to improve efficiency of SGR and Inland Container Depot
- **Validation Workshop & Report On The Study Findings**

1.5.3 Final Report

- **Draft SCEA "Logistics Performance Survey" Report - 2018:** Which compares individual EAC Partner States based on the efficiency, cost, complexity, and perception of transport and logistics services providers and its environment, establish impact of ongoing initiatives.
- **The Abridged "SCEA Logistics Performance Survey" Report – 2018.** An abridged version of the survey report that does not exceed 40 pages.

1.6 About This Interim Report

The broad purpose of this Interim report is to present the surveys initial findings. It has been produced in accordance with the schedule for deliverables included on page 15 of the Contract for consultancy services to undertake the logistics performance survey 2018. This report serves as an update of the ongoing survey. It also provides information that will help the project sponsors and other decision-makers to make informed decision on the projects progress and direction.

This interim report has been submitted in three standalone parts are prescribed by the projects terms of reference.

Part I. Main Report : The Draft SCEA Logistics Performance Survey Report

Part II. Appendix 1 : The SCEA Policy Research Paper 2018

Part III. Appendix 2 : The SGR & ICD Policy Recommendations

This main report is organised into three key areas that present the findings of the survey and they are:

Section 1 : Provides a Background to this survey

Section 2 : Provides a summary of the manner in which the survey was conducted

Section 3 : Provides a report on the Surveys Response and Demographics

Section 4 : Presents the cost, time and complexity survey,

Section 5 : Presents the report on the perception survey and

Section 6 : Provides a benchmarking report on the regions two major ports i.e. Mombasa and Dar es Salaam

2 EXECUTION OF THE SURVEY

2.1 Survey Approach

The logistics Performances 2018 was carried out by way of systematic gathering and analysis of information gleaned from informed sources. The Survey employed standardized questionnaires administered through various means such as face-to-face interviews, online surveys, and telephone/email surveys to ensure that each respondent can answer the questions at a level playing field to avoid biased opinions that could influence the outcome of the survey. The survey was a combination:

- A time, cost and complexity survey
- A stakeholders perception survey and
- Key informant interviews to inform policy recommendations

Figure 1 Kenya Revenue Authority (KRA) key informant interviews, 26th august 2019 at KRA customs office

2.2 Identification of the strategic trading partners

Each EAC partner state has its peculiar trading configurations. To ensure that the data collected focused on each partner states key overseas partners the survey began by identifying the EAC member states strategic trading overseas partner(s) and key export and import commodities.

The survey-analysed data on trade flows for the most recent year reported from international databases such as the United Nations Commodity Trade Statistics Database[7] (UN COMTRADE) and the Observatory of Economic Complexity[8]. For economies for which trade flow data were not available, data from ancillary government sources (various ministries and departments) were used to identify the export product and natural trading partners. The table below shows the EAC member states, key commodities traded, the principle and secondary import and export commodities:

EAC PARTNER STATE	TOP KEY TRADED COMMODITIES BY VALUE		TOP ORIGIN AND DESTINATION MARKETS BY VALUE	
	Exports	IMPORT	PRINCIPLE EXPORT MARKET(s)	PRINCIPLE IMPORT ECONOMY
Burundi	• Coffee • Gold	• Refine Petroleum • Packaged Medicaments	• UAE • Pakistan	• China • India
Kenya	• Tea • Cut Flowers	• Refined Petroleum • Palm Oil	• USA • Pakistan	• China • India
Rwanda	• Coffee • Tea	• Refined Petroleum • Packaged Medicaments	• USA • Pakistan	• China • India
South Sudan	• Crude Petroleum • Scrap iron	• Raw Sugar • Palm Oil	• China • India	• China • The Netherlands
Tanzania	• Gold • Coconuts, Brazil Nuts, Cashews	• Refined Petroleum • Packaged Medicaments	• China • India	• China • India
Uganda	• Coffee • Gold	• Refined Petroleum • Palm Oil	• UAE • Italy	• China • India

Table 1 key commodities traded + the principle and secondary import and export commodities

7 The United Nations Commodity Trade Statistics Database (UN COMTRADE) contains detailed imports and exports statistics reported by statistical authorities of close to 200 countries or areas. It concerns annual trade data from 1962 to the most recent year. UN COMTRADE is considered the most comprehensive trade database available with more than 1 billion records.

8 The Observatory of Economic Complexity is a tool that allows users to quickly compose a visual narrative about countries and the products they exchange. It has been developed by The MIT Media Lab Macro Connections group (now Collective Learning).

2.3 Sampling Plan

The SCEA LPS established the surveys sample frame[9] as the set of "firms involved in "logistics service provision" in the six East African partner states" i.e. Burundi, Kenya, Rwanda, south Sudan, Tanzania, and Uganda. The "logistics service providers have been limited to the following industry clusters: airfreight carriers, clearing and forwarding agents, road freight transporters, and warehousing operators. The sample size for the SCEA LPS 2018 survey was established using the formula below[10]:

$$n = \frac{z^2 pqd}{e^2}$$

$x = Z(^{c}/_{100})^2 r(100-r)$

$n = {}^{N\,x}/_{((N-1)E^2 + x)}$

$E = \mathrm{Sqrt}[{}^{(N-n)x}/_{n(N-1)}]$

Equation 1 Fisher et al 1999 formula for determination of sample size

Where n is the population size, r is the fraction of responses that is of interest in, Z(c/100) is the critical value for the confidence level c, n is the sample and is the e margin of error. This calculation assumes normal distribution.

The SCEA LPS 2018 estimated the population of firms providing "logistics services" in the East African community at approximately 10,000. This was biased on information obtained from membership associations, revenue authorities and other government agencies in the six East African community member states. The table below describes the parameters used for calculating the SCEA LPS 2018 survey sample size.

SAMPLE SIZE CALCULATION FACTOR	RATIONAL FOR SETTING FACTOR	SET VALUE
The acceptable margin of error	The margin of error is the amount of error that you can tolerate. Its common practice to set this at 5 %	5 %
The desired confidence level	Typical choices are 90%, 95%, or 99%. Settled for 95% as 99% would render the study uneconomical	95 %
The population size	Estimate obtained from combined population of members of Road Haulage Forms and the Clearing and forwarding industry	10,000
The response distribution	The response distribution has been set at 50%, as it is unknown. Setting the response distribution to 50% is the most conservative assumption.	50 %

Table 2 Sampling Specifications

9 In statistics, a sampling frame is the source material, which a sample is drawn. It is a list of all those within a population who can be sampled, and may include individuals, households or institutions.

10 Basic Statistics: A Modern Approach Hardcover – January 1985 by Morris Hamburg

Using equation 1 above the sample size for the SCEA LPS 2018 Perception surveys worked out to be **370** respondents. The SCEA LPS 2018 stratified the sample size calculated above distributed the sample across the East African community partner states relative to the EAC member states GDP.

	GDP 2018 (BILLION US$)	PERCENTAGE	SAMPLE ALLOCATION	PERCENTAGE
Burundi	3.48	2%	8	2%
Kenya	74.94	44%	165	44%
Rwanda	9.14	5%	20	5%
South Sudan	2.9	2%	6	2%
Tanzania	52.09	31%	114	31%
Uganda	25.89	15%	57	15%
TOTAL	**168.44**	**100%**	**370**	

Figure 2 Sample Distribution

2.3.1 Sampling plan for key informants

The SCEA LPS 2018 employed the snowballing technique as a means of identifying the respondents for the key informant interviews. This type of sampling technique works like chain referral. After observing the initial subject, the survey researchers requested for assistance from the subject to help identify people with a similar trait of interest. Using this approach, the SCEA LPS 2018 was able to conduct interviews with key stakeholders identified as having significant influence and impact in the freight and logistics industry and then requesting the respondents' to help in identifying other individuals who would also have deep pertinent knowledge in the industry.

2.4 Administration of the survey

2.4.1 Kick-Off Meeting

On 19th June 2019, a Kick-Off meeting was held at the SCEA office between SCEA and the Consultants. At that meeting, the Consultants presented their Work Plan for the implementation of the SCEA LPS 2018 project. The meeting discussed the project work plan, which was adopted. It was agreed that the work should be expedited as much as possible.

The meeting discussed Cost, Time & Complexity Survey- The data on logistics performance was gathered through a questionnaire administered to shippers, and logistics service providers such as, freight forwarders, customs brokers, railway operators, and road haulage operators, insurance service providers, banks, shipping lines, port authorities, revenue authorities, and shippers, traders.

The data is based on answers to a detailed questionnaire completed within the six East African partner states. As a further quality check, a survey was completed by key informants like ports and revenue authorities, regulators, major service users, customs and freight brokers. The consultant was required to report the time, cost, and complexity associated with the logistical process of exporting and importing goods. The consultant should ensure that 2018 LPS should reflect the regional component of the data and stakeholders views. There is need to place some degree of emphasis on airfreight .The consultant need not visit South Sudan but they should provide high levels of LPS of south Sudan

2.4.2 Inception Report

On 29th July 2018, a meeting was held to consider feedback on the LPS 2018 Inception Report. The meeting raised several matters that were discussed and agreed as follows:

- **Survey Sample size:** The consultants sampling plan was approved.
- **The TMEA Data Standardization Guidelines to guide:** The TMEA team shared new TMEA guidelines on Data Standardization.

2.4.3 Cost, time complexity and perception survey

The SCEA Perception survey was administered using Google Forms. Google Forms is an online cloud-based software survey that includes data collection, sample selection, bias elimination, and data representation tools. The online survey draws from a sample frame of nearly 10,000 shippers and logistics service providers.

2.4.4 Survey administration arraignments for key informants interviews

The Consultant recruited research assistants who have the required abilities, personal qualities, training, and tools to assist in data collection. To this end, the consultants have an existing pool of prospective research assistants drawn from the five East African countries. That they are regularly called upon by the consultant to assist in data collection.

They were hired for each country proportionate to the number of key informant interviews allocated to the country. A refresher training was conducted for the teams of research assistants where the attributes of the 2018 LPI survey such as the background, objectives, research ethics was covered.

Research assistants were also given an opportunity to familiarize themselves with the tools. The refresher training also covered the administration of the survey, which included the fieldwork plans. Finally, mock interviews were conducted as a pre-test to test for the readiness of the tool and the team to collect valid and reliable data.

2.4.5 Field quality control

The integrity of data collected was enhanced by designing user friendly and precise questionnaires. Intense and thorough training of research assistants by the Team Leader during data collection exercise also helped ensure that non-sampling errors were reduced. Senior consultants carried out field data verification by examining filled abstracts for completeness, consistency, error in entry and correctness of inclusion.

2.4.6 Data management and quality control

Data entry personnel preformed a check on each questionnaire as it was entered into the database. They check individual answers for consistency and being logical. This data review process included several decision rules that were followed to assist data entry persons with making uniform and consistent decisions.

A bulk of the data was collected through online survey. The online surveys facilitated for logic checks, skip patterns, and validations during the interview. This made the survey more efficient and helped assure higher quality data. It also saved efforts on data cleaning. Errors stemming from improper data collection technique were minimized through a constant monitoring of the survey and data entry personnel. On-site monitoring allowed for specific problems to be immediately addressed with the interviewer. Problems identified during data entry were addressed during the following survey season. Constant re-training and reviewing the procedures while on-site also assisted with reducing errors.

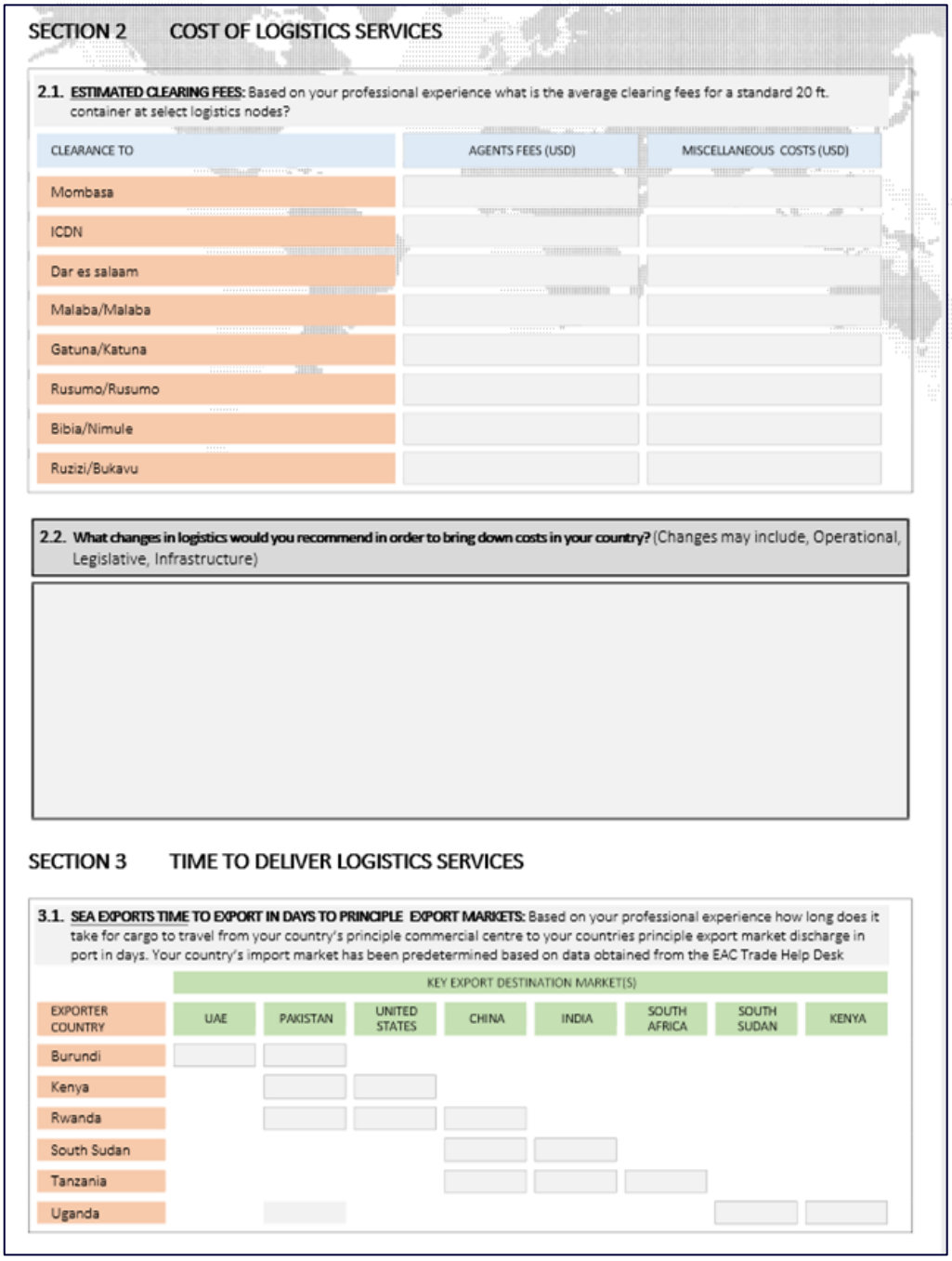
2.4.7 Data clean up

In spite of the procedures employed during the data collection and entry processes, there was a considerable amount of clean up that needed to be performed. The first step was to sort the data set by the various column headings to visually inspect for missing or incorrect observations. Some categories were set up to provide zero as the default value. In some cases, this was a desirable default.

A search for missing data was also performed. Any blank answers were filled in as "unknown" in the data set. This shows that the answer was not simply overlooked during data entry, but it is missing on the survey form. For those surveys that could not be corrected were flagged and their records have been set aside.

3 SURVEY RESPONSE

The number of respondents interviewed was determined by computing the sample size using the Fishes Formula and using the Proportion to Population Sample (PPS) size method. The sample size was computed to be a minimum of 370. At the planning phase, the total sample size was adjusted to 402 (after factoring in 10% non-responsive respondents). The consultant was cognizant of the fact that online survey response rates were usually very low, and therefore, 2163 questioners were distributed to the seven strata in the five countries.



SECTION 2 COST OF LOGISTICS SERVICES

2.1. **ESTIMATED CLEARING FEES:** Based on your professional experience what is the average clearing fees for a standard 20 ft. container at select logistics nodes?

CLEARANCE TO	AGENTS FEES (USD)	MISCELLANEOUS COSTS (USD)
Mombasa		
ICDN		
Dar es salaam		
Malaba/Malaba		
Gatuna/Katuna		
Rusumo/Rusumo		
Bibia/Nimule		
Ruzizi/Bukavu		

2.2. **What changes in logistics would you recommend in order to bring down costs in your country?** (Changes may include, Operational, Legislative, Infrastructure)

SECTION 3 TIME TO DELIVER LOGISTICS SERVICES

3.1. **SEA EXPORTS TIME TO EXPORT IN DAYS TO PRINCIPLE EXPORT MARKETS:** Based on your professional experience how long does it take for cargo to travel from your country's principle commercial centre to your countries principle export market discharge in port in days. Your country's import market has been predetermined based on data obtained from the EAC Trade Help Desk

	KEY EXPORT DESTINATION MARKET(S)							
EXPORTER COUNTRY	UAE	PAKISTAN	UNITED STATES	CHINA	INDIA	SOUTH AFRICA	SOUTH SUDAN	KENYA
Burundi								
Kenya								
Rwanda								
South Sudan								
Tanzania								
Uganda								

Figure 3 Extract of part of the survey questionnaire

A total of 459, which is 89% above the sample size, computed using Fishers Formula was returned. The success rate was achieved as a result of a multipronged strategy of using key industrial players to mobilize the responses followed by numerous telephone calls to some of the respondents.

Strata	Details	Burundi	Kenya	Rwanda	Tanzania	Uganda	Total Sample
Airlines	Sample	1	13	2	9	5	30
	Contacted	15	28	11	29	18	101
	Responded	2	14	4	11	7	38
	Percentage	200%	108%	200%	122%	140%	127%
Airlines Agents	Sample	1	13	2	9	5	30
	Contacted	26	33	21	39	21	140
	Responded	3	15	5	11	7	41
	Percentage	300%	115%	250%	122%	140%	137%
Shippers	Sample	1	18	2	12	6	40
	Contacted	10	91	15	63	21	200
	Responded	2	21	3	14	8	48
	Percentage	231%	118%	139%	114%	130%	120%
Shipping Line Brokers	Sample	1	13	2	9	5	30
	Contacted	7	15	5	17	13	57
	Responded	2	10	3	10	6	31
	Percentage	308%	75%	185%	108%	130%	103%
Clearing and Forwarding agents	Sample	5	71	11	50	25	162
	Contacted	21	601	38	611	43	1314
	Responded	11	58	13	64	32	178
	Percentage	220%	82%	118%	128%	128%	110%
Road Freight Transporters	Sample	3	36	4	25	12	81
	Contacted	18	115	8	74	43	258
	Responded	5	39	5	27	14	90
	Percentage	167%	108%	114%	108%	112%	111%
Shipping lines	Sampled	-	15	-	15	-	30
	Contacted	-	46	-	47	-	93
	Responded	-	17	-	16	-	33
	Percentage	-	113%	-	107%	-	110%

Figure 4 Table for survey response SCEA LPS 2018

4 COST, TIME & COMPLEXITY SURVEY

4.1 Sea Freight Cost

Five (5) key factors are the main drivers of sea freight rates and they include:

- Port Connectivity
- Bunker Fluctuations
- Seasons
- Port Service Charges and Fees
- Currency

4.1.1 Port Connectivity

The point of origin and the final destination of freight are important factors to consider. The less common the destination the higher the cost less carriers travel there, less frequently so there's less available capacity. The more popular the destination, the more likely freight will encounter capacity issues due to high demand for available space.

In order to compare and analyse countries' positions within the global liner-shipping network, UNCTAD in 2004 developed the liner shipping connectivity index. The index, generated from the schedules of the world's container shipping fleet, uses five components:

- The number of ships deployed to and from each country's seaports;
- Their combined container-carrying capacity;
- The number of companies that provide regular services;
- The number of services and the size of the largest ship;

Container shipping is characterised by a constant search for economies of scale. Since the invention of the shipping container, the size of containerships has grown continuously in order to reap cost savings from decreasing unit costs related to larger ships. These cost savings have been substantial and contributed to a considerable decrease in maritime transport costs. As such, they have facilitated trade.

Over the last decade, the increase in containership size has accelerated. Over this period, both the average and maximum size of container ships have doubled. Nowadays, the largest containership has a carrying capacity of around 20 000 standard containers (TEUs), with a length of 400 metres, a width of 60 metres and a draft of 16 metres. The development towards ever-larger container ships has large impacts on the port system and the dynamics between ports.

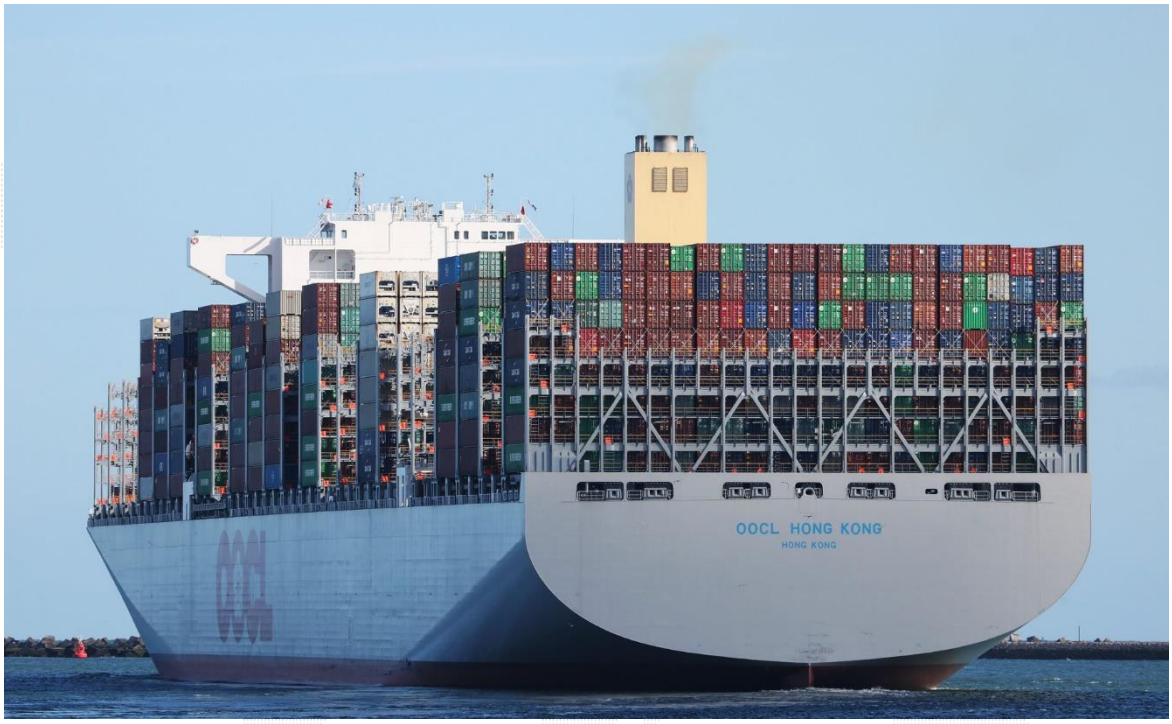


Figure 5 OOCL Hong Kong with a DWT (deadweight tonnage) of 191,317 metric tons, the OOCL Hong Kong has a cargo capacity of 21,413 TEU, making it the world's largest container ship

The Table below has been developed by the consultant using data from the UNCTAD Liner shipping line connectivity index 2019.

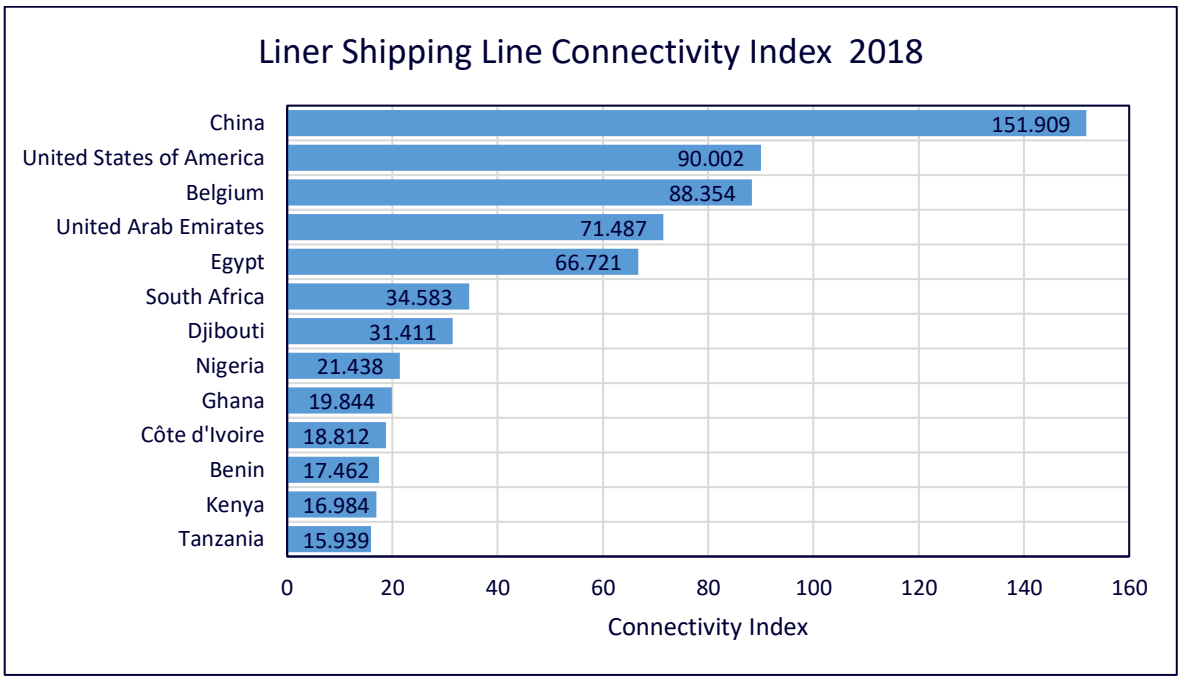


Figure 6 Liner Shipping Line Connectivity Index 2019

In Africa, the best-connected countries are Egypt, Morocco, and South Africa. Morocco has seen a sharp increase of its liner shipping connectivity index because of the trans-shipment on the Mediterranean.

In Eastern Africa, Djibouti has significantly improved its connectivity, benefiting from its geographical position and private investments in the trans-shipment hub perceptions. Kenya and Tanzania continue to demonstrate very low connectivity as shown in the graph below that compares Kenya and Tanzania with a select number of countries.

The graph below developed by the consultant based on information published by UNCTAD in the Liner Shipping Connectivity Report 2019 shows trends in Liner Shipping Line Connectivity Index 2012-2018.

While some economies have such as china have shown a remarkable increase in connectivity in the last 10 years there has been very little positive progress on the connectivity index for Kenya and Tanzania. Djibouti is the outstanding exception with significant positive connectivity increases in the last ten years. South Africa, Nigeria, and Ghana have on the other end of the scale shown negative growth in connectivity.

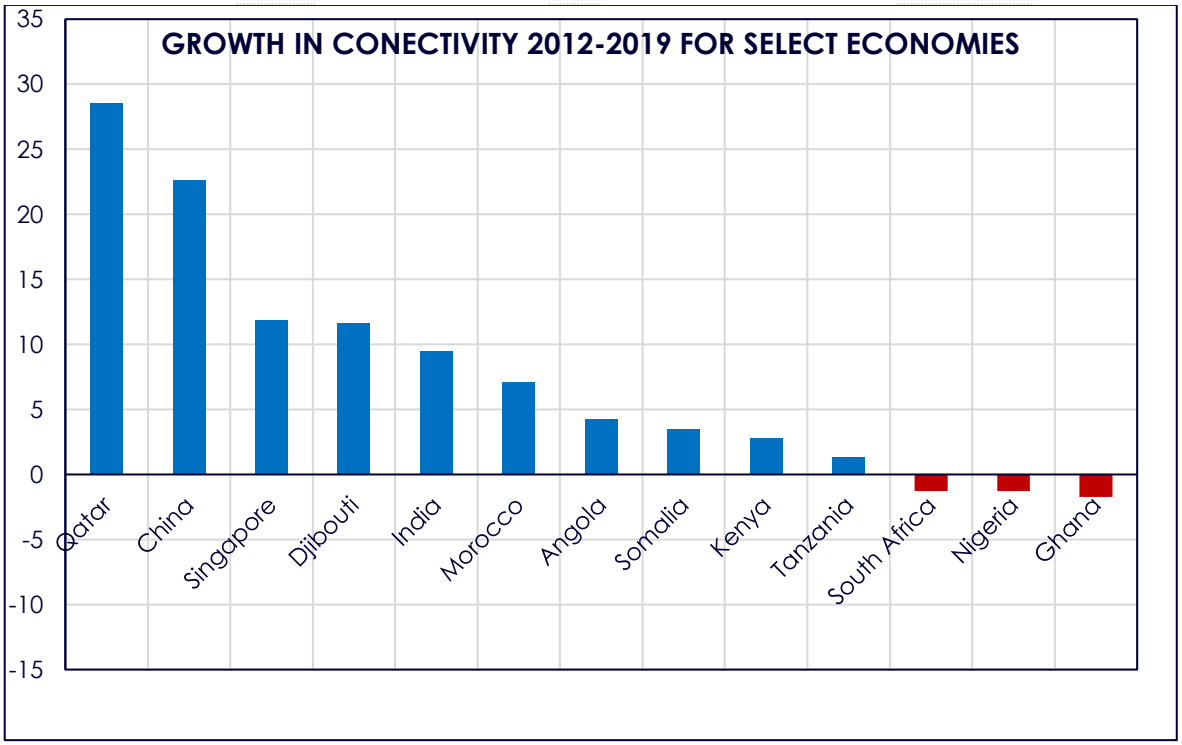


Figure 7 Growth in Connectivity 2012-2019 for Select Economies - LPS 2018

4.1.2 What can be done to improve a port's connectivity?

The following seven policy measures are key to enhancing port connectivity:

- Go digital. Digital and physical connectivity go hand in hand. Just as trade benefits from the latest technologies such as artificial intelligence, the Internet of Things and blockchain, port and shipping operations would also benefit from taping the opportunities arising from digitalization.

- Link domestic, regional, and global networks. Restrictions affecting regional or domestic cabotage markets limit the ability of shipping lines to consolidate cargo. Allowing international lines to also carry domestic trade and feedering cargo can enhance both the competitiveness of the port and shippers' access to overseas markets.

- Ensure competition. Considered prior analysis is required before assigning port concessions to terminal operators who are associated with shipping lines through vertical integration. On the one hand, such operators can attract port calls from associated lines and alliances. On the other, however, such vertical integration could discourage other lines from calling at the port and could limit choices available to shippers.

- Port modernization. Port clients, i.e. the shipping lines and the traders, require fast, reliable and cost-efficient services to ships and cargo. Ports need to continuously invest in their technological, institutional, and human capacities. Public and private cooperation is key in this regard.

- Widen the hinterland. Ports should aim at attracting cargo from neighbouring countries and domestic production centres. There is a common interest between many seaports and traders in neighbouring countries, especially landlocked countries. Investments in corridors, regional trucking markets, and cross-border trade and transit facilitation can help expand ports' hinterlands.

- Promote sustainability. Port stakeholders are varied and may include shipping lines and traders, as well as social partners and the port-city community. Stakeholders are increasingly demanding that ports deliver on their social, economic, and environmental sustainability obligations.

- Monitor ports' connectivity. Policy makers, port authorities and investors need to continuously monitor trends in the global shipping network, the geography of trade, fleet deployment, and port performance. UNCTAD's Review of Maritime Transport and the complementary online statistical information and country profiles support this monitoring objective.

4.1.3 Bunker Fluctuations

Fuel costs impact every form of freight shipping. Bunker fuel is no exception. It is closely tied to the cost of oil and its cost tends to rise and fall with that of oil. Because of this fact, it is common to see a fuel surcharge applied to ocean freight rates.

There was a 25% increase in bunker prices in 2018. This was a result of an increase in marine fuel prices that was prompted a number of leading carrier to implement emergency bunker surcharges[11].

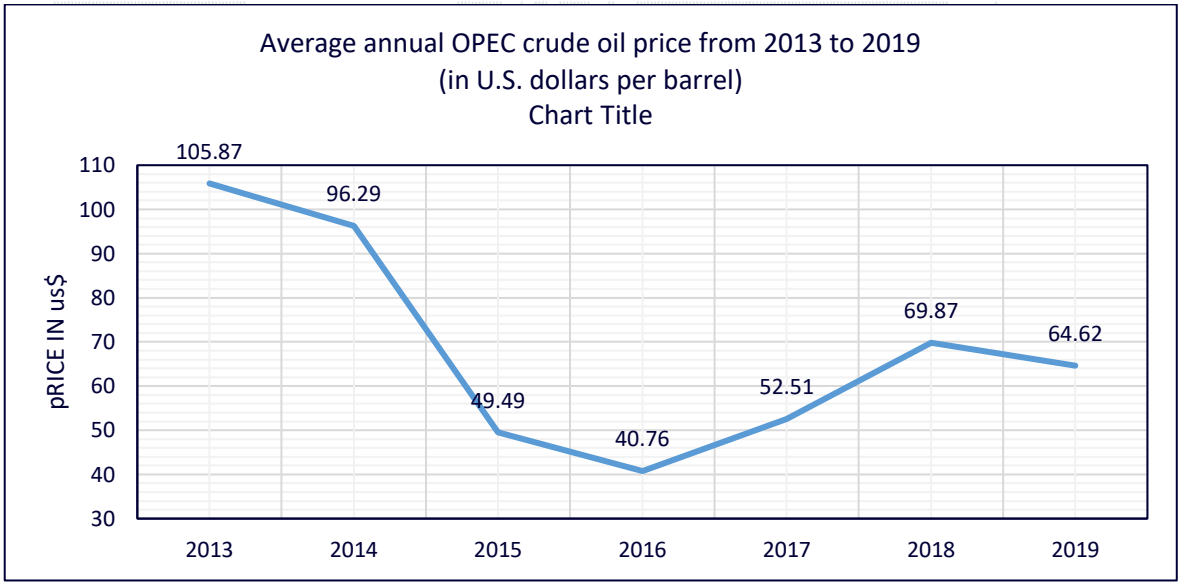


Figure 8 Brent Crude Prices 2015- 2019 Source Macrotrends LLC

4.1.4 Seasons

There are two main peak seasons during the shipping year. One is the holiday retail peak season that typically lasts from mid-August through mid-October. The second peak season is during Chinese New Year in January and February. During these times, the demand for cargo space is high and the supply is low. This drives prices up while container capacity may be scarce.

In addition, rates for shipments requiring controlled temperature environments will be influenced by weather during various times of the year. In addition, inclement weather may cause smaller ships to be docked. This results in decreased supply during a time when demand is typically high and creates a spike in shipping rates.

[11] Ship & Bunker is the world's most read marine fuel-focused publication, and the leading independent source of quality daily industry news, exclusive features, and daily & historical bunker price indications.

4.1.5 Port Service Charges and Fees

When using ocean freight, terminal fees are charged at the ports of departure and arrival. There are various other fees charged by shipping lines and port authorities as well including those for hazardous materials, if applicable, and security.

A review of port tariffs shows that Mombasa charges $7.5 for dry cargo per tonne while Dar es Salaam charges $5.5. For transhipment cargo, both ports charge $6 per tonne. Mombasa charges $6.6 for dangerous cargo while and Dar charges $7. A port's charges may be low, but high cargo dwell times results in cargo attracting storage charges.

Despite making progress in improving efficiency, the Mombasa port will continue to face stiff competition from Dar es Salaam. Burundi is now imports most of its cargo through Dar es Salaam whose efficiency has improved significantly following heavy investment from the World Bank.

Records indicate a significant fall of business between Kenya and Burundi with only 1,000 tonnes reported to have imported through Port of Mombasa in the first seven months of 2018, compared to a total 21,000 tons during the same period in 2017.

Cargo on transit to Tanzania from the Kenyan port also dropped by 9.4 percent from 151,000 tons in 2017 to 141,000 tons in the past seven months 2018. This tonnage expected to drop much further in the near future.

4.1.6 Currency

The U.S. dollar is the standard for international transactions. However, in an international market, currency exchange rate fluctuations need to be factored into rate calculations. This means that the daily change in money markets can influence ocean freight rates and must be considered.

According to the US Bureau of Labour Statistics consumer price index, prices in 2018 are 6.07% higher than average prices throughout 2014. The dollar experienced an average inflation rate of 1.48% per year during this period, meaning the real value of a dollar decreased. In other words, $100 in 2014 is equivalent in purchasing power to about $106.07 in 2018, a difference of $6.07 over 4 years.

The 2014 inflation rate was 1.62%. The inflation rate in 2018 was 2.44%. The 2018 inflation rate is lower compared to the average inflation rate of 2.48% per year between 2018 and 2019.

4.1.7 Sea Freight Rates to Select origins and destinations in 2018

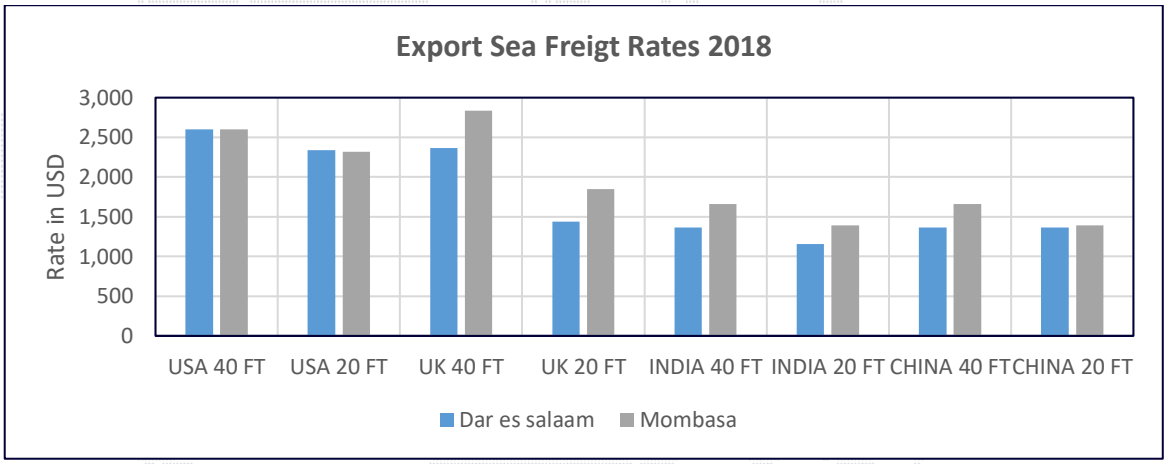


Figure 9 Source LPS 2018

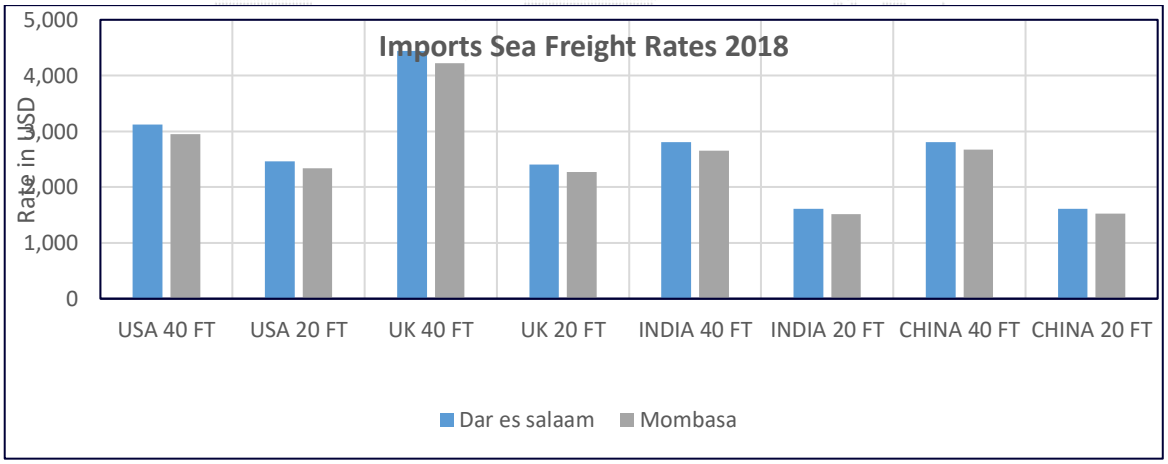


Figure 10 Source LPS 2018

According to a recent study (September 2018) by United Nations Conference on Trade and Development (UNCTAD) The East African region continues to pay 40 to 70 per cent more on average for sea freight import traffic than developed countries[12]. This situation can largely be attributed to the huge trade imbalances found in this region. Theses situation is further compounded by slow pace of port and trade facilitation reforms as well as lower trade volumes and poor shipping connectivity.

[12] Report of the UNCTAD Ad Hoc Expert Meeting Under the framework of the IAME Conference 2018: "Maritime Transport In Africa: Challenges, Opportunities, and an Agenda for Future Research" Opportunity and Growth Diagnostic of Maritime Transportation in the Eastern and Southern September 2018, By Professor Godius Kahyarara

Sea freight export charges for Dar es Salaam are cheaper than Sea refight export charges for Mombasa. However, Sea freight import charges are higher for Dar es Salaam than Mombasa. This can be attributed to the fact that shipping lines load return cargo charges on the import leg and therefore because Dar salaams low export cargo volumes because a larger proportion of the export charges have already been loaded onto the import leg. Shipping lines are ready to charge less for exports in order to attract the little export cargo.

4.2 Air Freight Cost

4.2.1 Key Global Market Trends

As a result of the spike in oil price in 2018, fuel now accounts for about half the annual cost of operating an aircraft. Because fuel consumption is roughly proportional to the aircraft weight and the distance flown, the marginal cost for carrying cargo is computed based on weight and destination. For belly cargo, the space is offered "as available", since priority goes to passengers and their luggage. Because the rate is usually, set based on marginal cost and then adjusted for the level of service[13]. These airfreight costs are continually rising for a variety of reasons. For example, the price of jet fuel has increased and continued to do so. Similarly, a higher demand for aircrafts in Asia and the Middle East has presented more competition in the airline industry.

The International air transport association (IATA) reported jet fuel price at $1.88 per gallon and $623 per metric ton as of March 2, 2018, up 21.9 percent from 2017. Airline fuel bills in 2018 are estimated to be 20.5 percent of airline operating costs, up from 18.8 percent in 2017[14].

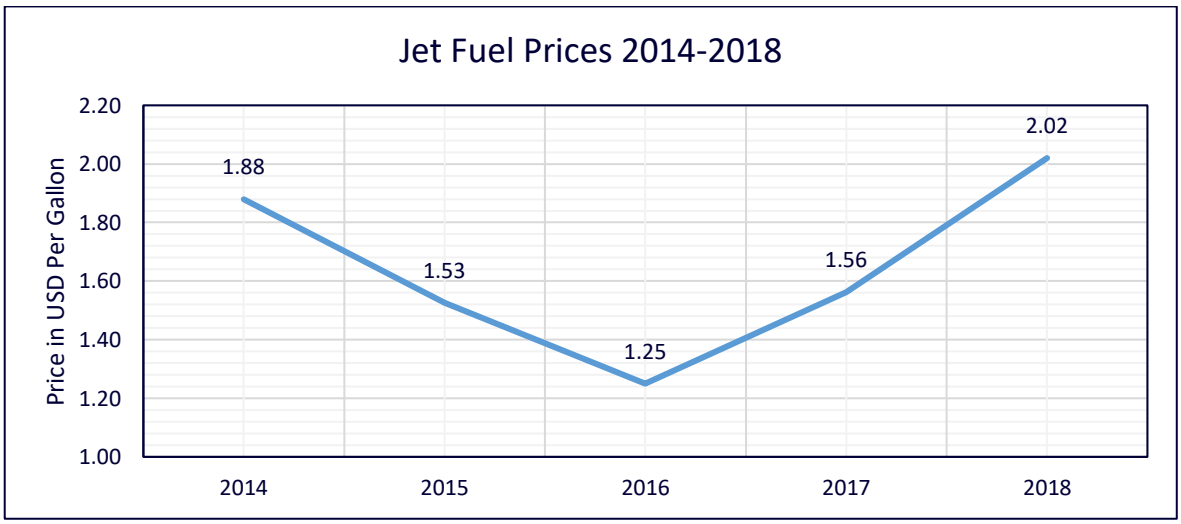
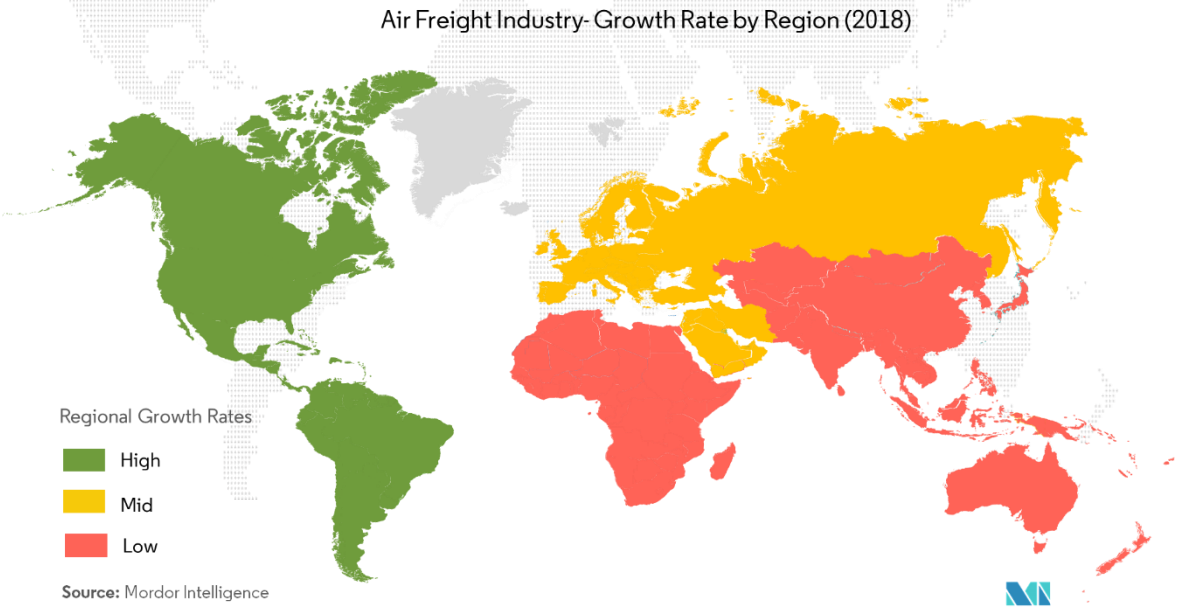


Figure 11 Jet Fuel Prices 2014-2018 put together by Consultant from various sources of data

13 Worldbank Air Freight: A Market Study with Implications for Landlocked Countries 2018

14 OPIS by IHS

Despite being a costlier mode of transportation, the increasing demand for perishables, chemicals, and valuables, as well as the rising demand for just-in-time production of goods, has created a massive demand for airfreight services. Presently, airfreight is being impacted by the rise of e-commerce. The evolving e-commerce has put pressure on sales channels for faster delivery and an optimum supply chain. Owing to the continued growth in online shopping, many third-party logistics (3PLs) are offering more multi-modal services, which include air cargo service as a critical mode of transportation. Furthermore, the growth in the overall cross-border e-commerce is anticipated to boost the demand for the air cargo industry.



The growing demand for airfreight transportation services has opened new challenges for air cargo service providers. Airlines need to focus on implementing fuel-efficient solutions and accommodate innovative technologies to provide cost-effective services. For the logistics players to succeed, the storage facilities need to be developed to assist the global increase in air cargo. Special economic zones (SEZ), free trade zones (FTZ), and the bonded warehouses are projected to cater to significant warehousing needs for the freight moving in and out of the airport shortly.

4.2.2 Regional Trends

According to Ernst & Young's Attractiveness Programme Africa May 2018, Africa's growth will improve off 2017, the worst year for the continent in nearly 20 years. The report mentions that the low growth was largely driven by external factors, particularly oil prices as well as domestic insurgency in some regions. The report also acknowledged the criticality of commodity prices and political upheavals that affected many economies in the continent.

However, it points out, "East Africa remains the most buoyant of all, with the four key economies (Kenya, Ethiopia, Tanzania, and Uganda) all poised for growth of above 6 percent for the rest of the decade." This, according to many experts, can be attributed to favourable fiscal policies in the region, infrastructure projects, robust private sector consumption, and oil import by East African countries such as Kenya, Rwanda, and Tanzania.[15]

While the sub-region is on a growth trajectory, a well-developed aviation industry would only pace up the development by boosting international and intra-Africa trade. The correlation between infrastructure development and economic growth is well documented. Riding on the positive growth rate, the regional airlines have also intensified their competition, as each positions itself to dominate the most lucrative routes.

RwandAir, the flag carrier airline of Rwanda, launched its first service to Europe in 2018 when it began three weekly flights from Kigali to London's Gatwick Airport flying its newly acquired Airbus A330s. This new service with its huge cargo capacity will ease challenges faced by Rwandan exporters of fresh and perishable produce.

Exporters in Rwanda have been in the past unable to competitively export there cargo due to high cargo fees and resultantly lower volume of cargo, forcing many players like Turkish Airlines and Emirates SkyCargo to wrap up business from the region. With the launch of this new service, Rwandan is gearing up for enhanced trade with UK through provision of enhanced and competitive cargo handling. The only other airline linking Kigali to Europe is Brussels Airlines, which operates a six times weekly service from Brussels. To make the deal even more attractive, RwandAir has offered to reduce freight charges for exporters to as low as $0.95 per kilogram.

Kenya Airways, the flag carrier of Kenya, which was once considered a regional powerhouse continues to post massive, loses over the past 5 years. The airline, however, is seeking to recover from a failed expansion strategy, and, in spite of the record-breaking loss, analysts draw encouragement from an improvement in the company's underlying performance. According to experts, the airline needs $1 billion to restore its balance sheet. However, the reforms brought by the previous chief executive have also started to show results.

[15] According to article in the East African by Shreya Bhattacharya an Airfreight industry expert

The massive losses have reignited a debate on opening up the African skies, to give a fresh lease of life to the continent's major airlines. It is high time for African governments to scrap protectionist policies and fully implement the Yamoussoukro Decision 1999. In fact, according to International Air Transport Association (IATA), one of the reasons for Ethiopia particularly faring well is because of it being an early adopter of the Yamoussoukro Decision 1999. The Ethiopian economy benefits from some of the best intra-Africa connectivity. Ethiopia is now the fourth best-connected country on the continent, up from 11th in 2007. The Yamoussoukro Decision, if fully implemented, will ensure that African carriers could fly to, from or between any combinations of cities in any African country that is a signatory of the pact. However, even after more than 17 years, countries are yet to fully commit to the declaration. Experts believe the move is indeed an important one as African businesses look forward to expand their reach throughout the continent. It will simply increase the air service levels, reduce the fares, and in turn increase the traffic volume.

Apart from an open market, industry stakeholders in East Africa have also highlighted lack of integrated multi-modal system for efficient transportation and interconnectivity, political turmoil, security issues, infant technology advancement, longer bureaucracy and process inefficiency as well as corruption as some of the challenges in the sector. They have called for better airport, road and ICT infrastructures and handling facilities.

Keeping in line with demands, many East African airports are undergoing expansion projects to cater to the rapidly growing cargo traffic volumes in a better manner. Uganda, for example, is taking significant measures to establish itself as a regional business hub for the East African Community (EAC). The country's Entebbe International Airport is being expanded to handle about 150,000 operations a year. The new expansion plan, funded by the US government, is also likely to increase its air cargo handling capacity, which is of paramount importance for a landlocked country like Uganda. Goods are generally flown in to Uganda for further distribution within the country. In addition, coffee, which is the main agricultural export commodity and is vital to the economy, is flown through air to reach international markets.

Rwanda's Bugesera airport, which is currently under construction, is likely to be the country's largest international airport. Apart from its passenger terminal that would handle 1.8 million passengers annually, a special cargo terminal would also be constructed to cater to the growing cargo transportation requirements. The second phase of the construction will see expansion of its cargo handling facilities.

The LPS 2018 conducted a survey of airfreight rates in 2018 for both imports and exports from all East Africa's major airports. Airfreight prices were solicited from cargo carrier operating from the airports. A standard cargo of the following specifications was used:

- Weight → 100 kg
- Length → 100 cm
- Width → 100 cm
- High → 100 cm
- Consignment → Household goods
- Packaging → Pallet

2018 saw an increase across the entire region primarily driven by an increase in demand for airfreight services coupled with an increase in the cost of jet fuel. Average rates were up 14.2% year-over-year. The following are the findings for each of the EAC partner states:

4.2.3 Burundi

Bujumbura airport is situated in the western part of the city at about 12 km from the downtown city. The airport is made of asphalt and, equipped with navigation aids and can hold all types of aircraft. The largest aircraft currently operating to/from Bujumbura is a Boeing 777 and the following airlines offer services to/from Bujumbura:

- Rwandair Express,
- Kenya Airways,
- Ethiopian Airlines,
- SN Brussels Airlines,
- South African Airways,
- Air Uganda and recently
- Air Tanzania

There are services to Kigali, Nairobi, Entebbe, Addis Ababa, Johannesburg, Brussels, and Dar-Es-Salaam. The majority of flights connect through Nairobi or Addis Ababa.

The chart below is a breakdown of airfreight charges to select cargo destinations/origins around the world. Burundi is has the highest airfreight rates in the region as a result of relatively lower connectivity of the airport.

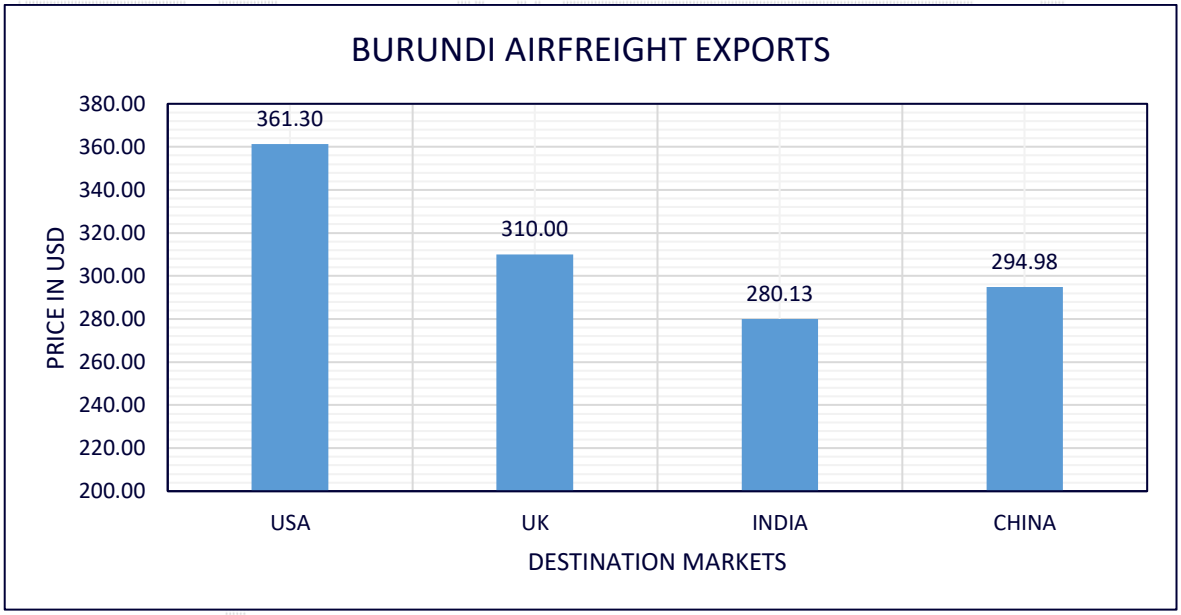


Figure 12 Burundi airfreight rates for exports to select destination economies

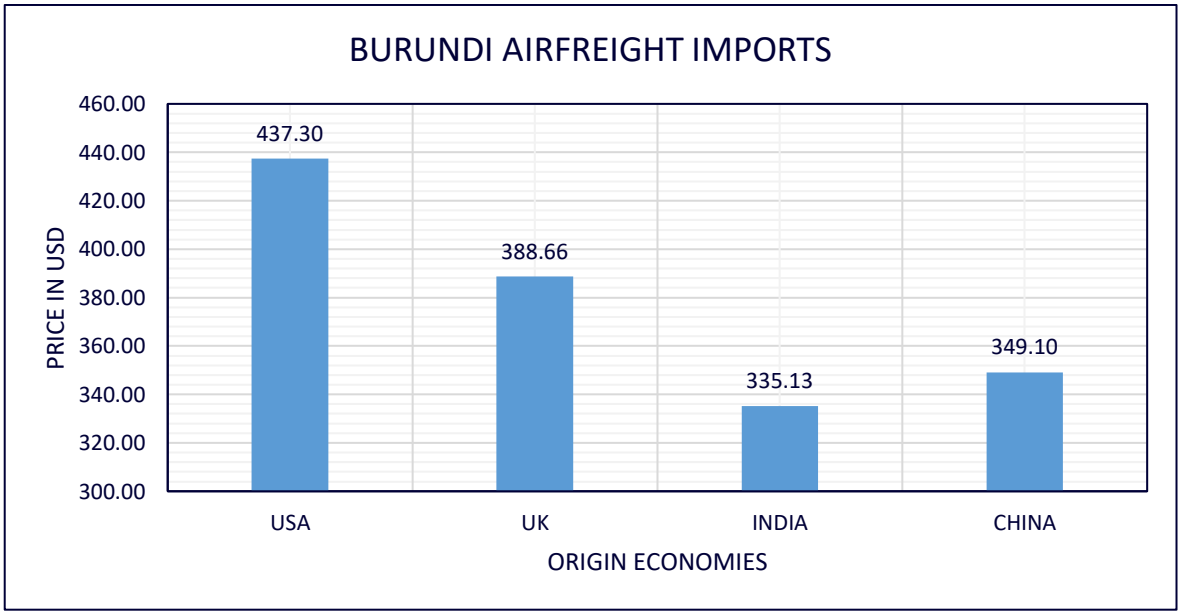


Figure 13 Burundi airfreight rates for imports from select origins

4.2.4 Kenya

JKIA is Kenya's largest aviation facility, the busiest airport in East and Central Africa and is the seventh busiest airport in Africa. Currently 41 different carriers operate to and from JKIA. The airport is located in Embakasi, a suburb 15 km to the south-west of the centre of Nairobi. The Mombasa Highway runs adjacent to the airport and is the main access between Nairobi and the airport.

The following cargo carriers operate from JKIA:

- Air France Cargo
- Cargolux
- Emirates Sky Cargo
- Kenya Airways Cargo
- Martin Air
- Qatar Airways Cargo
- Silk Way Airlines
- Turkish Airlines Cargo
- Astral Aviation
- Egypt Air Cargo
- Ethiopian Airlines
- Lufthansa Cargo
- Network Airline Management
- Saudia Cargo
- Singapore Airlines Cargo

JKIA has five cargo facilities with a capacity to handle 200,000 tonnes of cargo annually, and an animal holding facility, which occupies 4,318.95ft. The cargo facilities are Kenya Airfreight Handling Limited (KAHL), Transglobal Cargo Centre, Nairobi Cargo Centre, and Cargo Service Centre. The freight handling facilities are able to handle - perishable cargo, fragile equipment, live animals, machinery, valuables, and mail and courier consignments. These include:

- Kenya Airfreight Handling Limited - KAHL
- Nairobi Cargo Centre
- Cargo Service Centre
- Siginon Freight

In 2018, Jomo Kenyatta International Airport was ranked as the second fastest growing airport in the world for airports that handled more than 250,000 metric tonnes of air cargo.[16] The Airport handled more than 342,000 metric tons of air cargo in 2018, marking a 25% growth from 2017. The growth was a result of substantial increase in air cargo traffic to and from Europe, Asia, America, as well as recent additions China and Australia.

[16] Airports Council International (ACI) latest World Airport Traffic Report 2019

The chart below is a breakdown of airfreight charges to select cargo destinations/origins around the world. JKIA has the lowest airfreight rates in the region. This can be attributed to the highest connectivity in the region, superior infrastructure, and geographical location.

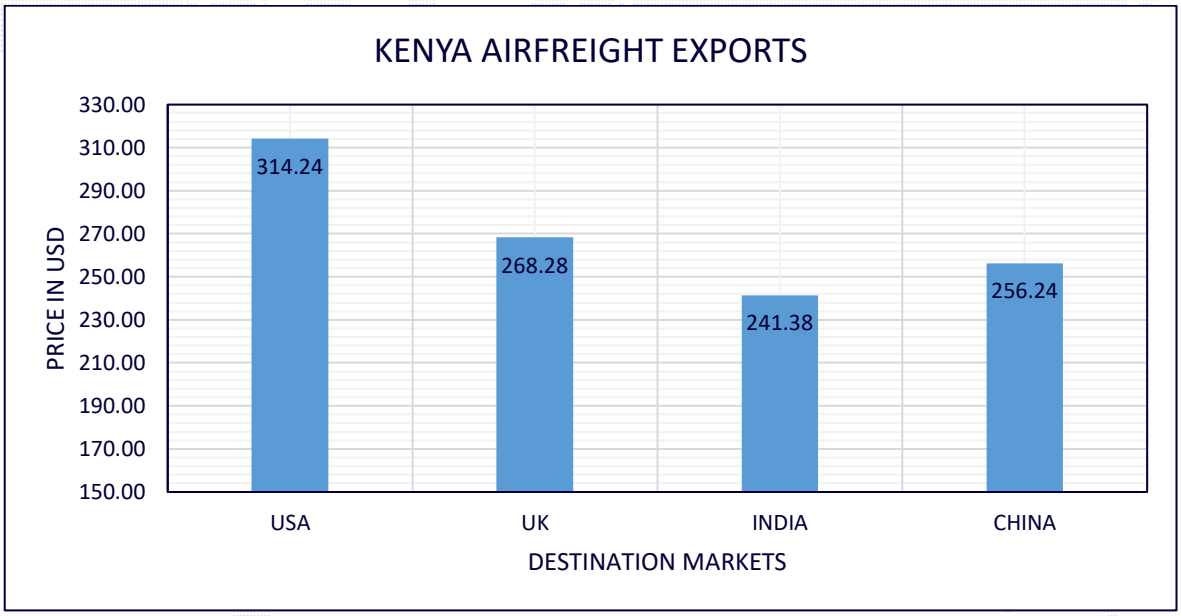


Figure 14 Kenya airfreight rates for exports to select destination economies

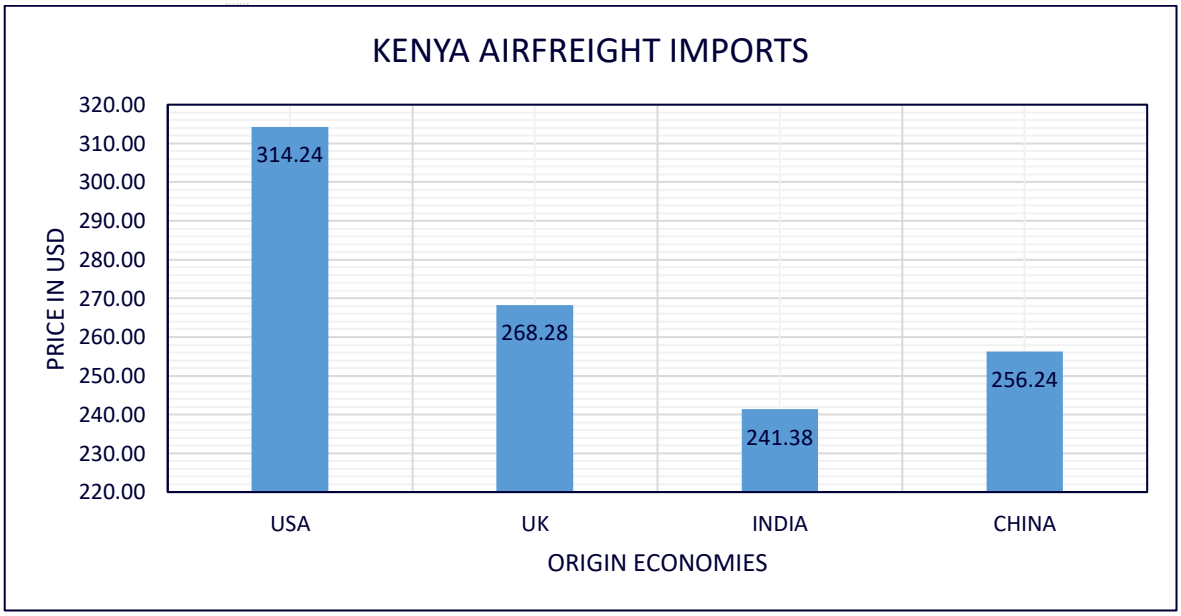


Figure 15 Kenya airfreight rates for imports from select economies

4.2.5 Rwanda

Kigali International Airport, formerly known as Gregoire Kayibanda International Airport, is the primary airport serving Rwanda. It is the main air gateway for all destinations in the country and serves as a transit airport for Goma and Bukavu in the eastern Democratic Republic of Congo and international destinations. The airport is located in the suburb of Kanombe, at the eastern edge of Kigali, approximately 10 km from the city centre.

The Airport is home to RwandAir, the national carrier, whose number of routes served has increased in the recent years. RwandAir operates flights scheduled to and from Accra (Ghana), Addis Ababa (Ethiopia), Brazzaville (Republic of Congo), Brussels (Belgium), Bujumbura (Burundi), Douala (Cameroon), Istanbul (Turkey), Kilimanjaro and Dar es Salaam (Tanzania), Entebbe-(Uganda), Johannesburg (South Africa), Libreville (Gabon), Juba (South Sudan), Dubai (United Arab Emirates), Lusaka (Zambia), Lagos (Nigeria), and Nairobi and Mombasa (Kenya). Domestic flights currently operate between Kigali and Kamembe in Rusizi. RwandAir has been fast expanding with a fleet of eight aircraft. Two new aircraft of Airbus A 330 type aircraft were purchased in 2018 to increase the fleet number to ten.

In 2018, Rwanda introduced a weekly direct cargo flight to Europe. The new cargo service is being operated by UK-based Magma Aviation, which specialises in airfreight. The service runs a new B 747 wide-body freighter. The new aviation services facilitate Rwanda's agri-exports providing a direct route from Kigali International Airport to Liege Airport in Belgium.

Figure 16 Magma Aviation, which specialises in airfreight. The service runs a new B 747 wide-body freighter in Kigali

Other international airlines, which also offer services to/from Kigali, are Astral Aviation, Brussels Airlines, Ethiopian Airlines, Fly Dubai, Kenya Airways, KLM Royal Dutch Airlines, Martinair, Qatar Airways, and Turkish Airlines.

Rwanda flower farmers continue to be challenged by the poor flight connectivity f Kigali international Airport. This poor connectivity increases production costs and compromises the quality of flowers as shipments are delayed in the Airport's cold room as they await flights. Kigali airport does generate sufficient freight throughput forcing airlines to hop to larger airports in the region before departing on intercontinental trips. Flights have to transit through Entebbe International Airport in Uganda and Jomo Kenyatta International Airport in Kenya before arriving in the Netherlands, translating into higher costs. "To reach the competitive flower market with fresh flowers, Rwanda needs direct cargo flights to Europe," argues Nsenga.

The chart below is a breakdown of airfreight charges to select cargo destinations/origins around the world. Kigali is the second most expensive airfreight airport in East Africa and this is mainly cause by the countries low connectivity.

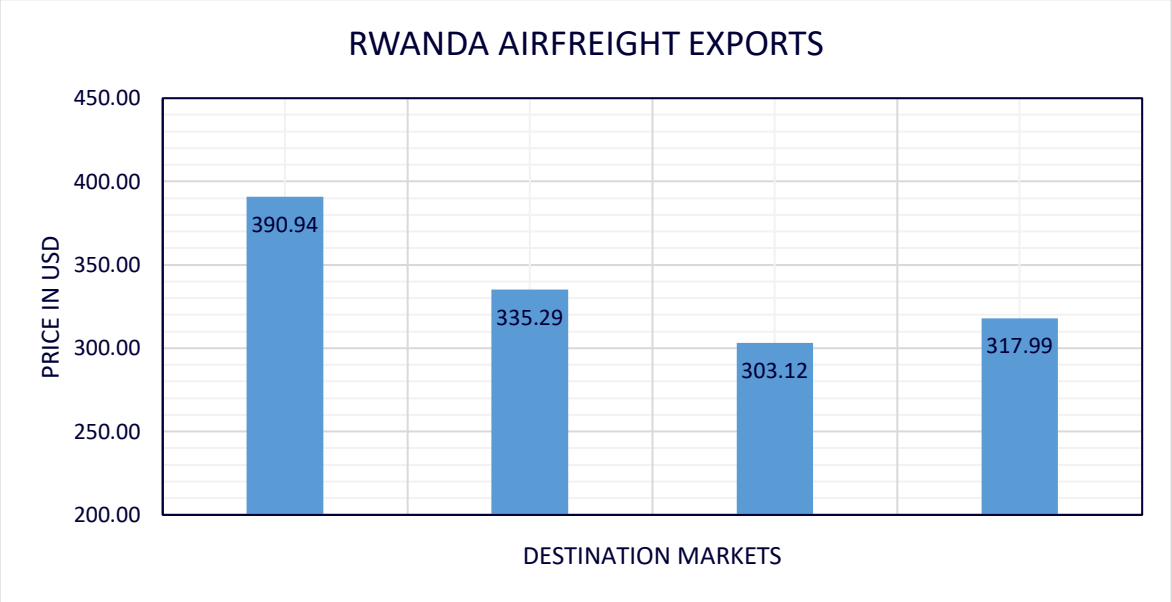


Figure 17 Rwanda airfreight rates for exports to select destination economies

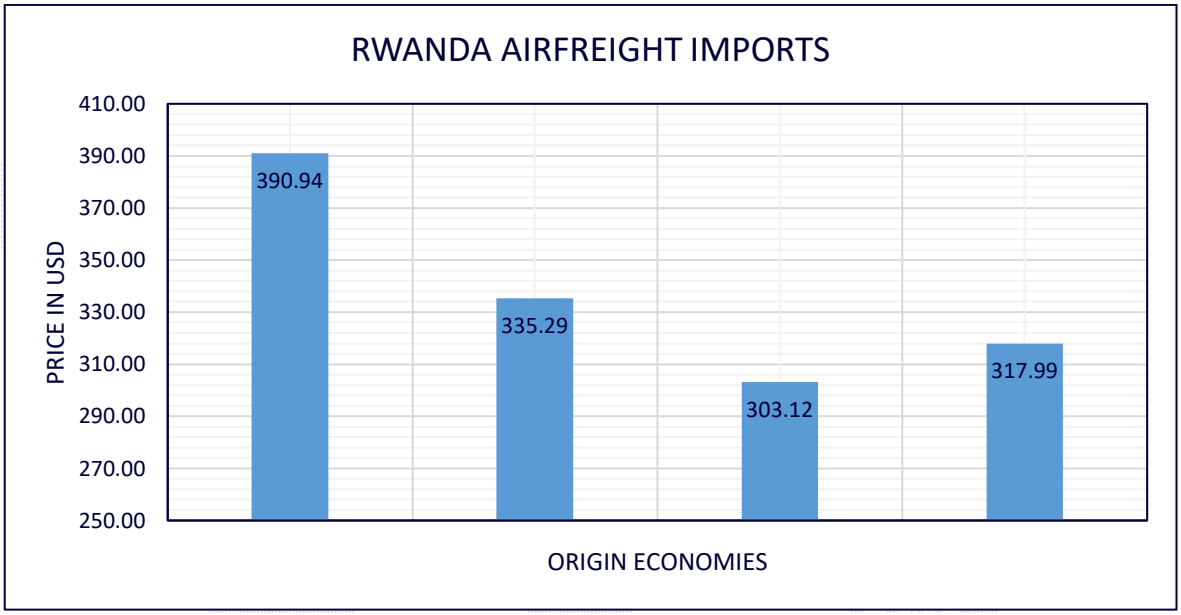


Figure 18 Rwanda airfreight rates for imports from select economies

4.2.6 Tanzania

Julius Nyerere International Airport is the international airport of Dar es Salaam, the largest city in Tanzania. It is located about 12 kilometres southwest of the city centre. The airport has flights to destinations in Africa, Europe, and the Middle East.

Figure 19 Artists impression of the new facilities at the Julius Nyerere international Airport

In 2018, Tanzania completed construction of a state-of-the-art Air cargo terminal. The US$ 13 m new terminal has the capacity of handling 80,000 tonnes of cargo and is the first terminal in East Africa that uses radio frequency identification (RFID) for ease of cargo identification.

RFID cuts down tracking process and time from the previous 30 minutes to merely a few minutes. The new cargo facility is able to automatically sort small parcels of less than 50 kilogrammes and put them into special racks that have made handling and delivery easier and faster.

The new cargo facility has special cargo areas for live cargoes; dangerous goods; human remains; pharmaceutical; a strong room and cold storage facilities with a temperature controlled range of between -20 and 8 degree Celsius. The new cargo terminal has ample space to allow more cargo agents process cargo documents with customs more effectively. The facility is also a multipurpose building constituting of banking and business facilities; Customs offices; training centre; airline cargo offices; Customs brokerage and forwarding agent offices.

Air Tanzania, Tanzania's National carrier in 2018 relaunched long-haul flights to Mumbai, India. The Mumbai route heralded the airline's foray into the Asian market. Other planned routes are Bangkok, Thailand, and the Chinese city of Guangzhou. The Airline is also planning flights to London, Lagos, and Accra. The airline currently operates 10 domestic routes, with regular flights to Harare (Zimbabwe), Bujumbura (Burundi), Entebbe (Uganda), Moroni (Comoro Islands) and Johannesburg (South Africa). Its current fleet comprises a Boeing 787-8 Dreamliner jet, two Airbus A200-300s, three Bombardier Q400s, one Fokker 50, and one Fokker 28.

Air Tanzania has ramped up competition for other East African carriers like Kenya Airways and RwandAir, with Uganda Airlines also taking to the skies in 2019.

The chart below is a breakdown of airfreight charges to select cargo destinations/origins around the world. The Julius Nyerere International Airport offers the second most competitive airfreight rates, second to JKIA in Nairobi. Its newly developed state of the cargo-handling terminal will soon begin to bear fruits and one would expect that Dar es Salaam would begin to offer stiff competition to JKIA for floriculture and horticulture exports to Europe.

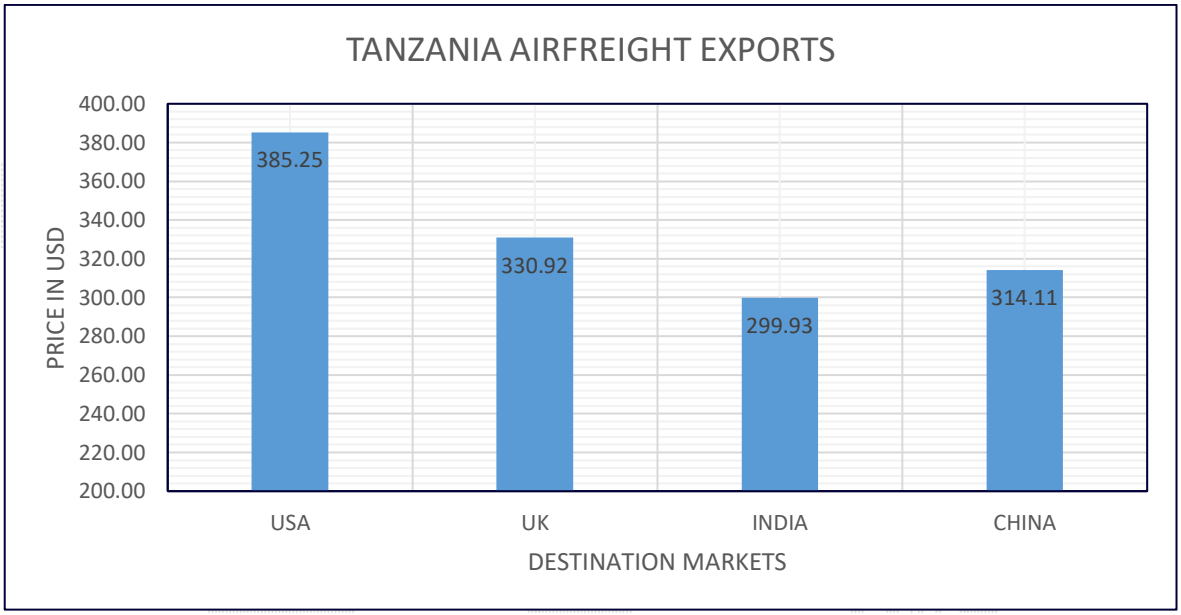


Figure 20 Tanzania airfreight rates for exports to select destination economies

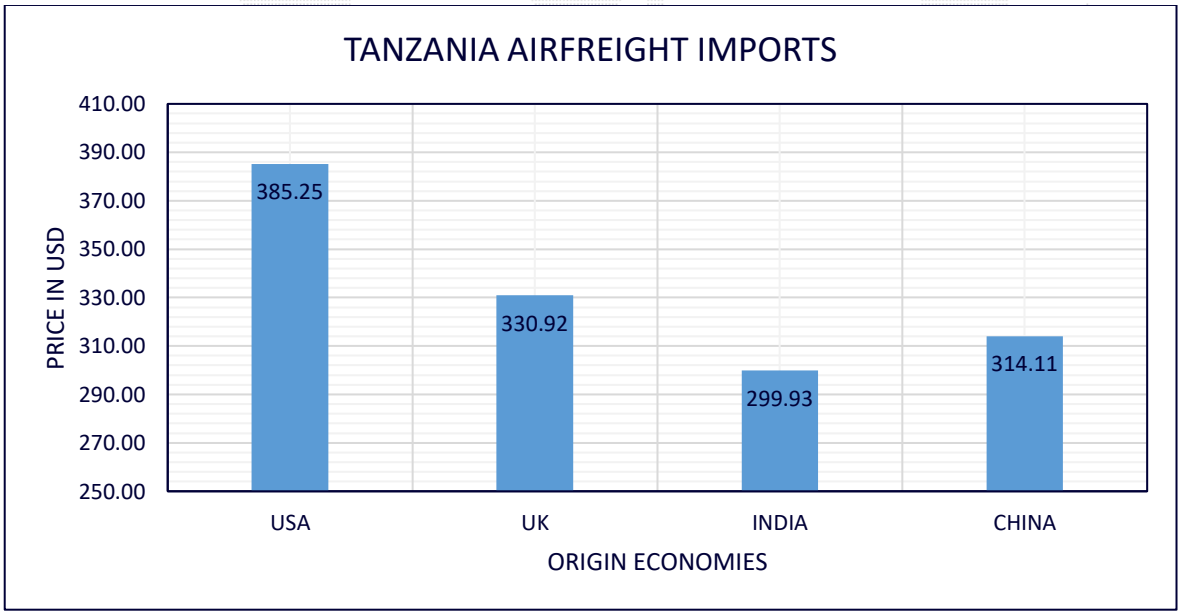


Figure 21 Tanzania airfreight rates for imports from select economies

4.2.7 Uganda

Entebbe International Airport is the principal international airport of Uganda. It is near the town of Entebbe, on the shores of Lake Victoria, and approximately 40.5 kilometres by road south-west of the central business district of Kampala, the capital, and largest city of Uganda. It is the only international airport of Uganda.

The main airport in Uganda, Entebbe International Airport, is currently undergoing an expansion development in order to address the country's growing passenger and cargo traffic. The airport renovation is intended to increase the availability and frequency of international flights. Entebbe International Airport is anticipated to handle 172,000 ton of cargo a year by 2033. The upgrade and expansion works for Entebbe International Airport are set to be carried out in three phases through to 2034. The first phase's ground-breaking ceremony was held in August 2015, while the construction of the new cargo building began in May 2016. Phase one, which was scheduled for completion in 2018, has yet to be completed. Phase one of the project will see the construction of a new international passenger terminal building with a capacity of three million passengers, as well as a new cargo centre that can handle 100,000 tons of cargo a year.

The cargo building will house various facilities required for the import and export cargo. Cold-storage modules will be constructed for the storage of perishable export cargo such as fish from Lake Victoria, fruits, and flowers. The existing 3.65 km-long main runway and the associated taxiways will be expanded and strengthened to accommodate aircraft such as Boing 77-300 and Airbus 340-600.

China Construction Communications Company (CCCC) is the prime contractor for the project, and is responsible for the design, construction, and management of the Entebbe International Airport expansion.

Uganda Airlines is the flag carrier of Uganda. The company is a revival of the older Uganda Airlines, which operated from 1977 until 2001. It began flying in August 2019.

Figure 22 A troop of Ugandan traditional dances receiving the Uganda Airlines new Bombardier aircraft.

Uganda in 2018 re-launched Uganda Airlines, with six new jets, two of which will be the wide-body, long-range A330-800 neo and the other four being CRJ900 aircraft. The first batch of CRJ900 aircraft arrived in 2018 while the A330-800 neo planes will arrived in late 2020. In August 2019, Uganda Airlines made its first commercial flight from Entebbe to Jomo Kenyatta International Airport (JKIA). This was followed by a flight to Kilimanjaro International Airport in November 2019.

Despite multiple turbulence in the aviation industry, Entebbe Internal Airport is registering increasing traffic in passengers and cargo. Data from Civil Aviation Authority (CAA) indicate Uganda, exports more cargo than it imports through air transport.

Over 28,971 tonnes of cargo was moved in the first eight months of 2018 compared to 13,831 tonnes imported through the airport in the same period in 2017.

The cargo business has exponentially with Uganda exporting fresh and perishable produce such as fish and flowers. Imports on the other hand, have various alternative modes of transport such as road and water that come at a cheaper cost for non-perishables.

The chart below is a breakdown of airfreight charges to select cargo destinations/origins around the world. The Entebbe International Airport offers the third most competitive airfreight rates, third to Julius Nyerere International Airport in Dar es Salaam. It is expected that the relaunch of Uganda Air coupled with modernisation and expansion of the Entebbe international airport will further boost this airports competitiveness.

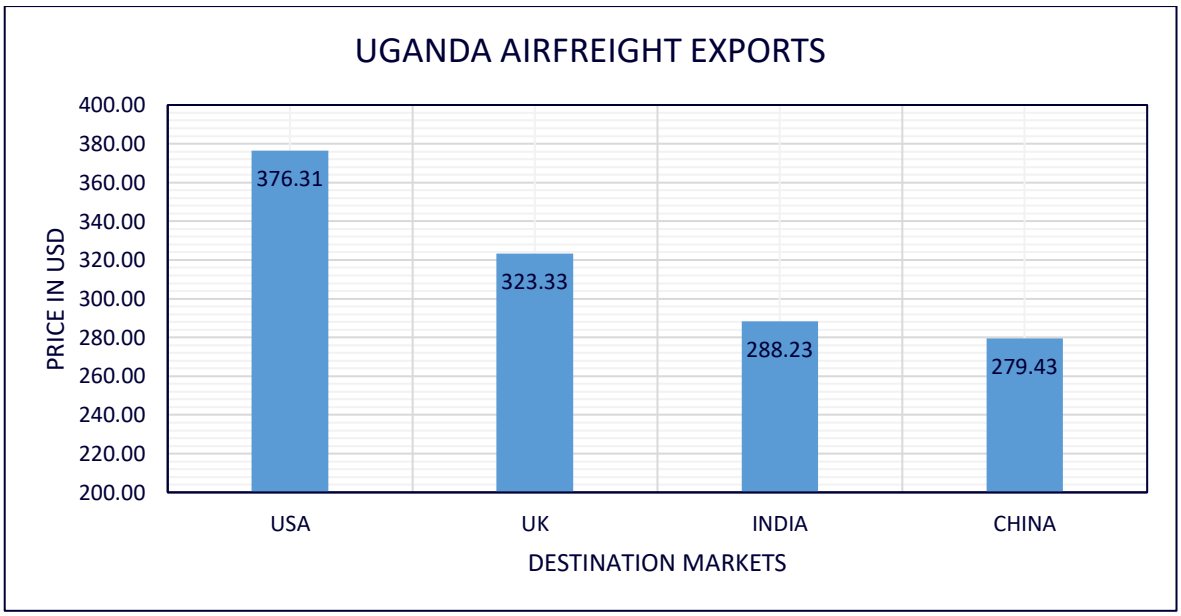


Figure 23 Uganda's airfreight rates for exports to select destination economies

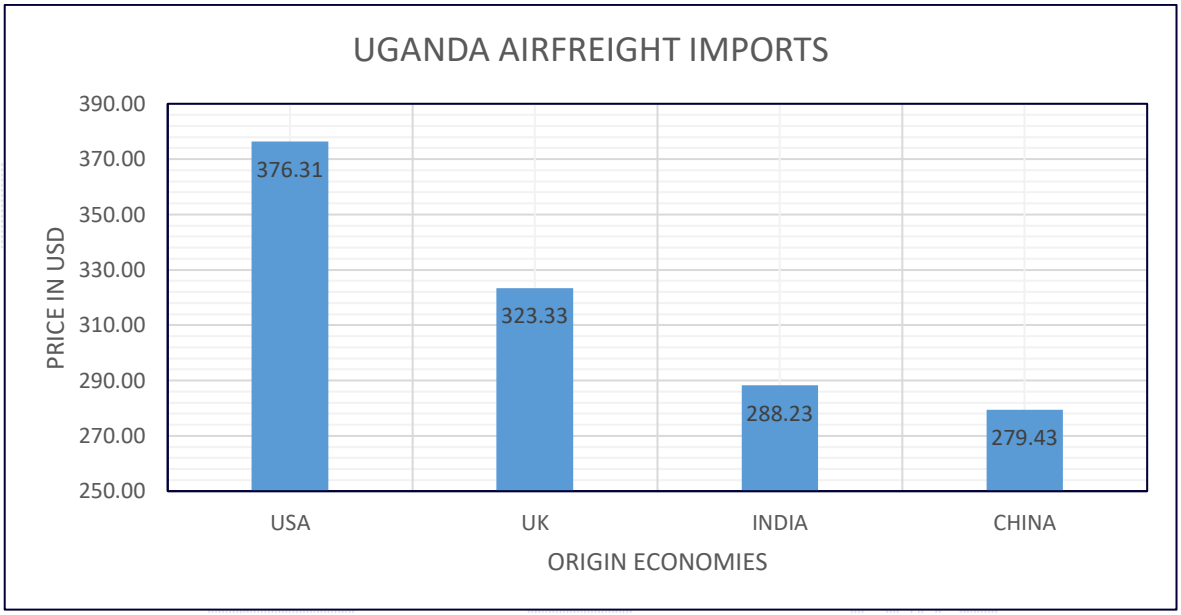


Figure 24 Uganda airfreight rates for imports from select economies

4.3 Road Freight Cost

The road freight Transport cost in EAC is determined by several factors including distance to be travelled, type of cargo/load to be hauled, seasonality of the demand for transportation, regional peculiarities (at the origin and/or at the destination of the freight), possibility of back-hauling operation, operational costs (e.g., type of vehicle to be utilized), competition and/or integration with other transportation modes, quality of the infrastructure, tolls and weighbridges along the roads among others. The section below discusses the rates charged for freight originating from the two main ports of Dar es Salaam and Mombasa being transported to different major cities in the region.

Figure 25 Crude Oil Prices 2015-2019

4.3.1.1 Mombasa to Nairobi

The Table below highlights the road freight costs over the period between 2011 and 2018. It is evident that the costs have dipped from a high of $1,300 in 2011 to freight costs below $1,000 since 2016. In 2018, the average freight cost was $880 between Mombasa and Nairobi, with a high of $950 and a low of $860.

The 32% drop in the road freight cost can be attributed to improved cost freight drivers such as improvement in infrastructure such as road re carpeting and widening, better bridges, competition from other modes Transport such as the Standard Gauge Railway and cutthroat competition between truckers brought about by reduced market share occasioned by the SGR.

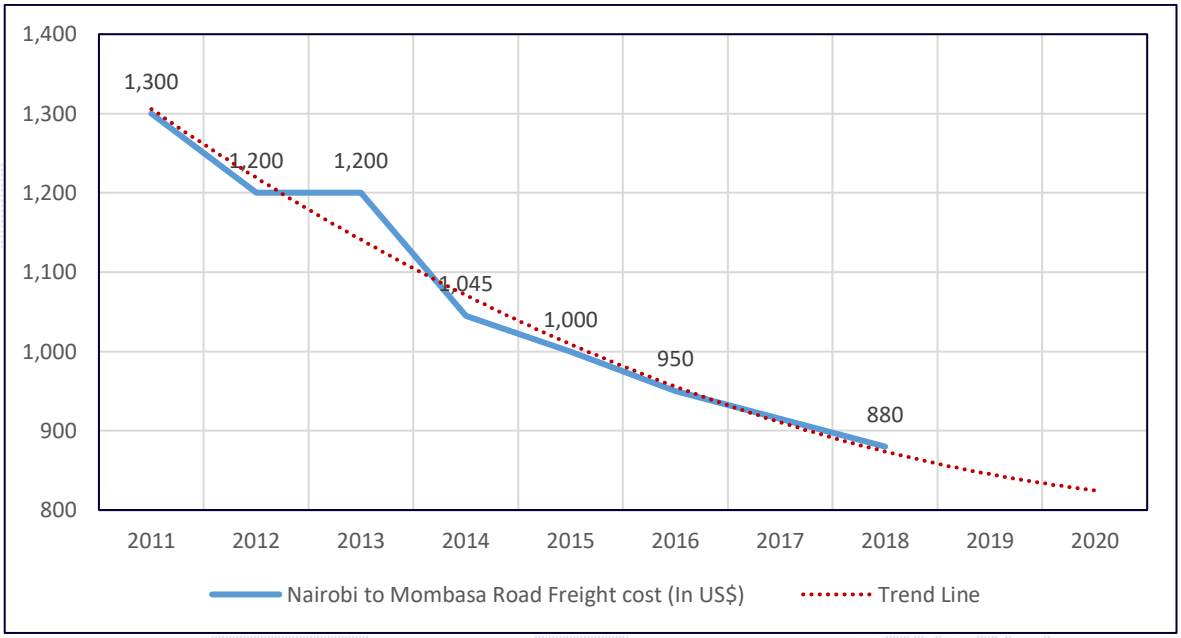


Figure 3 Nairobi Mombasa road freight cost 2011-2018: Source SCEA LPS 2018

Figure 26 newly constructed Port Reitz road section

4.3.1.2 Mombasa to Kampala

Prior to 2014, road freight costs from Mombasa to Kampala had been at an average of $3,275 but have significantly reduced between 2014 and 2015.

This was mainly due to improvement in the business environment, reduced fuel prices (see figure 7 on petroleum prices) and also improved road infrastructures such rehabilitation and carpeting of roads, modernization of border crossing system that led to reduction of border crossing times, which all tend to have a positive bearing on the transportation costs. However, a slight increase in the transport rates is observed in 2018, which can partly be attributed to an increase in operational cost such as fuel prices (see figure 7).

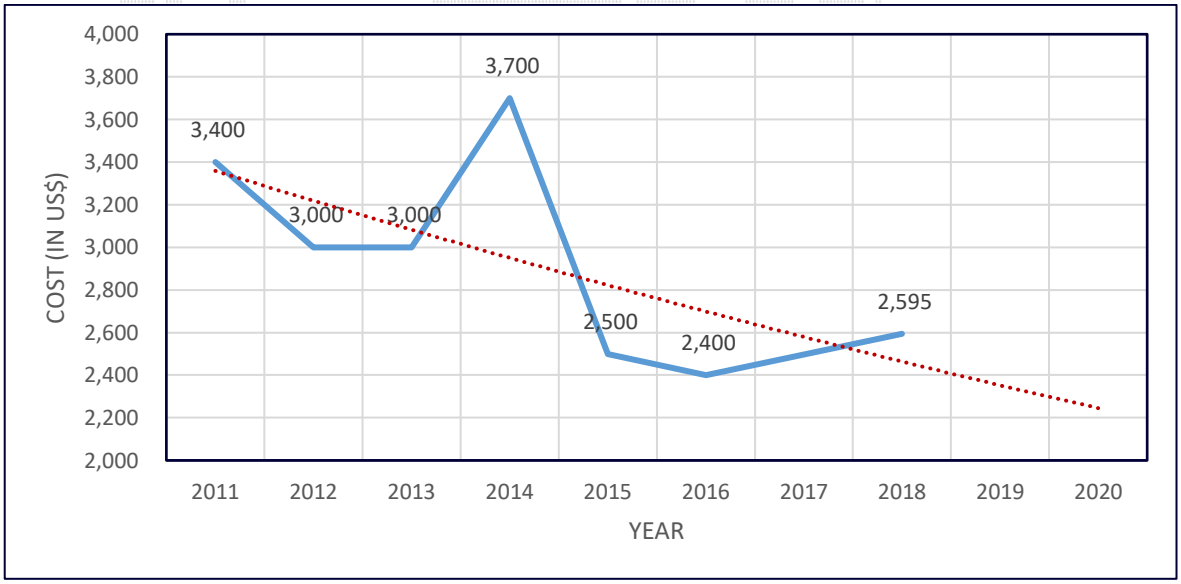


Figure 27 Mombasa to Kampala road freight charges 2011-2018: Source SCEA LPS 2018

Figure 28 One of East Africa's most impressive infrastructure the recently opened 525-metre long Source of the Nile Bridge

4.3.1.3 Mombasa to Kigali

The cost of road freight between Mombasa and Kigali experienced a steady dip between 2011 and 2015 from $6,500 to $4,500. The reduction can be seen to be the divided pay off of the improvement that were taking place along the Northern Corridor in Kenya, Uganda and Rwanda, such as annual road maintenance projects and implementation of structural changes including upgrades to road asset management and road safety. These changes were geared towards creating competitive markets, which has been critical to the reduction in transport costs.

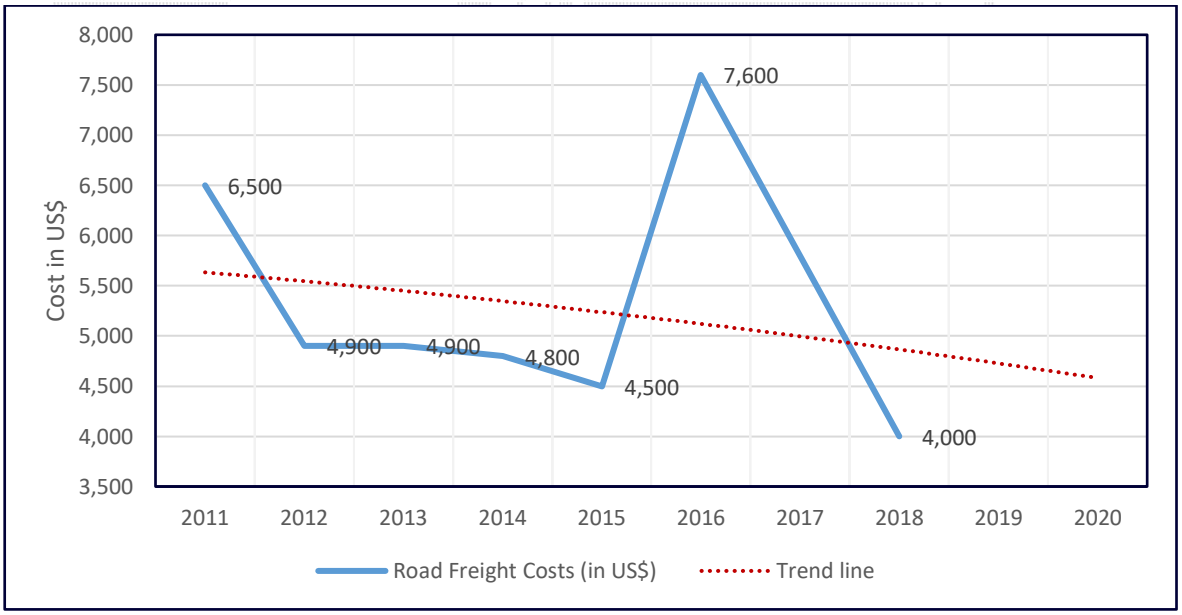


Figure 29 Mombasa to Kigali road freight charges 2011-2018: Source SCEA LPS 2018

4.3.1.4 Mombasa to Bujumbura

The chart below highlights the road freight costs between Mombasa to Bujumbura over the period between 2011 and 2018. Unlike the other EAC countries, the road freight cost to the capital city of Burundi has been erratic with highs of $9,000 to the low of $6,000 in 2018. Some of the oscillation of the road transport freight rate can be attributed to non-operational issues such as political and security concerns experienced in Bujumbura.

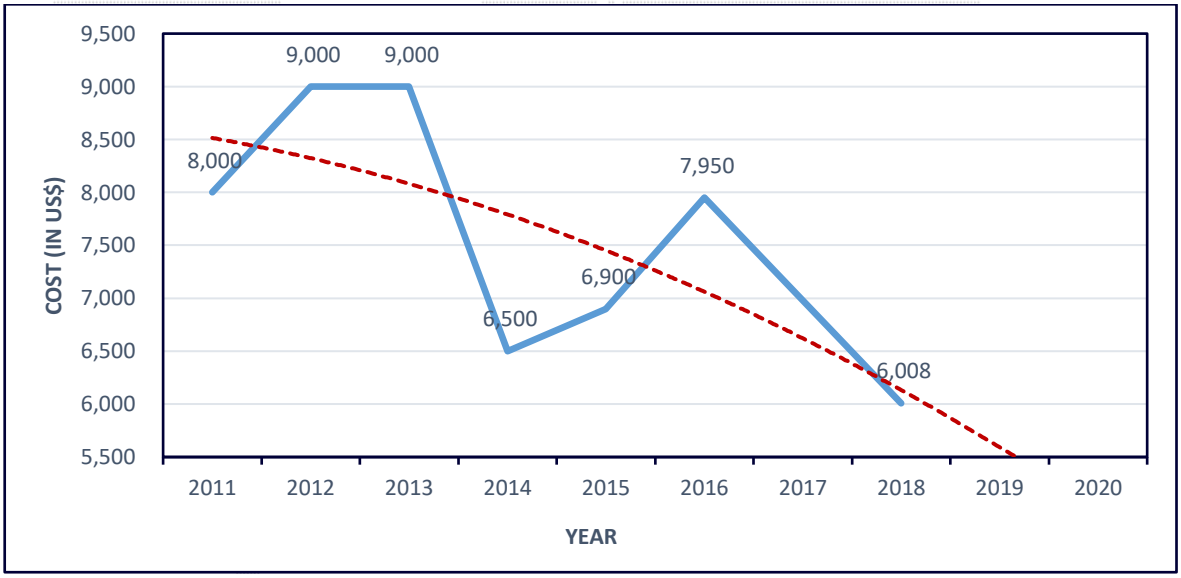


Figure 30 Mombasa to Bujumbura road freight charges 2011-2018: Source SCEA LPS 2018

Figure 31 The new Mombasa to Bujumbura Burundi highway that cuts the distance from Mombasa to Bujumbura by 353 kilometres passes through Voi, Taita Taveta, Holili border, Singida-Kobero border and finally to Bujumbura.

4.3.1.5 Mombasa to Juba

The road transports costs between Mombasa to Juba over the period between have been unstable as a result of socio-political and security risks experienced in Juba. Hence, an unsteady trend in the road transportation costs. It should also be noted that the roads in South Sudan are not very good and it rains six months in a year and during the rainy season, trucks can be stuck in the un-paved roads for periods of up to 5 months. This increases the operational costs.

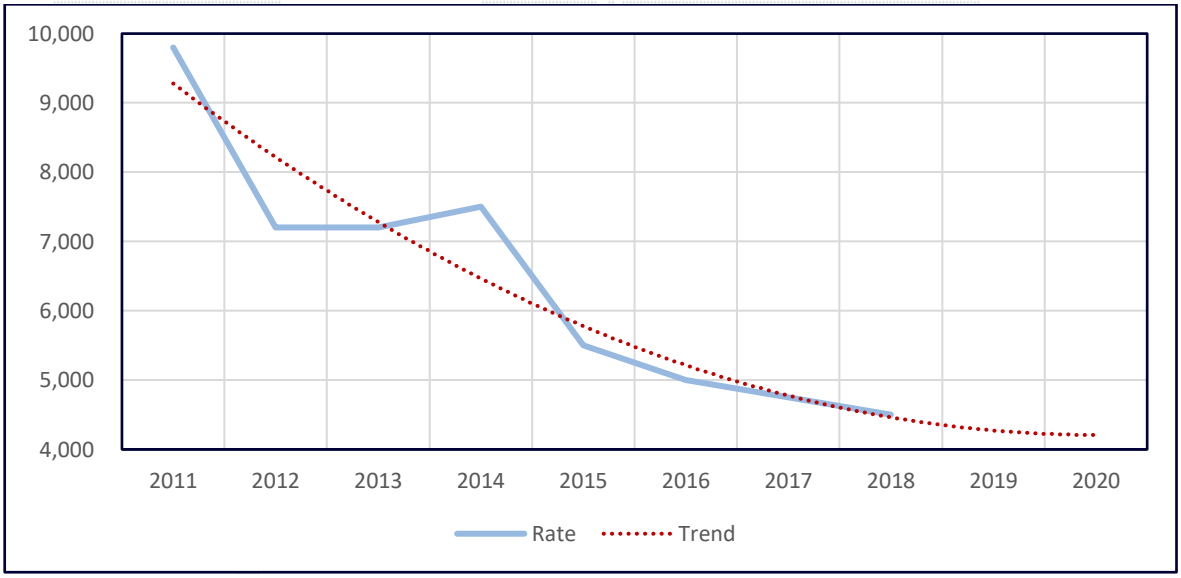


Figure 32 Mombasa to Juba road freight charges 2011-2018: Source SCEA LPS 2018

Figure 33 The Nimule Bridge – source VOA

4.3.1.6 Dar es Salaam to Kampala

The chart below summarizes the road transportation costs between Dar es Salaam and Kampala from 2012 to 2018. Road transport was $4,500 in 2012, and remained so until 2015. There was an 18% drop to $3,700 in 2016. The rates dropped further to $3,400 in 2018. The drop can be attributed to continued development of road infrastructure and increased competition in Tanzania over the years leading to the steady reduction in road freight costs.

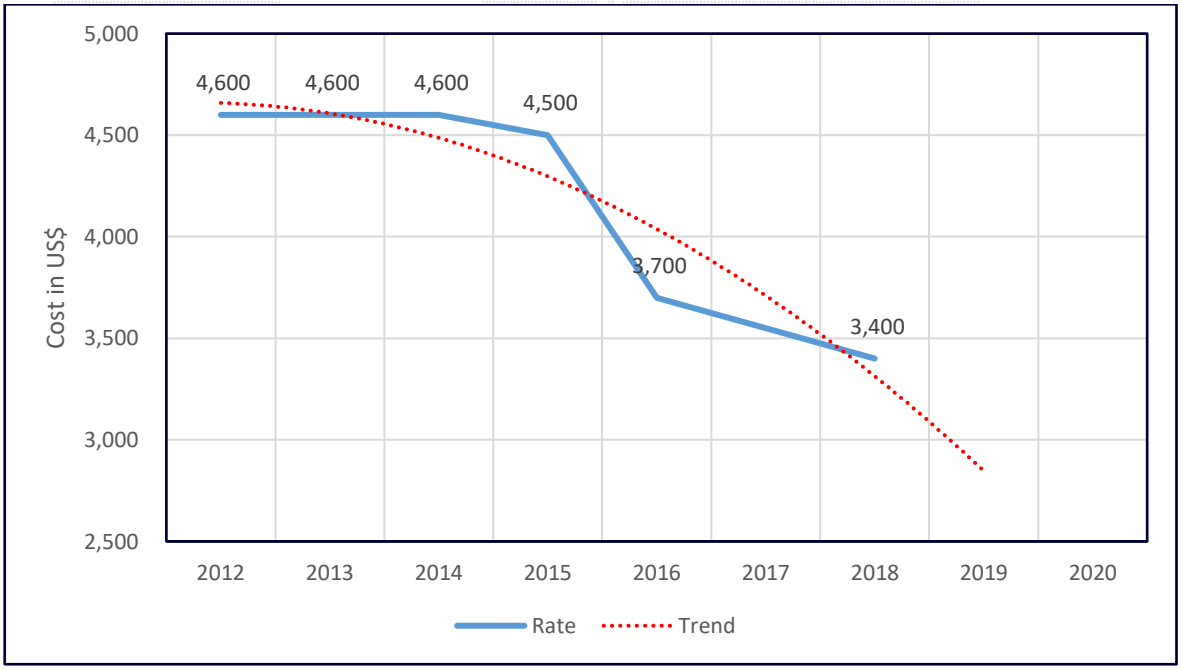


Figure 34 Dar Salaam to Kampala road freight charges 2011-2018: Source SCEA LPS 2018

4.3.1.7 Dar es Salaam to Kigali

The road freight rate between Dar es Salaam and Kigali increased in 2011 from $3,314 to $4,250 in 2012. The rates remained the same in 2013 and only increased marginally in 2014 followed by a further increase of $200 in 2015. The rate dropped by 31% from $4,500 in 2015 to $3100 in 2016 followed by another marginal drop of 3% in 2018 to settle at $3,000. The rates were high prior to 2015 due to worsening infrastructure. A case in point is the Nyakanazi to Rusumo road section that needed to be thoroughly rehabilitated. After the rehabilitation of the road between Dar es Salaam and Kigali, the freight rates reduced to the levels of $3,000 in 2018.

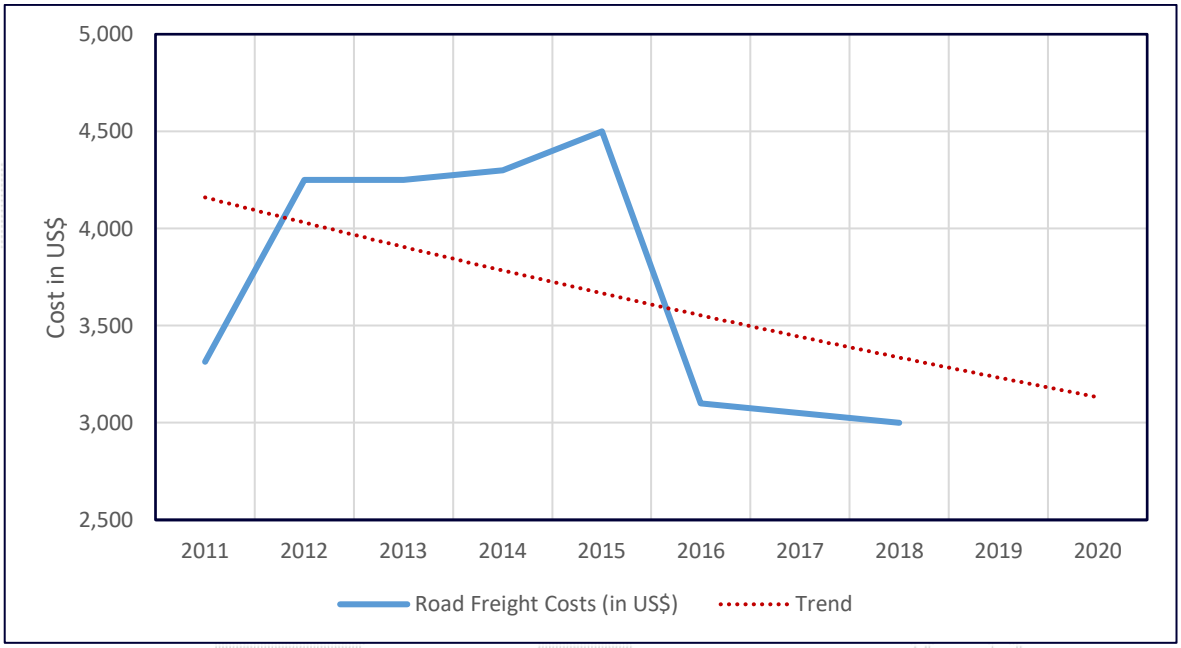


Figure 35 Dar es Salaam to Kigali road freight charges 2011-2018: Source SCEA LPS 2018

4.3.1.8 Dar es Salaam to Bujumbura

On average, road freight costs from Dar es Salaam to Bujumbura have gradually reduced from a high of $4,500 in 2014 and 2015 to as low as $ 3,400 in 2018. This seems to have been the effect of the improvement in infrastructure, which helped minimize operation cost and the increase in internal competition, which has led to driving down the transport rates.

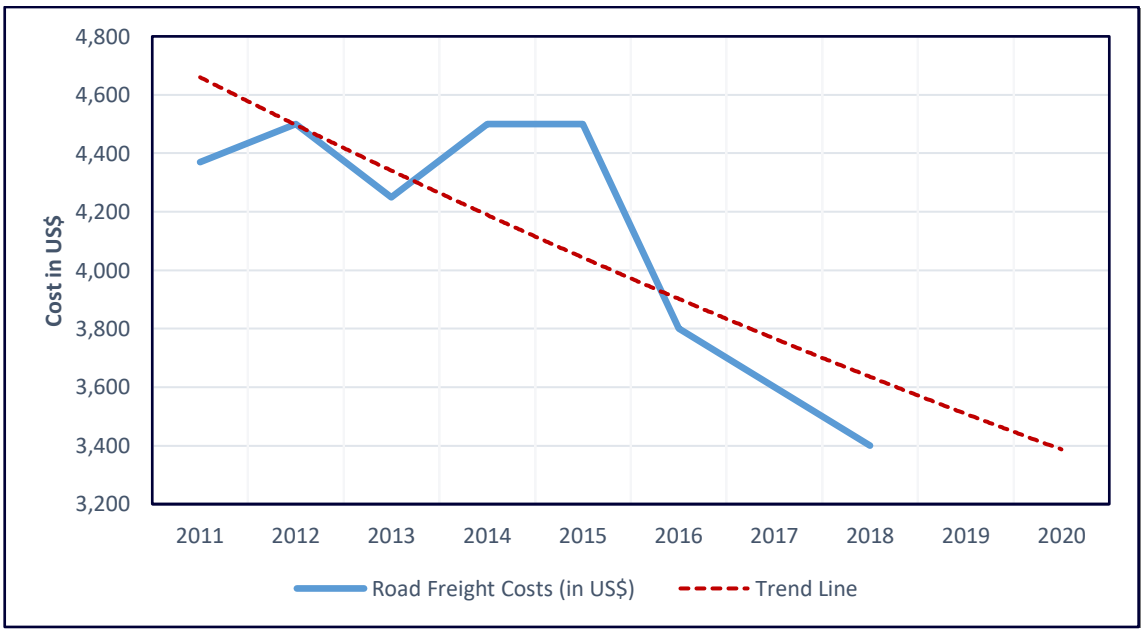


Figure 36 Dar es Salaam to Bujumbura road freight charges 2011-2018: Source SCEA LPS 2018

4.3.2 Road Freight Transport costs within key/major towns of EAC

The Table below summarizes the Transport rates within key or major towns of East Africa. The rates were then normalized by dividing the rate per TEU with the distance between the major owns. As can be seen the rates per Km ranges from a low of $1.83 to a high of $3.06 per Km. Shorter distance seem to be very expensive as compared to longer distances as the cost is about $3.0 . The same case applies to crossing of international borders. Where the consignment crosses borders, the rate per Km is comparatively higher as is the case of Mombasa /Bujumbura and Mombasa /Juba with the rates being over $2.5 per Km.

ORIGIN	DESTINATION	KILOMETRES	RATE	RATE/KM
Mombasa	Nairobi	481	900	1.87
Dar es Salaam	Kigali	1,430	3,000	2.10
Dar es Salaam	Kampala	1,668	3,500	2.10
Mombasa	Kampala	1,169	2,500	2.14
Dar es Salaam	Bujumbura	1,480	3,200	2.16
Mombasa	Kisumu	830	1,800	2.17
Mombasa	Nakuru	650	1,500	2.31
Nairobi	Kigali	1,171	3,000	2.56
Nairobi	Kisumu	351	900	2.56
Mombasa	Kigali	1,682	4,500	2.68
Nairobi	Kampala	660	1,800	2.73
Kigali	Bujumbura	291	800	2.75
Mombasa	Juba	1,662	4,800	2.89
Kisumu	Kampala	310	900	2.90
Kampala	Kigali	516	1,500	2.91
Mombasa	Bujumbura	1,957	6,000	3.07

Table 3 Table. Road Freight Transport costs within key/major towns of EAC charges Source SCEA LPS 2018

4.4 Rail Freight Costs - Kenya Standard Gauge Railway

In 2018, the SGR introduced freight operations at rates of 500 dollars, $700, and $750 for a 20-foot, 40-foot (up to 20 tons) and 40-foot (20-30 tons) respectively. In addition, SGR discounted all the freight that was being transported from Nairobi at 50% of the three categories of the containers. All empty containers were transported at a flat rate of $100 y rail. Kenya Railways, which operates SGR, also provided an option where empty containers could be returned via road and they provided a flat rate of $150.

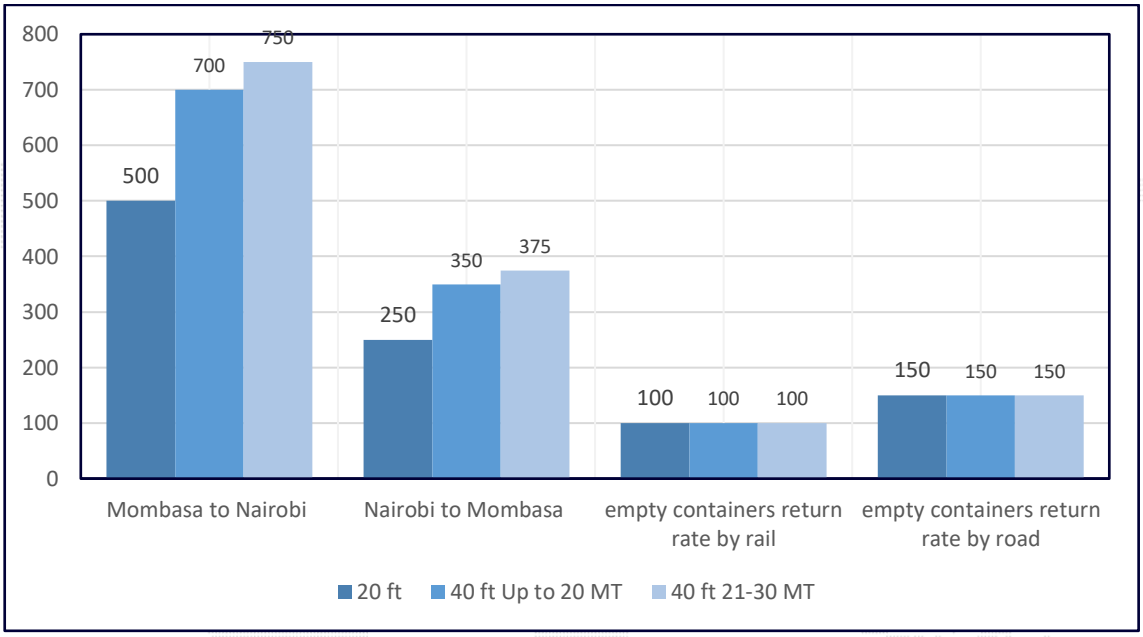


Figure 37 SGR Rates between Nairobi and Mombasa Source SCEA LPS 2018

Approved Base rate is USD 500 per 20 ft. container (Unit TEU).

Size	Weight Range in Tonnes	Rate USD for Loaded		Empty container Return Rate USD	
		Up Direction	Down Direction	Ex Movement by Rail	Ex movement by Road
20' Container	Full range	500	250	100	150
40' Container	Up to 20 Tonnes	700	350	100	150
	21 - 30 Tonnes	750	375	100	150

Down direction discount has been given for loaded TEU at 50% of the loaded up direction TEU unit transport rate.

Figure 38 Extract of the Kenya Railways SGR tariff notice no. 1 of 2017 Mombasa – ICDN NBI

4.4.1 Rail Freight - Tanzania

Tanzania operates a Meter Gauge Railway (MGR) that transports cargo from the port of Dar es Salaam to Uganda via Mwanza – Port Bell - Kampala goods shed that was re-opened in June 2018. The central corridor Railway serves Burundi and DRC through Kigoma port. Plans are at an advanced stage to construct a Central Corridor SGR. The proposed project will serve the central part of the country, North West and the neighbouring countries of Uganda, Rwanda, Burundi, DRC, and Zambia. The projected

2,561 KM long network will have trains moving at speeds of 160 KM/H and an axel load capacity of 35 MT up from 13 MT.

The Table below summarizes the promotional tariffs rates to shippers from 1st June to 31st December 2018 on the reopened Dar es Salaam Mwanza Kampala route. The table shows that the most expensive section of the imports is the Dar es Salaam to Mwanza section at $680 for a 20-foot container and double that rate for a 40-foot container. However, when exporting goods, the rates for the same section were slashed by 76.5% to $160 and $320 for both 20 foot and 40-foot containers.

The Lake Victoria link span charges are $374 for a 20-foot container and double that when importing goods using a 40-foot container. Exporters were favoured because they were charged 52% of the rates for the same link for both the 20-foot and 40-foot container. The Port Bell - Kampala link is the least expensive of the three-section costing $50 and $100 for a 20-foot and 40-foot container; they discount the same rates at 60% for both the 20-foot and 40-foot container for exports. The total cost for the Dar es Salaam to Kampala for imports is $1,104 and $2,220 for a 20-foot and 40-foot container compared to $360 and $720 for exporting freight using the 20-foot and 40-foot container,

	Imports		Exports Imports	
	Dar es Salaam to Kampala		Kampala to Dar es Salaam	
Section	20-foot	40-foot	20-foot	40-foot
Dar Es Salam - Mwanza	680	1360	160	320
Lake Victoria Link Span Charges	374	748	180	360
Port Bell t- Kampala	50	100	20	40
Total Cost	1104	2208	360	720

Table. 1 Tanzania Railway Freight Rates Source SCEA LPS 2018

4.5 Sea Freight time indicators

This section discusses the following indicators; vessel waiting time, vessel turnaround time, port container dwell time, time to complete customs processes, time to export and import from EAC ports of Dar es Salaam and Mombasa.

4.5.1 Vessel waiting time - Mombasa

Berth performance indicators concern the calculation of ships waiting time and its time in port. A problem for port managers is to ensure optimum use of berths in the port insufficient berth capacity results in delays to the ship; excess capacity is a waste use of port capital and resource. The port of Mombasa has a target vessel waiting time of 24 hours. For the whole of 2018, the port operated at 67% of the time below the 24 hours target. Between March April May and December vessel waiting time was higher than 24 hours.

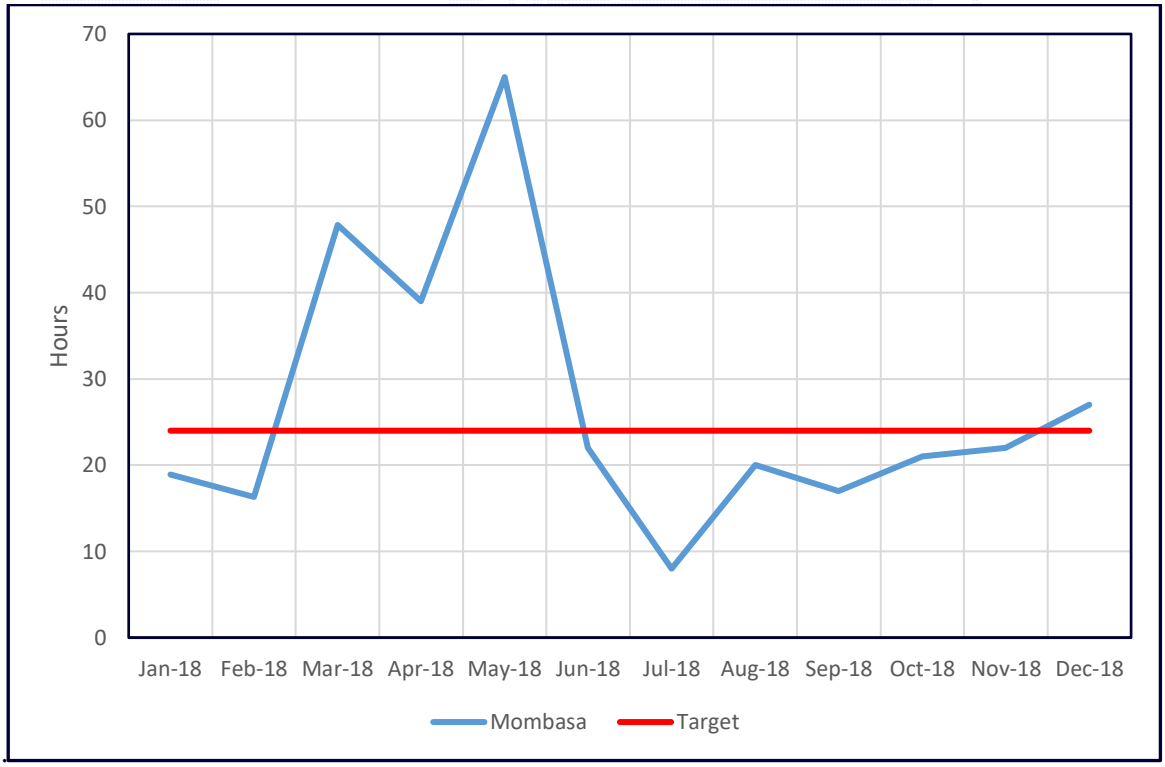


Figure 39 Vessel Waiting Time Rates Source SCEA LPS 2018

The higher waiting times may be attributed to the following reasons:

- Inefficiencies introduced to the cargo clearance challenges at the ICDN,
- Staff Changes at KRA following interdiction of 75 officials who were linked to illegal cargo clearance and irregular issuance of tax compliance certificates.
- Delay by KRA in providing cargo tracking seals,
- Challenges occasioned by hiccups in the new Integrated Customs Management System (iCMS),
- Multiple government agencies at the port causing duplicity in cargo clearance at the port. The situation has however improved since a number of state agencies were removed from the port and they include: Pharmacy and Poisons Board, AFA Horticultural Crop Directorate, Directorate of Veterinary Services, Kenya Dairy Board, Radiation Protection Board, AFA Sugar Directorate, Pest Control Produce Board, Directorate of Mining, Kenya Wildlife Service, the National Biosafety Authority, Veterinary Medical Department, AFA Tea Directorate, Central Firearms Bureau, NEMA and AFA Fibre Crop Directorate.

4.5.2 Vessel Turn-Around Time Mombasa and Dar es Salaam

The key drivers of turnaround time are the effective scheduling and allocation of key resources like yard cranes, quay cranes berths, and trucks. Turnaround time is crucial operational indicators, which portray the port's ability and capability to provide better service and good productivity to the ships.

The graph below shows that overall; the turnaround time for the port of Mombasa was lower than that of Dar es Salaam port. Mombasa has also demonstrated a declining trend in vessel turnaround time. The largest contributor to this decline is the opining up and full operationalization of Mombasa second container terminal that has eased pressure on port capacity.

Dar salaam on the other hand has continued to show an increase dwell times. Increasing traffic coupled by very slow increases in port capacity is having a detrimental effect on Dar es salaams ports capacity to efficiently manage its vessel turnaround time.

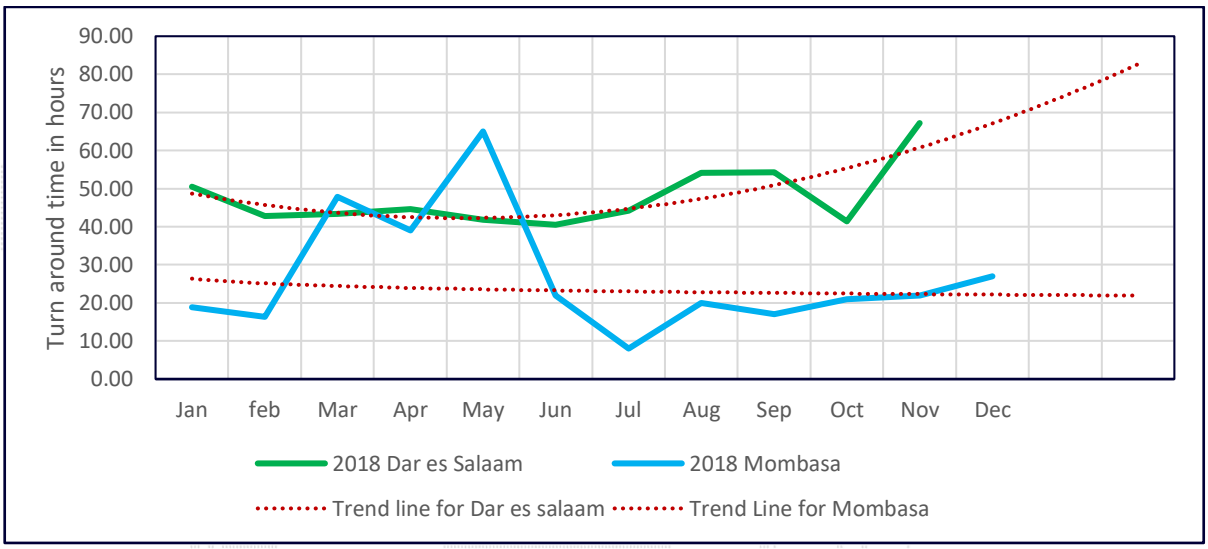


Figure 40 Port of Dar es Salaam and Mombasa Vessel Turnaround Time Source: SCEA LPS 2018

4.5.3 Port Container Dwell Time

Dwell time refers to the total time spent by cargo at the port from when the cargo was discharged from the vessel until port exit (average number of hours the container stays in a yard). The shorter the dwell time, the more efficient the port is. Despite a raft of ease-of-doing-business measures, aided by technology and closer stakeholder coordination, cargo dwell times at the port of Mombasa continued to rise for each quarter of 2018 compared to the port performance in 2016. The port of Mombasa handles roughly 60% of the regional trade. The analysis further shows that while the container dwells time for the port of Dar es Salaam started to increase in the 2nd quarter to the fourth quarter in 2018, this only started in the 3rd quarter for the port of Mombasa and extended to the fourth quarter for 2018.

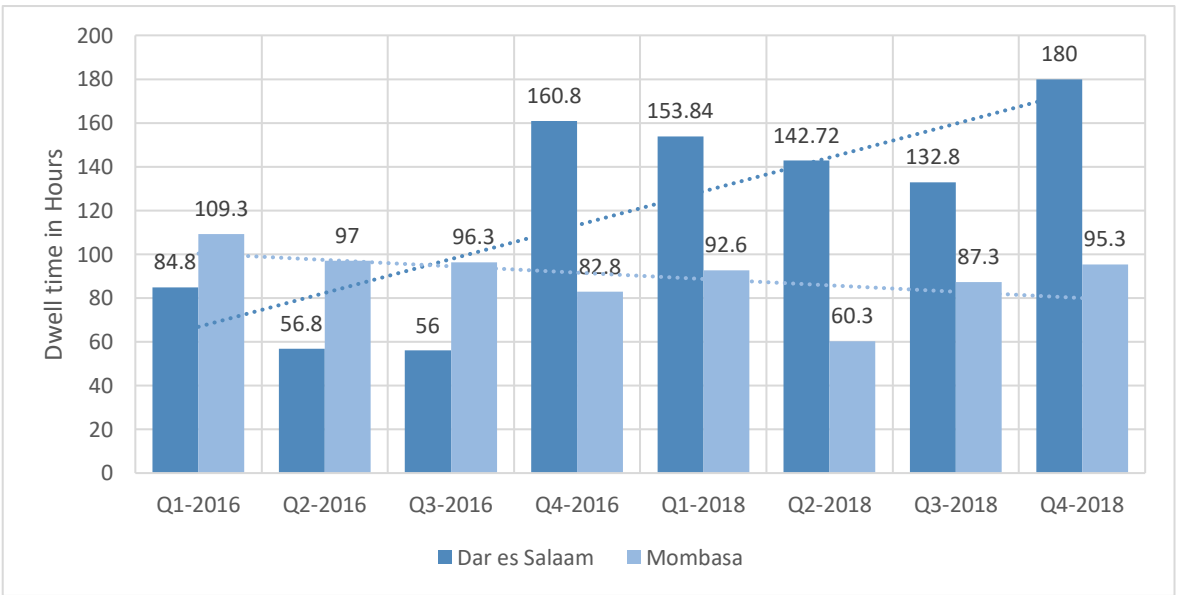


Figure 41 Containerized Cargo Dwell Time at the port of Dar es Salaam and Mombasa. Source SCEA LPS 2018

To improve cargo dwell time at Dar es Salaam Port, Tanzania Ports Authority (TPA) introduced a raft of measures, including the decision to raise charges after seven days for domestic cargo and 21 days for cargo whose destination was an LLC. Despite these measures, high dwell times are still hampering the port's performance. Other measures undertaken at the Dar es Salaam port include rationalization of cargo clearance procedures, the implementation of a port community system, cargo systems, cargo dues, and the provision of a one-stop shop centre to reduce the number of formalities for clearing and billing. In addition, Dar es Salaam Port has been implementing a terminal management system that has reduced manual labour. This has reduced clearance time, which in turn has helped reduce dwell time. Finally, a process is now under way to integrate all the port and terminal systems to facilitate use by port staff, stakeholders, and State agencies.

4.5.4 Time to Complete Custom Processes

In 2018, the time taken to clear by customs in Kenya demonstrated huge fluctuations (please refer to figure 41 below) with the time taken to clear through customs showing a gradual and significant increase in 2018.

This was caused by a number of factors including:

- Poor planning to accommodate the newly launched SGR operations,
- The fight against corruption with corruption fighting back following interdiction of 75 officials who were linked to illegal cargo clearance,
- Delay in issuance of cargo tracking seals and
- Challenges occasioned by hiccups in the new Integrated Customs Management System.

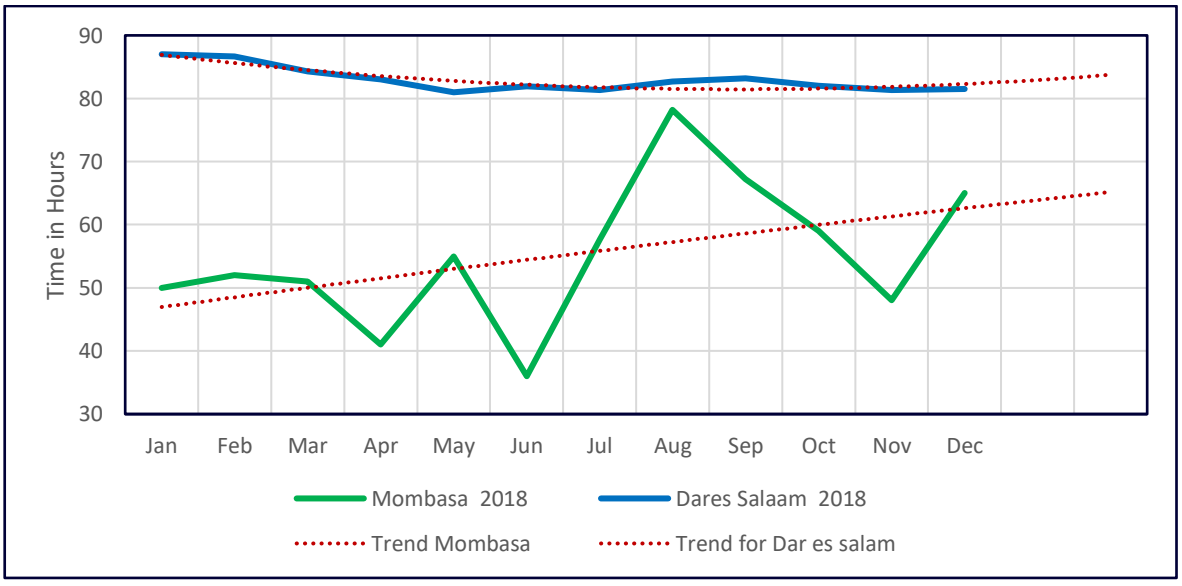


Figure 42 Time to Complete Custom Processes at the port of Dar Salaam and Mombasa source: SCEA LPS 2018

4.5.5 Sea Freight Time to Export to Principle Markets

It takes on average between 21 and 31 days for exports originating from the port of Mombasa to the principal export markets (see section 2.2 Identification of the strategic trading partners of this report)to reach their destination. For example, it takes 31 days to export to Genoa in Italy compared to 29 days for exports to New Jersey in the USA. This can be attributed to the fact that the vessels operating to Genoa are Tramp vessels, i.e. vessels that do not operate under any regular schedule from one port to another but calls any port where cargo may be obtained. While vessels operating between the port of Mombasa and New Jersey may be liner ships, which operate according to advertised routes, schedules and rates.

The mean time to move freight from port of Dar es Salaam to Mumbai in India is 9 days while it takes about 36 days from Dar es Salaam to Genoa in Italy. It is worthwhile to note that it takes on average 23 days to export goods to Mina Jebel Ali Port (UAE) from both the port of Dar es Salaam and Mombasa this being the nearest port of call for both ports.

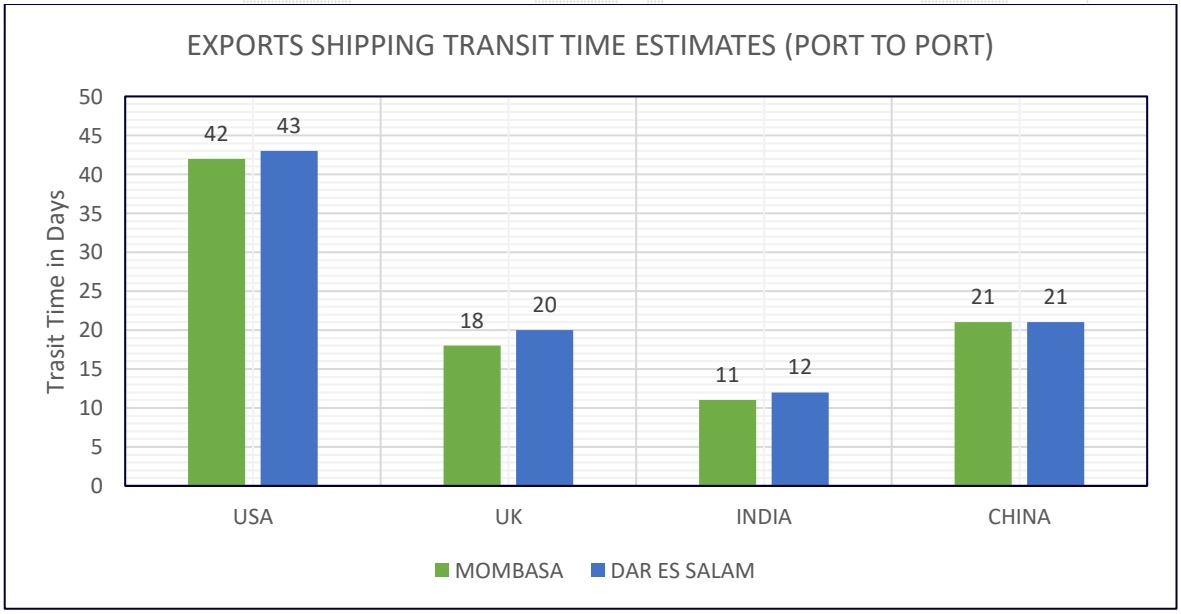


Figure 43 Sea Freight Time to Export to Principle Markets originating from the port of Dar Salaam and Mombasa source: SCEA LPS 2018

4.5.6 Sea Freight Time to Import from Principle Markets

There are three principal markets (see section 2.2 Identification of the strategic trading partners of this report) from which the EAC countries import their goods. From India – New Delhi, it takes 32 and 33 days for the port of Mombasa and Dar es Salaam, respectively.

This can be attributed to the fact that the ships first call at Mina Jebel Ali Port (UAE) before it continues with its onward journey to the two East African ports. All the six East African countries import goods from China and depending on which port is being used by the shippers, it takes 37 days for the port of Mombasa and 53 days for the port of Dar es Salaam. This can be a combination of ships vessel waiting time both at the port of Mombasa and Dar es Salaam and time taken to discharge cargo at the port of Mombasa.

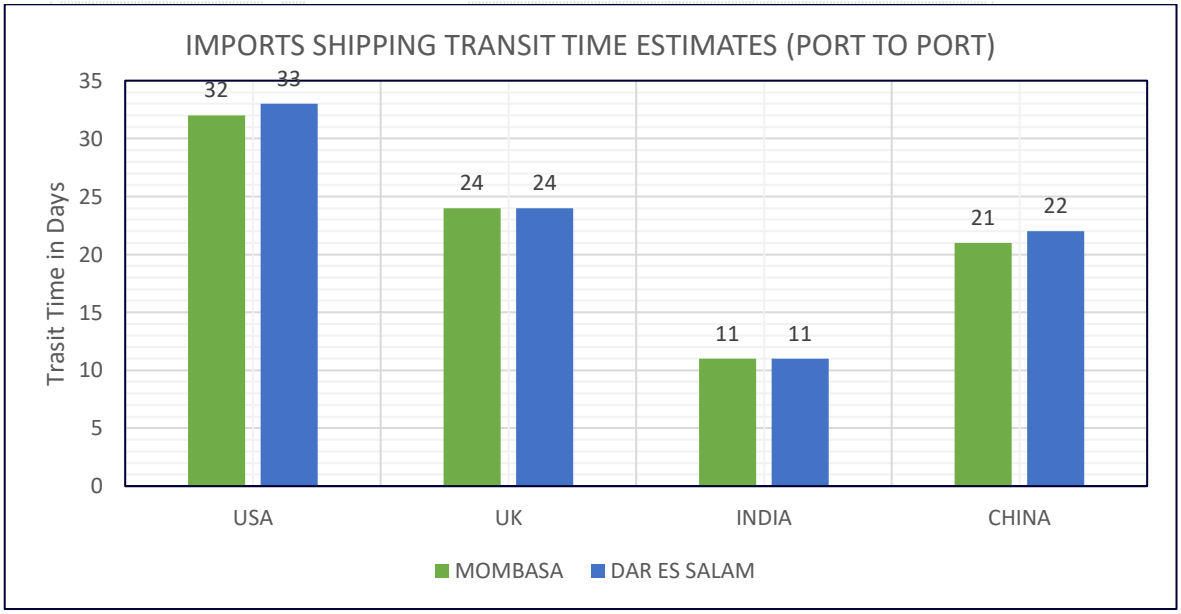


Figure 44 Sea Freight Time to Import from Principle Markets to the port of Dar es Salaam and Mombasa source: SCEA LPS 2018

4.6 Air Freight time indicators

One of the key performance indicators of cargo terminal operations in any airport is the dwell time. The regional as a whole suffers from extraordinarily high dwell times of up to 60 hours for imports against a global norm of 2-3 hours. This high dwell times can be attributed to the following:

- Slow sped of customs with 100% of the cargo subjected to customs processing,
- Delay occasioned by delay in submission of requisite documents by the shippers and their agents,
- General inefficiencies occasioned by poor working habits of airport staff,
- Inadequate and outdated handling and processing equipment and technology
- Presence of a multitude of other government agencies intervening in cargo
- Missing and Non-traceability of cargo
- The regions airports are primarily designed for passengers and less emphasis by airport authorities,
- Gaps in Key facility infrastructure at Cargo terminals. Some of the key facility infrastructure which are lacking at majority of the air cargo complexes are:

- Shortage of landside truck docks, vehicle holding area and airside operational space
- Insufficient entry gates and lack of upgraded handling equipment and trolleys
- Lack of specialized storage and handling facilities for hazardous, radioactive and valuable cargo
- Lack of sufficient cold storage capacity for perishables cargo

Airport	Dwell Time - Exports (Hours)	Dwell Time - Imports (Hours)
Sharjah	4	4 -8
Singapore	6	3 to 6
Frankfurt	6	NA
Incheon	2 to 3	2 to 7.5
Dubai	2 to 3	2 to 6
Hong Kong	3 to 6	4 to 8
Delhi	36	119
Bujumbura	65	60
Dar es salaam	45	48
Entebbe	46	46
Kigali	40	43
Nairobi	25	36

Figure 45 Source: Airport websites, industry research

On average, the airport with the highest dwell time in the region is Bujumbura airport for both the exports and imports at 65 and 60 days approximately. Dar es Salaam, Entebbe, and Kigali airports have dwell time ranging between 40 to 48 days, while Nairobi has 25 days for exports and 36 days for imports.

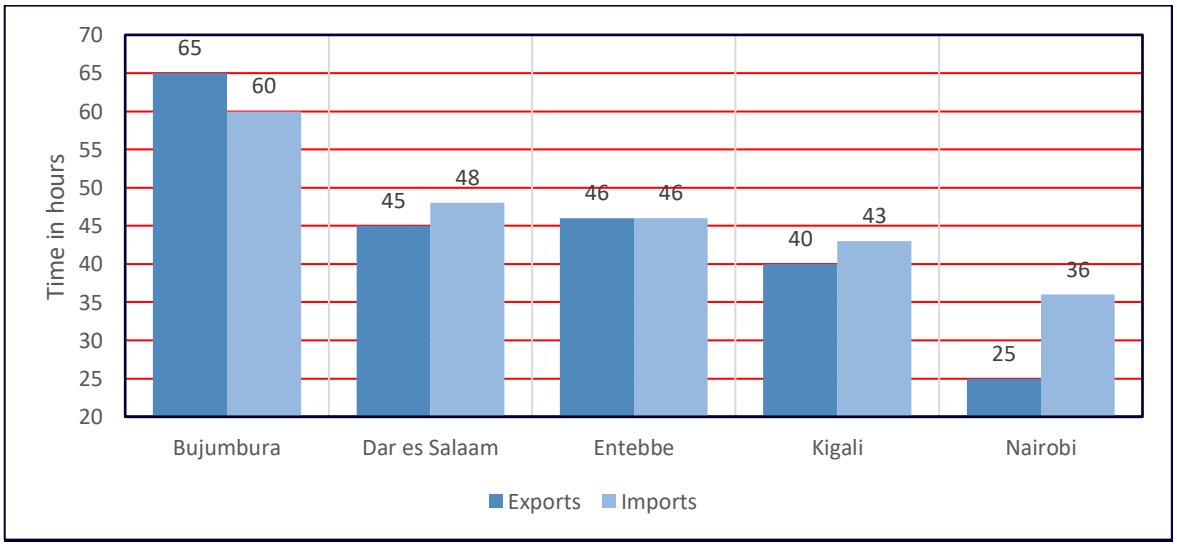


Figure 46 Airport Dwelling Time: SCEA LPS 2018

4.7 Road Freight Time Indicators

The increase in freight traffic volumes has resulted in an increase of traffic on the roads, which has also resulted in a strain of critical logistics choke points such as port exit and entry gates, weighbridge stations, highways traversing major urban centres, inland container depots such as the ICDN and border post in the region.

This is mostly witnessed during peaks in truck arrivals for delivering or picking up of cargo. Such a scenario leads to high labour costs for the terminal and long waiting times for the trucks and as a consequence of congestion at the traffic choke points. As the truck, engines are running most of the time while queuing or waiting in a traffic jam, the situation leads to higher emissions along the corridors and in particular, at the ports, weighbridges and border posts. Extensive waiting times lead to a high truck turnaround time due to the lower number of trips made within a specified time period. The key drivers of truck turnaround time include:

- Inefficient port process leading to high cargo dwell times at the ports,
- Police checks along the transport corridors,
- Driver indiscipline with unnecessary or extended driver rest stops,
- Inefficient border crossings,
- Delays at inland container depots,
- Frequent vehicle breakdowns occasioned older fleets requiring more frequent maintenance,
- Opaque and inefficient transport market that does not efficiently connect and match available consignments to available transport,
- Inadequate loading and offloading equipment at cargo origin or destinations,

4.7.1.1 Mombasa Truck turnaround time

For the Northern corridor, the truck turns around time has reduced significantly for all major commercial centres with the biggest improvement being as seen for South Sudan (see Figure 46 Mombasa Truck Turnaround Time Source).

All the routes had a sharp dip from 2016 to 2018. This can be attributed to the easing of freight movement through East Africa's borders with the completion of many one-stop border posts that have been built with funding from TMEA. The adoption of IT in the clearing process such as the roll out of National Single windows has aloes contributed to reduced turnaround times.

Juba had the highest improvement of 69% is a reduction from 360 to 112 hours. Nairobi had the second-highest rate of improvement at 55% and this can be attributed to introducing SGR, which reduced the truck congestion on Mombasa road, translating to less queue time at the weigh brides. Bujumbura has the least improved truck turnaround time of 19%, from 336 to 271.2 hours. We can attribute the improvement to improvement of border crossing processes.

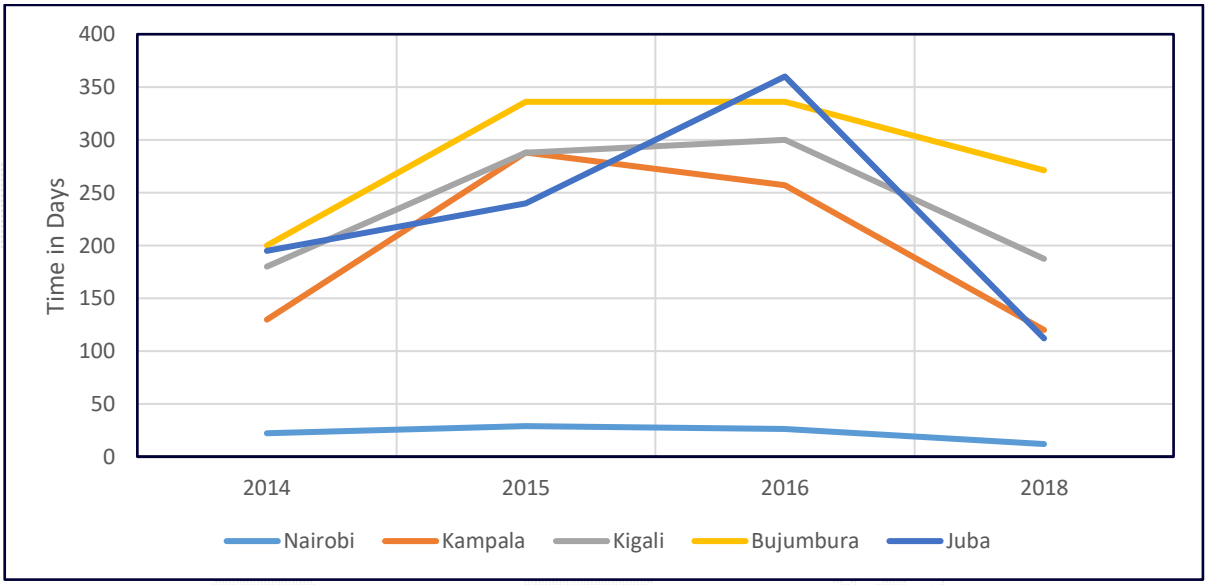


Figure 47 Mombasa Truck Turnaround Time Source: SCEA LPS 2018

4.7.1.2 Dar es Salaam Truck Turnaround Time

The Central Corridor Truck Turnaround Time was computed for Kampala, Kigali, and Bujumbura. The turnaround time is influenced by personal reasons, police checks, weighbridges, company checks, road conditions, custom checks among others. As the case with the Northern corridor, there was a kink in 2016 as the truck turnaround time improves by a significant rate.

The significant improvement on the truck turnaround time can be attributed to the construction of One-Stop Inspection station (OSIS), in Tanzania, which is being piloted by allowing trucks to stop and be inspected at only three weighbridges, and Implementation of the Single Customs Territory (SCT), which is another measure that enhanced clearance of the goods across borders. In addition, implementing the High-Speed Weigh in Motion (HSWIM) weigh bride in motion. All these factors have contributed significantly to a reduction in the truck turnaround time.

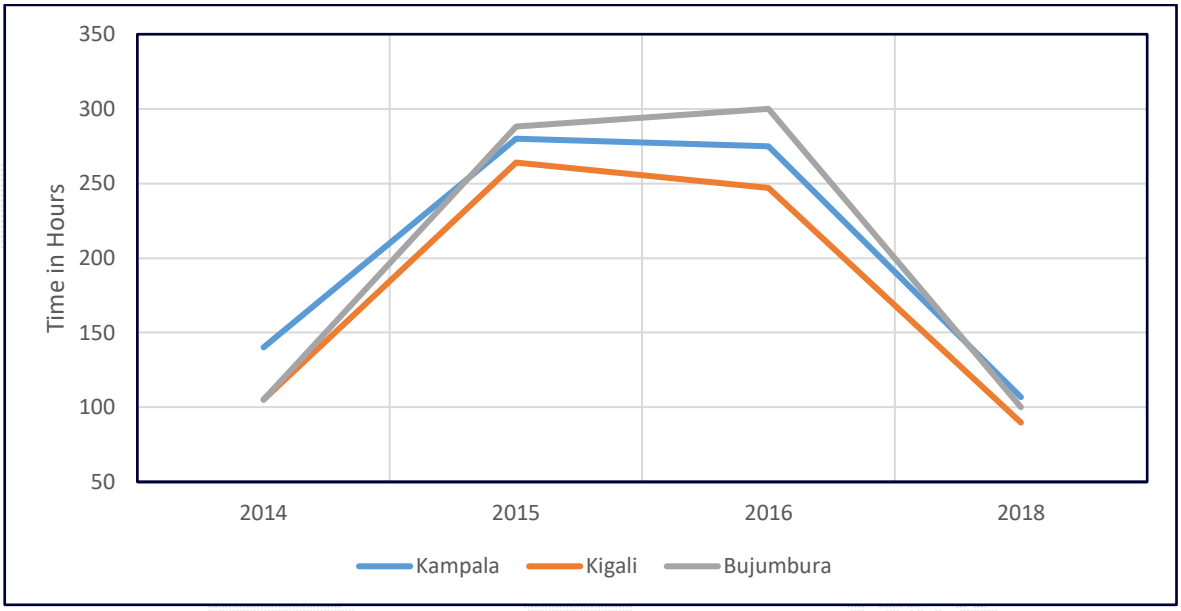


Figure 48 Dar es Salaam Truck Turnaround Time Source: SCEA LPS 2018

4.8 Logistics Complexity

4.8.1 Burundi's Logistics Complexity

In order to export from Burundi, one had to have a minimum of 7 documents, with 27.27% of the respondents stating that one had to have between 7 and 10 documents and 72.72% sating that one had to have over 10 documents. A total of 45.5% of the respondents in Burundi stated that in order to import in Burundi on had to have between 7 to 10 documents, while 36.36% stated that one had to have between 7 to 10 import documents.

These documents varied depending on the items that were being imported and they include Commercial invoice, Packing list, Import license, Certificate of conformity, Transit document, Tax NIF, Electronic cargo tracking note (BESC), Import declaration, Certificate of origin, Gate pass, Bill of lading and SOLAS certificate.

It was established that depending on the item(s) being exported several documents were required and this included Export license, Certificate of origin , Commercial invoice , NIF (fiscal identification number) , Transit document , Phytosanitary certificate, Export declaration, Bill of lading and SOLAS certificate. Each of the above documents would originate from a movement agency requiring a minimum of one signatures and stamps. For the signature to be provided the items had to be inspected either Physical, Scanning or using sniffer dogs.

Details	Export	Import
Document needed to trade in your country (whether electronic or paper)		
7 to 10 documents	27.27%	45.5%
Over 10	72.72%	36.36%
Missing	27.27%	18.18%
Subtotals	100%	100%
Number of signatures/stamps needed to Trade		
7 to 10	27.27%	18.18%
Over 10	72.72%	45.5%
Missing		36.36%
Subtotals	100%	100%
Number of agencies intervening when Trading		
7 to 10	18.18%	27.27%
Over 10	45.45%	73.72%
Missing	36.36%	
Subtotals	100%	100%
Number of Inspection (Physical, Scanning or using sniffer dogs)		
7 to 10		
Over 10	81.81%	72.72%
Missing	18.18%	27.27%
Subtotals	100%	100%

Table 4 number of documents required trade in Burundi

4.8.2 Kenya's Logistics Complexity

- **Exports**: In Kenya, the number of documents to be applied in exports ranges 2 documents to over ten documents depending on the item being exported. A total of 22% of the respondents stated that a shipper requires between 3 to 4 documents and a similar percentage for 5 to 6 documents.

  Only 7% of the respondents stated that a shipper required over 10 documents. For export, some of the documents required include Inland Bill of lading, Release order, Certificate of origin (COMESA), Commercial invoice, and Exit note, Certificate of export, Export Declaration, and Packing list.

- **Imports:** A total of 29% of the shipper required 3 to 4 documents to import documents while 16% pf the shippers require 7 to 10 documents to import a consignment. Some of the documents required to import include Bill of lading, Cargo release order, Pre-Import Verification of Conformity (PVoC), Commercial invoice, Import Declaration Form (IDF Form C-61), Packing list, Proof of payments of Customs Duties, Terminal handling receipts, Declaration of customs value (Form C- 52) and SOLAS certificate.

Details	Export	Import
Document needed to trade in your country (whether electronic or paper)		
0 to 2	9%	9%
3 to 4	22%	29%
5 to 6	22%	17%
7 to 10	17%	16%
Over 10	7%	0%
Missing	22%	29%
Subtotals	100%	100%
Number of signatures/stamps needed to Trade		
0 to 2	14%	14%
3 to 4	22%	22%
5 to 6	21%	21%
7 to 10	12%	12%
Over 10	0%	0%
Missing	31%	31%
Subtotals	100%	100%
Number of agencies intervening when Trading		
0 to 2	16%	16%
3 to 4	16%	21%
5 to 6	19%	19%
7 to 10	28%	22%
Over 10	0%	0%
Missing	22%	22%
Subtotals	100%	100%
Number of Inspection (Physical, Scanning or using sniffer dogs)		
0 to 2	36%	7%
3 to 4	21%	22%
5 to 6	21%	16%
7 to 10	0%	33%
Over 10	0%	0%

Details	Export	Import
Missing	22%	22%
Subtotals	100%	100%

Table 5 Number of documents required trade in Kenya

4.8.3 Rwanda's logistics Complexity

- **Exports:** In Rwanda 62%, of the respondents stated that they required 3 to 6 documents in order to export. The documents required ranged from the Packing list, Commercial invoice, Export declaration , Transit document, Export license , Sanitary certificate by Minister of Agriculture , Certificate of origin, Exit note, Bill of lading (in land).
- **Imports**: A further 61% also provided a similar number for imports. This document include Bill of lading, Packing list, Customs Import, Declaration, Transit document, Exit note and SOLAS certificate. Each this document originated from a government agency that required one or two signatures, and may or may not require to be inspected physically, or by use of Non-Intrusive Inspection such as scanning and or use of sniffer dogs.

  It should be noted that 82% of the respondents sated that the number of inspections ranged from 0 to 2 per consignments.

NUMBER OF DOCUMENTS REQUIRED TRADE IN RWANDA		
Details	Export	Import
Document needed to trade in your country (whether electronic or paper)		
0 to 2	0%	0%
3 to 4	31%	38%
5 to 6	31%	23%
7 to 10	23%	8%
Over 10	0%	0%
Missing	15%	31%
Sub Totals	100%	100%
Number of signatures/stamps needed to Trade		
0 to 2	0%	8%
3 to 4	31%	31%
5 to 6	23%	23%
7 to 10	15%	8%
Over 10	0%	0%
Missing	31%	31%
Sub Totals	100%	100%
Number of agencies intervening when Trading		

NUMBER OF DOCUMENTS REQUIRED TRADE IN RWANDA		
Details	Export	Import
0 to 2	0%	0%
3 to 4	31%	31%
5 to 6	31%	15%
7 to 10	8%	23%
Over 10	0%	0%
Missing	31%	31%
Sub Totals	100%	100%
Number of Inspection (Physical, Scaring or using sniffer dogs)		
0 to 2	62%	8%
3 to 4	8%	23%
5 to 6	0%	15%
7 to 10	0%	23%
Over 10	0%	0%
Missing	31%	31%
Sub Totals	100%	100%

Table 6 Number of documents required trade in Rwanda

4.8.4 Tanzania's logistics complexity

- **Exports:** A total of 22% of the respondents in Tanzania stated that they require 7 to 10 documents so as to exports gods from the country while 19% stated that they require 5 to 6 documents. The documents required include Bill of lading, Certificate of origin, Commercial invoice, Customs Export Declaration, Release Order, Export permit, Fumigation Certificate, Phytosanitary certificate, Letter of Authorization, Packing List, and SOLAS certificate.
- **Imports:** 60 % of the respondents stated that they require between 3 to 6 documents to import while 19% stated that they require 7 to 10 documents. The document required to import include Bill of lading, Certificate of origin, Commercial invoice, Packing list, Certificate of Conformity, Import Declaration (C41 Form), Delivery order, Authority Letter, Taxpayer identification number certificate and SOLAS certificate. In addition, for some 60% of the goods being exported, between 5 to 10 agencies. For imports, 5 to 10 agencies are involved in 58% of the goods. All the agencies involved g off the documents and for 54% of the exports, over 5 signatures are required. A further 58% of the imports require between 5 to 10 signatures.

Every 4 out 10 exports have to be inspected 5 to 6 times while 54% of imports have to be inspected over 7 times. Some of the recommendations that were made so as to reduce complexity in Tanzania included having a centralized system that allows all agencies to process the entries at the same time , working on 24 hours basis so as to reduce delays and minimizing the number of Government agency involved in International trade. There was also a call to enhance the capacity of the government staff involved in international trade should be trained properly such that they have the necessary skills set and competency to work efficiently.

Details	Export	Import
Document needed to trade (whether electronic or paper)		
0 to 2	0%	0%
3 to 4	0%	19%
5 to 6	19%	41%
7 to 10	22%	19%
Over 10	6%	0%
Missing	53%	22%
Sub Totals	100%	100%
Number of signatures/stamps needed to Trade		
0 to 2	0%	2%
3 to 4	19%	19%
5 to 6	20%	39%
7 to 10	34%	19%
Over 10	20%	0%
Missing	6%	22%
Sub Totals	100%	100%
Number of agencies intervening when Trading		
0 to 2	2%	0%
3 to 4	17%	19%
5 to 6	38%	22%
7 to 10	22%	36%
Over 10	0%	19%
Missing	22%	5%
Sub Totals	100%	100%
Number of Inspection (Physical, Scanning or using sniffer dogs)		
0 to 2	25%	0%
3 to 4	0%	20%
5 to 6	41%	20%
7 to 10	0%	36%

Details	Export	Import
Over 10	0%	19%
Missing	34%	5%
Sub Totals	100%	100%

Table 7 Number of documents required in Tanzania

4.8.5 Ugandans' logistics complexity

- **Exports:** A total of 64% of the shippers have to prepare over 7 documents which include Commercial Invoice, packing List, International Coffee Organization Certificate of Origin, Parking List/Tally Sheet , Bill of Lading , Terminal Handling Receipt , Generalized System Preference (GSP) Form A, Kenya Transit Entry, Customs Export Declaration, Phytosanitary Certificate, Fumigation Certificate , Export License and SOLAS certificate.

- **Imports:** On the other hand, 56% of the importers have to prepare over 10 documents so as to imports goods into Uganda. The documents include Shipping line manifest, Bill of lading, Commercial invoice, Packing list, Customs entry - T810+T812, Insurance Certificate, IM4 – Direct Import for Home use, Import Declaration Form (IDF), Terminal handling receipts, Transit documents, Delivery Order, Final Certification Document (Certification Decision/CoC), Request for Certification (RFC) and SOLAS certificate.

  A minimum of seven agencies are involved in exporting and importing good to and from Uganda with a minimum of seven signatures and above for both exports and imports. All exports and imports in Uganda have to be inspected a minimum of seven times with some being inspected over 10 times. The number of bureaucracy and documents need to be reduced while the AEO concept needed to be implemented in Uganda and since the EAC is a Singe Custom territory and therefore the borders need be removed.

Details	Export	Import
Document needed to trade in your country (whether electronic or paper)		
7 to 10 documents	22%	0%
Over 10	42%	56%
Missing	34%	44%
Subtotals	100%	100%
Number of signatures/stamps needed to Trade		
7 to 10	32%	0%
Over 10	48%	78%
Missing	20%	22%
Subtotals	100%	100%

Number of agencies intervening when Trading		
7 to 10	36%	22%
Over 10	54%	62%
Missing	10%	16%
Subtotals	100%	100%
Number of Inspection (Physical, Scaring or using sniffer dogs)		
7 to 10	16%	0%
Over 10	54%	78%
Missing	30%	22%
Sub Totals	100%	100%

Table 8 Number of documents required trade in Uganda

5 STAKEHOLDERS PERCEPTION SURVEY

The respondent's opinion was sought on the quality of their country's logistics infrastructures such as ports, warehouses, CFS, roads, rail, and airports. This section discusses the perception of users.

5.1 Perception Survey outcome for Burundi

Burundi has one international airport located in Bujumbura. The actual priority of the Government is to improve security and quality of services at Bujumbura International Airport. There is also a plan to build an international airport near Gitega town (in Bugendana commune) as Gitega is planned to be the political and administrative capital of Burundi in near future.

In Burundi, the logisticians thought that Airports and warehouses marginally deteriorated while they believed that the airports improved their performance with a score of 2.6 up from 2.2.

There have been a couple of road projects with objectives to contribute to Burundi's post-war revival by restoring part of the priority road network, generating employment for the rural poor and improving institutional capacity in the road sector. One of the projects sponsored by World Bank had a component to restore part of the existing primary road network either destroyed by the war or deteriorated from years of no maintenance. This component included:

- The rehabilitation of 161.8 km of the 1,418 km of the paved primary road network, linking major cities, production areas and neighbouring countries, and protection works on the River Rusizi embankments;
- Spot repairs on national roads linking the city of Bujumbura with the rest of the country. Another component was to rehabilitate some 350 km of unpaved secondary and communal roads, principally in agricultural production areas.

Burundi does not have railway line and none of the logisticians in Burundi expressed an opinion on the CFS

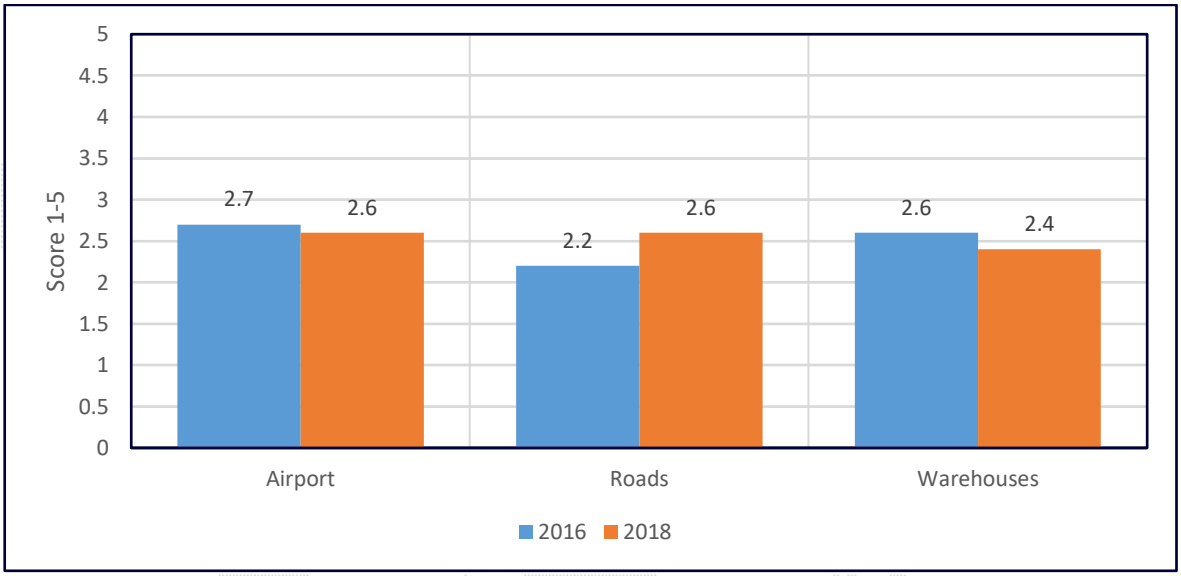


Figure 49 Burundi perception on quality of infrastructure

5.2 Perception Survey outcome for Kenya

In 2016, the logisticians scored the airports in Kenya at 4.2, because of the then ongoing expansion. In 2018, not much activity informs of expansion was taking place, and comparatively the logistician ranked it lower.

No, much change was seen on the roads as the ranking dropped marginally from 3.2 to 3.11. However, this may testament to the fact that the roads were being well maintained in the last two years.

The rail infrastructure had been previously ranked at 1.3, the score improved to 2.83 in 2018. This can be attributed to the ongoing construction of SGR. The warehouse marginally dropped the score from 3.4 to 3.29.

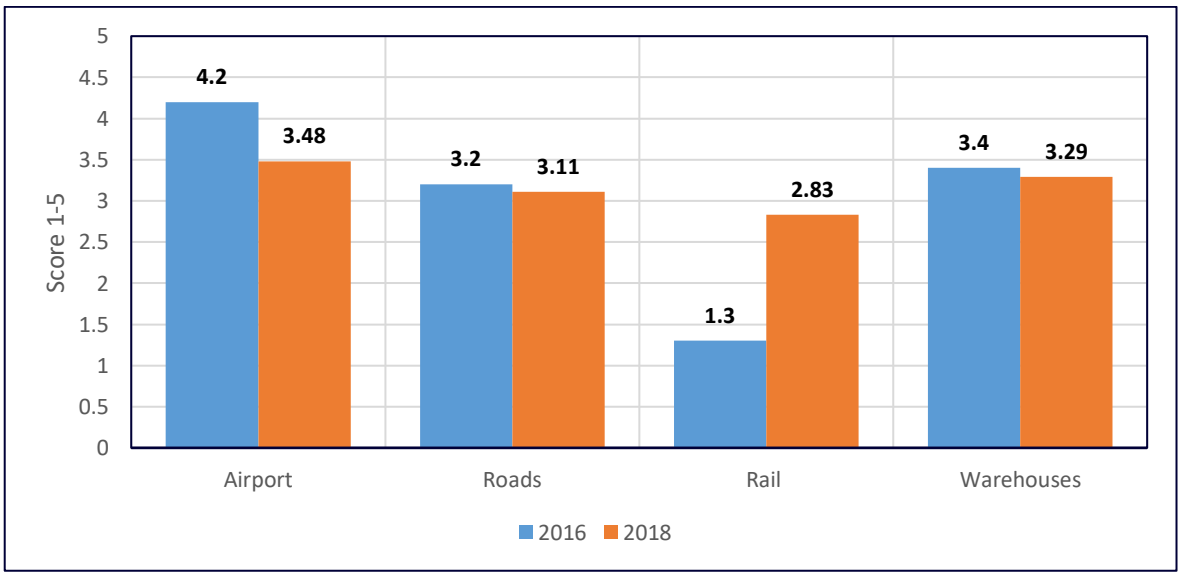


Figure 50 Kenya's perceptions on quality of infrastructure

5.3 Perception Survey outcome for Rwanda

Logistics infrastructure is improving in Rwanda and with the government signing a concession agreement for the construction and operation of Kigali Bagheera Airport, the expectation is high, hence the improved scores.

The scores for the road infrastructure improved from 2.9 to 3.56 a significant movement on logistics infrastructures was witnessed in warehouses, the entrance of Dubai Port in the warehouse market and the subsequent operationalization of the first phase of its inland container depot and logistics hub in Masaka has helped improve the scores for warehouses in Rwanda.

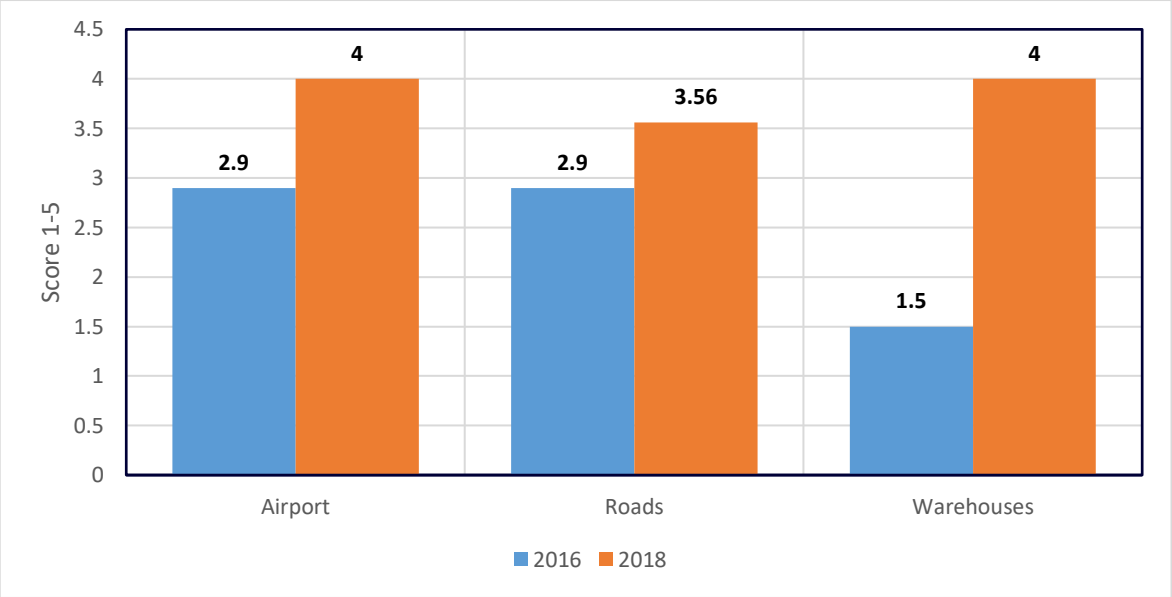


Figure 51 Rwanda Perceptions on Quality of Infrastructure

5.4 Perception Survey outcome for Tanzania

There was very little change in Tanzania perception on infrastructure between 2016 and 2018. There was however, a significant change is in the railway where the service has dropped from 3.0 to 2.6. It is expected that the scores may change in the next LPI when the SGR will be constructed.

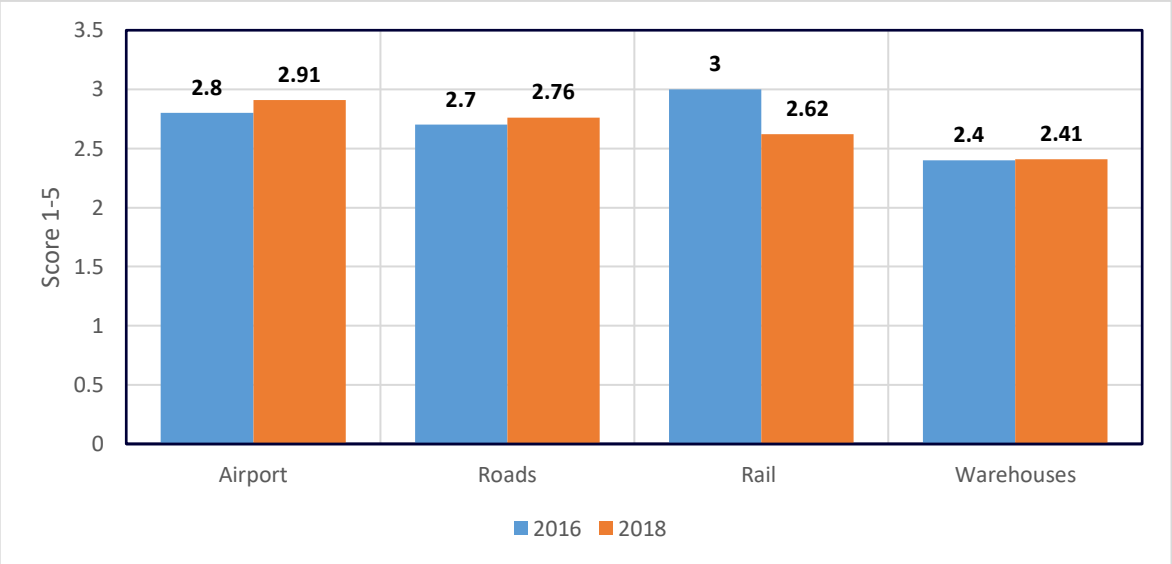


Figure 52 Tanzania perceptions on Quality of Infrastructure

5.5 Perception Survey outcome for Uganda

Uganda's road infrastructure was rated the highest in comparison to the rest, scoring 3.45 out of 5.0 with an improvement score of 1.15 from 2016. This was attributed to the upgraded roads, continued improvement, and maintenance of the initially dilapidated roads, hence improving connectivity.

The Railway system's score also improved from a score of 1.3 in 2016 to 2.5 in 2018 as perceived by the respondents. This was due to rehabilitation of existing railway lines with enabled ease of movement of goods.

The warehousing infrastructure was perceived to have deteriorated from a score of 3.2 out of 5 in 2016 to a score of 2.0 in 2018. This was as a result of the warehouses being barred from renewing their licences to streamline the clearing and forwarding of merchandise, hence leading to a reduced number of operative warehouses. Airport infrastructure improved from 2.7 in 2016 to 3.0 in 2018. This could be explained by the upgrades and expansion in capacity carried out of the existing airports and additional runways that provided alternatives hence efficiency.

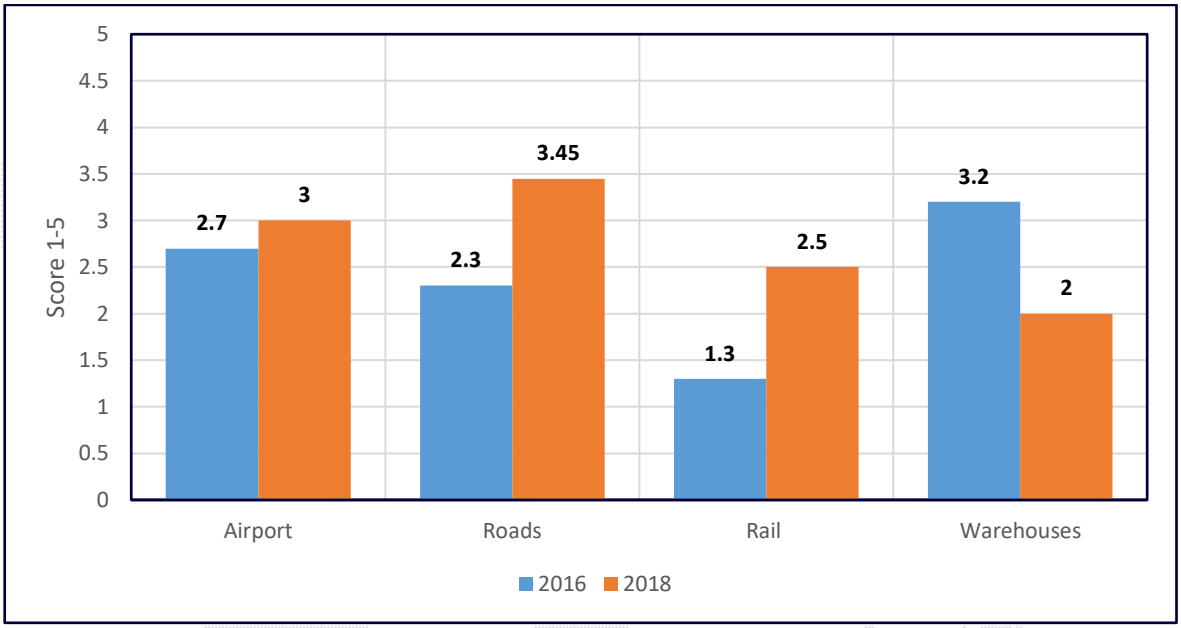


Figure 53 Figure 29 Tanzania perceptions on Quality of Infrastructure

5.6 Efficiency of key Logistics processes

The respondents were requested to assess key logistics processes thereby providing the perceptions of efficiency in terms of clearance operations, trader level of competence, transparency of customs department and advancement in use of paperless systems. The figures below give the percentage distributions on how the respondents perceived the level of efficiencies for the different countries of the region.

In rating the border clearance operations, Rwanda scored the highest at 3.6 out of 5, Tanzania came second with a score of 3.4, Kenya scored 3.1 while Burundi scored 3.0 and Uganda, 2.5 out of 5. The high score in Rwanda can be attributed to the high use of ASYCUDA. In addition, they have also adopted the use of a new mobile friendly web application, which can be used to declare goods to Rwanda Customs, while crossing a border

In relation to trader competence, the respondents rated Tanzania as the highest with a score of 3.1. This can be attributed to the high punitive action that can be taken on anyone who is not compliant in Tanzania. Burundi and Uganda were rated as the lowest at only 2.5 out of 5. Rwanda scored 2.7 and Kenya 2.6.

As far as transparency of customs are concerned , Kenya scored the highest with a score of 3.0 out of 5 followed by Rwanda and Tanzania with 2.9, Uganda 2.5 and last was Burundi with a score of 2.0 out of a probable 5. The high score of Kenya can be attributed to the recent reforms and anti-corruption purge that has taken place in the recent past.

The respondents were requested to score the transparency of other government agencies. Kenya scored the highest with a perception index of 3.4 followed by Tanzania at 3.3, Burundi at 2.7, Rwanda at 2.6 and Uganda came in last with a perception index score of 2.4 out of 5 most of the agencies have delegated their responsibilities to KRA and therefore the process are as transparent as the customs process.

In adoption of paperless systems, Rwanda came scored high with a perception index score of 3.9 followed by Kenya with a score of 2.7, Tanzania with 2.6, at the bottom came Burundi and Uganda with a score of 2.5 out of a probable 5.

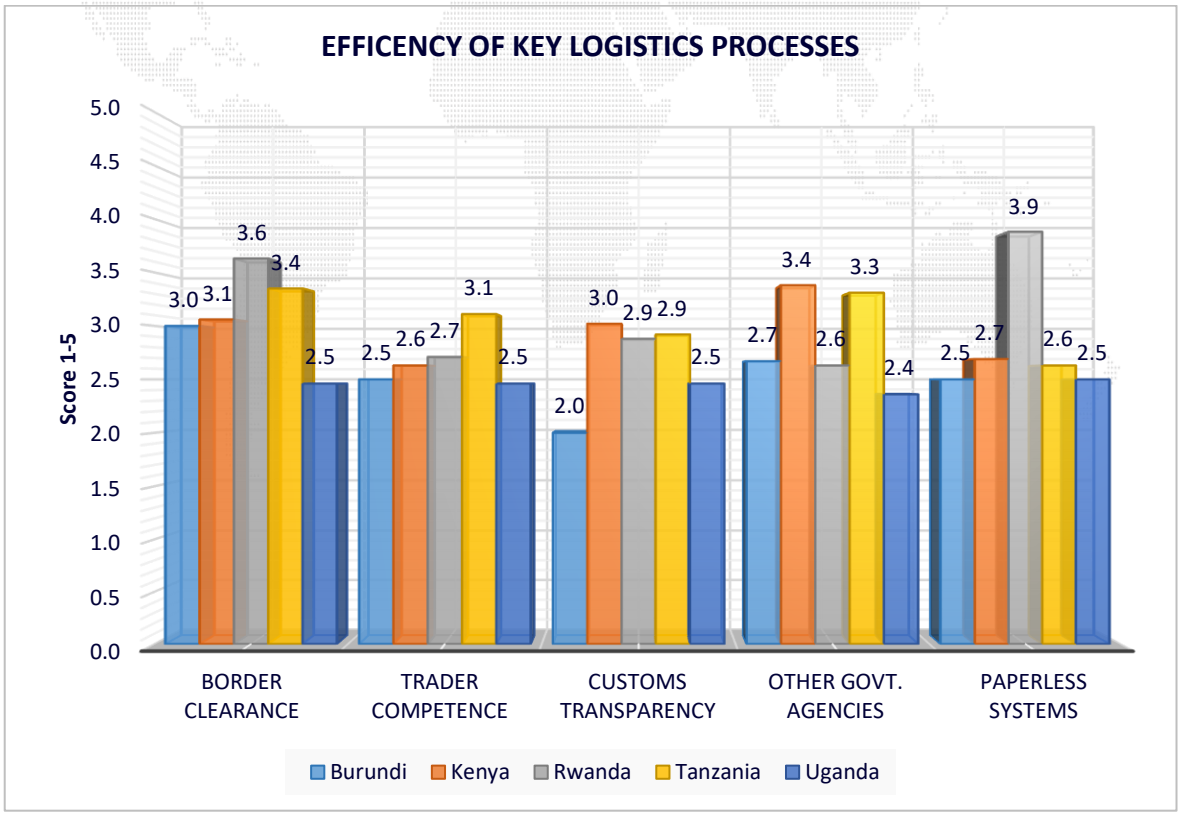


Figure 54 Perceptions on the efficiency of key logistics processes

6 COMPARATIVE ANALYSIS OF MOMBASA AND DAR ES SALAAM PORTS

6.1 Mombasa Port

Mombasa Port is the main gateway to an extensive economic hinterland stretching across Burundi, Eastern Democratic Republic of Congo (DRC), Rwanda, Somalia, South Sudan, and Uganda. It also serves the regions of northern Tanzania and southern Ethiopia. Five of the countries in its hinterland region are landlocked and heavily relies on the port as their trade gateway. The landlocked countries are Burundi, DRC, Rwanda, Uganda, and South Sudan. As such, it remains the most important port and corridor on the East coast of Africa.

Mombasa Port has 19 Deep Water Berths, 2 Bulk Oil Jetties (Tanker Berths), 6 Container Berths, 2 Bulk Cement Berths and 2 Dhow Jetties.

The Mombasa Port throughput performance has grown from 30.34 million tons in 2017 to 30.92 million tons in 2018 representing a growth of 1.9 %. Over the last 5-year period, the Port throughput has steadily grown with a compounded annual growth rate of 5.6 %. The performance saw a significant contribution by the number of containers handled rising from 1.19 million TEUs in 2017 to 1.30 million TEUs in 2018 representing an annual growth of 9.6 %. The port productivity improved, the average ship turnaround time for all vessels had reduced to 3.4 days in 2018 from 3.8 days in 2017. Equally, the average tonnage of cargo per ship working days improved from 5,210 tons in 2017 to 7,496 tons in 2018.

Figure 55 An-oil-tanker-discharging-oil-at-the-Kipevu-Oil-Terminal

In the transit market, a notable growth of 11.2 % from 8.64 million tons in 2017 to 9.60 million tons in 2018 was realized. Uganda cargo continued to dominate the transit market over 82 % of the total transit throughput.

Figure 56 SGR cargo train block train loaded with Maersk containers destined to Nairobi ICD leaves the Port of Mombasa. Source KPA

One of the major developments witnessed in 2018 was the onset of cargo off-take via Standard Gauge Railway (SGR) from and to the Port. The service provision grew from the initial pilot program of one train at the beginning of the year to a daily average of seven trains registering 190,726 TEUs of containers transferred to ICD Nairobi by the close of the year. The expansion of ICD Nairobi as a cargo handling facility is in tandem with the National Government's investment into the SGR and has recorded tremendous achievement in terms of containers handled. In 2018, ICD Nairobi handled 227,513 TEUs up from 30, 459 TEUs in 2017. In addition, the SGR relief line to Mombasa Conventional Cargo terminals started its operations of evacuating non-containerized cargo from the Port.

Output Indicators	%Change 2017-2018	Five Years Compound Annual Growth (%)	2014	2015	2016	2017	2018
Throughput ('000 MT)	1.9%	5.6%	24,875	26, 732	27,364	30,345	30,923
Container Throughput (TEUs)	9.6%	6.5%	1,012,002	1,076,118	1,091,371	1,189,957	1,303,862
Avg. Tonnage of cargo per gang shift	18.8%	8.5%	642	698	916	750	891
Average Tonnage of cargo per ship working day	43.9%	12.7%	4,645	5,036	6,998	5,210	7,496

Table 9 Mombasa Port Performance 2017-2018

SERVICE INDICATOR (DAYS)	2014	2015	2016	2017	2018
Average Port days for All vessel	3.5	3.5	2.9	3.8	3.4
Container Ship Turnaround Time	3.7	3.1	2.5	2.6	2.7
Ship Waiting Time: Gross	1.00	0.86	0.27	1.48	0.69
Ship Waiting Time: Net	2.83	2.44	1.67	5.00	1.55

Table 10 Port Efficiency Performance Indicators, Source Kenya Ports Authority

6.2 Dar es Salaam Port

Dar es Salaam Port is multi- purpose port with 11 berth, and several jetties. It serves as a principal port of Tanzania and handles over 90 % of the counties import and export cargo volumes. Dar es Salaam Port is also a critical gateway port for several Central, Eastern, and Sothern African countries, such as Malawi, Zambia, Democratic Republic of Congo (DRC), Burundi, Rwanda Uganda, and Sothern Sudan.

The total cargo throughput through Dar es Salaam Port for 2018 was 15,693,793 metric tons. Total exports and imports cargo for the same the port for 2018 was reported as 2,451,775 metric tons 12,682,586 metric tons respectively. The overall trends in cargo throughput show a steady increase in cargo from 2016 to 2018. It should be noted that the port throughput from 2017 to 2018 had increased by 1,649,757 metric tons representing an increase of 12% over the same period.

Figure 57 Photo of Dar es Salaam port in 2018

The Dar es Salaam throughput data shows , Tanzania (domestic) cargo represents about 65.7% of all cargo passing through Dar es Salaam Port while transit cargo is dominated by DRC with 9.7% of the total throughput followed by Rwanda with 7.1%, Burundi 2.9% , Uganda 1.6% and rest of the countries sharing the remaining proportion.

In comparison, the Ports of Mombasa and Dar es Salaam serve a similar hinterland cargo catchment area but are relatively different in port throughput levels

Mombasa Port is a much larger port than Dar es Salaam with a throughput twice as large as that of Dar es Salaam at 30.92 million metric ton and 15.69 million metric tons respectively as shown in 2018 performance.

TOTAL CARGO THROUGHPUT		
YEAR	**MOMBASA**	**DAR ES SALAAM**
2018	30 923 000	15 693 793

Table 11 Source: Annual Review and Bulletin of Statistics 2018(KPA) and Central Corridor Transport observatory Annual report 2018

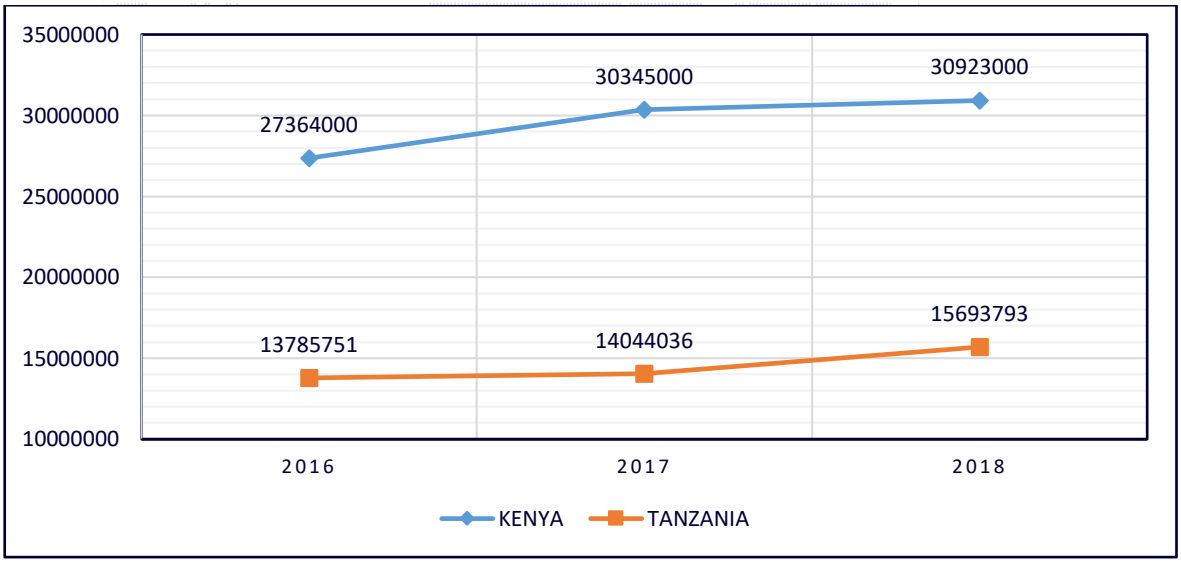


Figure 58 Total Cargo Throughput (000 Mt)

6.3 Dar es Salaam and Mombasa Ports

The East African region is a net importer of goods. The proportion of exports to imports in both ports is about one container exported for every 10 containers imported. This low level of exports out of the region is partly the cause of the relatively high cost of cargo haulage to and from the hinterland destinations. Furthermore, this extreme imbalance in the export and import trades has relegated the ports being basically feeder ports, which affect the sea cost of the trade due to transhipments at hub ports such as Salalah and Jeddah.

The region's container traffic is dismal compared to the world totals. In 2018, the container traffic through Mombasa and Dar es Salaam was 1.3 million TEUs and 529 000 TEUs respectively. Whereas the world totals in 2017 was 753 million TEUs of containers were handled in ports worldwide. In 2017, ports in developing economies in Asia and Oceania handled 461 million TEUs of containers, accounting for almost two-thirds (64 per cent) of world port container traffic. The shares of developing economies in America (8 per cent) and Africa (4 per cent represented as 30 million TEUs) were much smaller of which Mombasa and Dar es Salaam Ports combined was a just 1.13 million TEUs for 2017. Developed economies accounted for one quarter of global containerized port throughput.

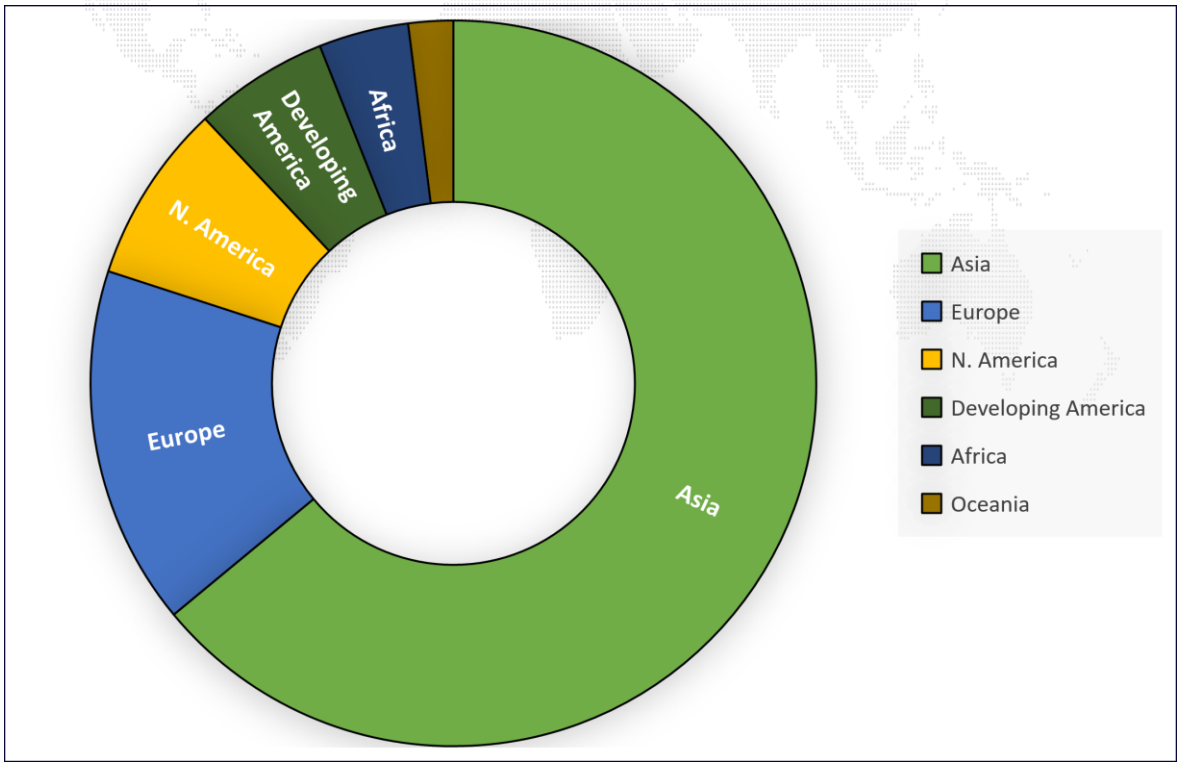


Figure 59 World container port throughput by region 2017 (Percentage share in total TEUs): Source: UNCTAD Maritime Review 2018.

Similarly, the 2017 container vessels turnaround times of 3.8 days and 2.7 days at Mombasa and Dar es Salaam Ports respectively can be said to be relatively high considering low volumes handled annum. 0.92 days is the 2017 Global Average container vessels Turnaround Time. The best performing ports in terms of time efficiency or port turnaround time were Singapore (0.5 days), Hong Kong (China) (0.72 days), and Shanghai (0.79 days).

The average Container Dwell Times for Mombasa Port had increased from 3.70 days in 2017 to 4.02 days in 2018. The figures for Dar es Salaam had apparently decreased from 13.6 days in 2017 to 12.42 days in 2018. Taking into account the relatively low levels of containerised cargo in the region, in general, and at Dar es Salaam, in particular, the Dwell Time of approximately two weeks was certainly detrimental to the Trade.

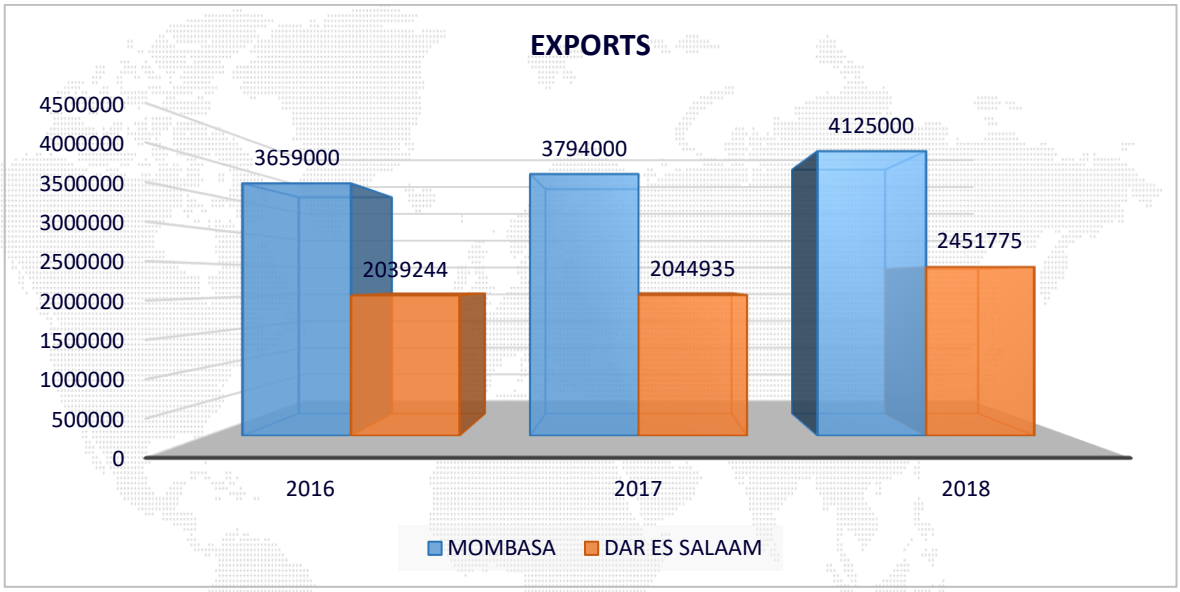


Figure 60 Source: Annual Review and Bulletin of Statistics 2018(KPA) and Central Corridor Transport observatory Annual report 2018

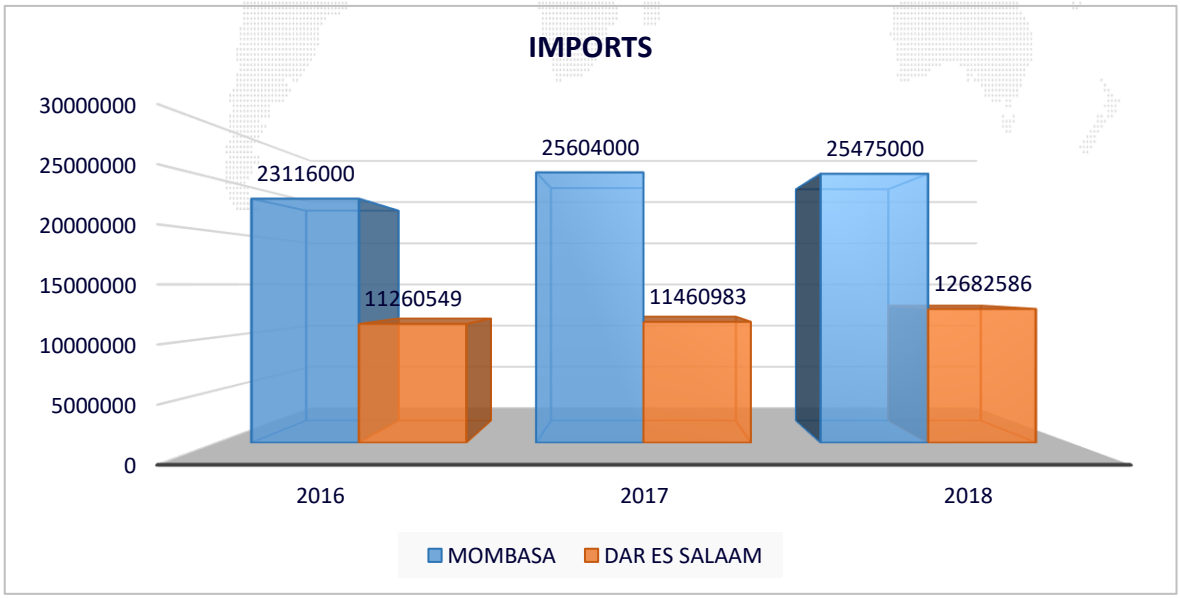


Figure 61 Source: Annual Review and Bulletin of Statistics 2018(KPA) and Central Corridor Transport observatory Annual report 2018

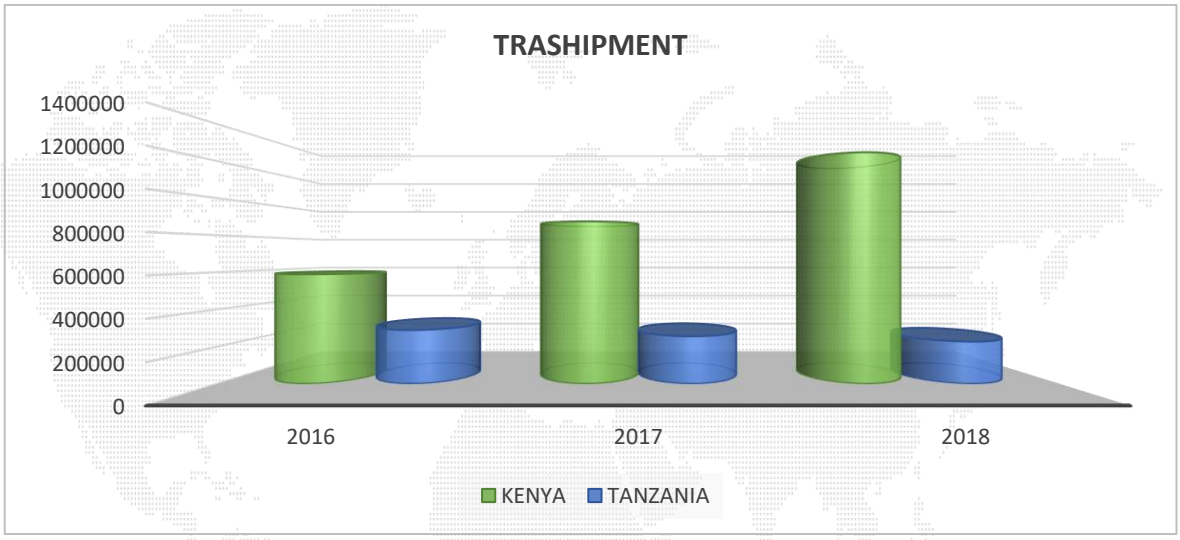


Figure 62 SOURCE: Annual Review and Bulletin of Statistics 2018(KPA) and Central Corridor Transport observatory Annual report 2018

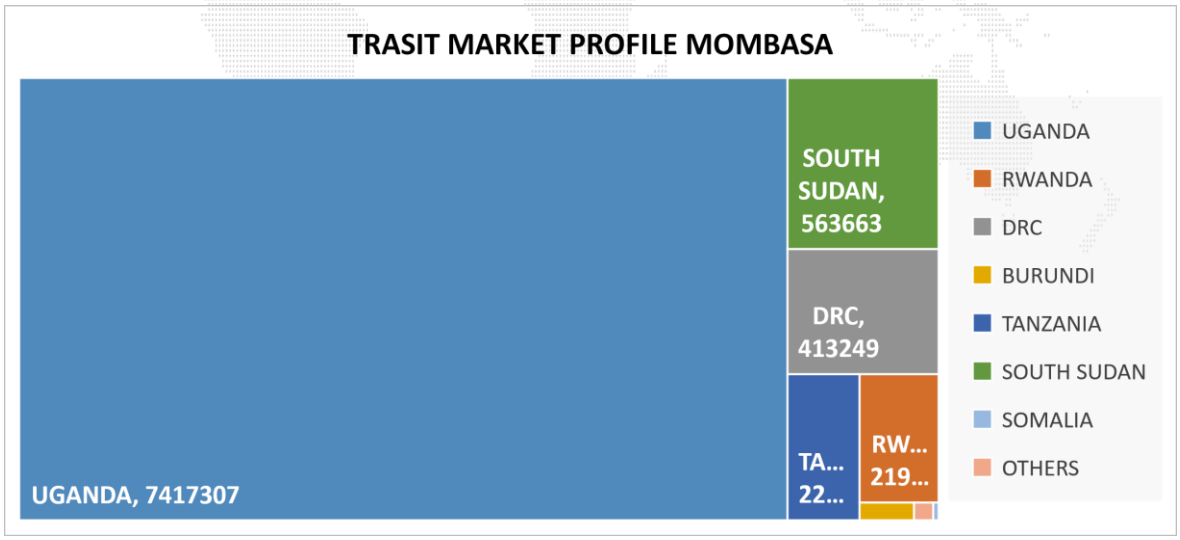


Figure 63 SOURCE: Annual Review and Bulletin of Statistics 2018(KPA)

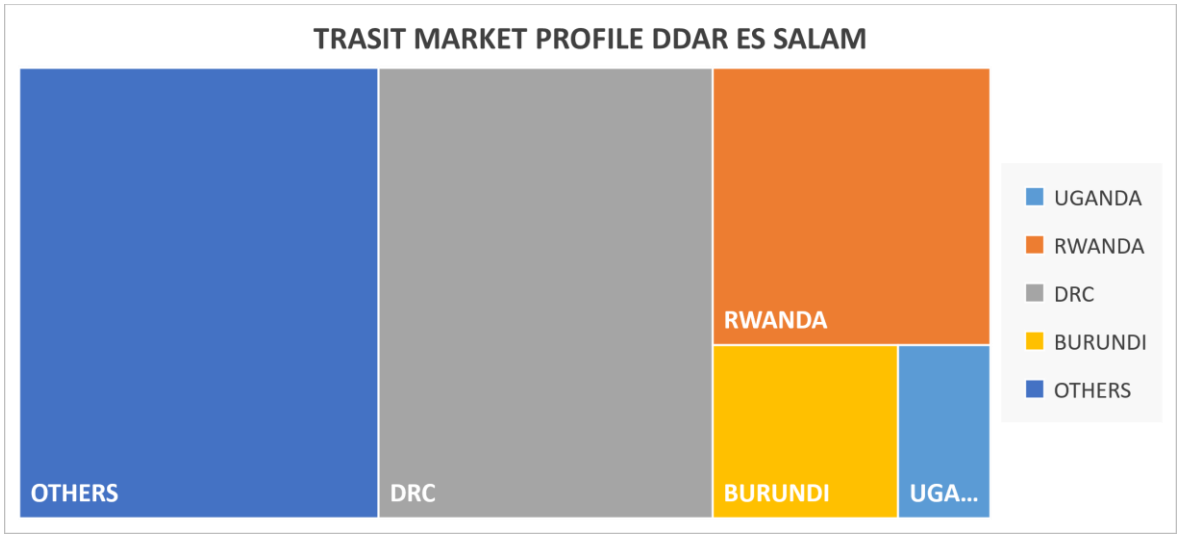


Figure 64 SOURCE: Annual Review and Bulletin of Statistics 2018(KPA)

The difference between the two ports in the transit cargo mix indicates that Mombasa port has a huge percentage of Uganda cargo of over 82% while Uganda transit the transit Cargo in Tanzania is was at a low rate of 4%. Tanzania transit cargo traffic is dominated by DRC Congo with 34%.

Cargo to Uganda is almost exclusively brought through Mombasa port despite all the complaints brought up by the Ugandan shippers about the challenges at the port.

DRC on the other hand almost exclusively uses Dar es Salaam port with Mombasa port only handling 5% of its cargo. This trend is likely to continue for a near future as the Norther Corridor presents a longer rout for DRC with more stops at the border as cargo needs to transit through more customs territories as compared to the more direct Central Corridor route.

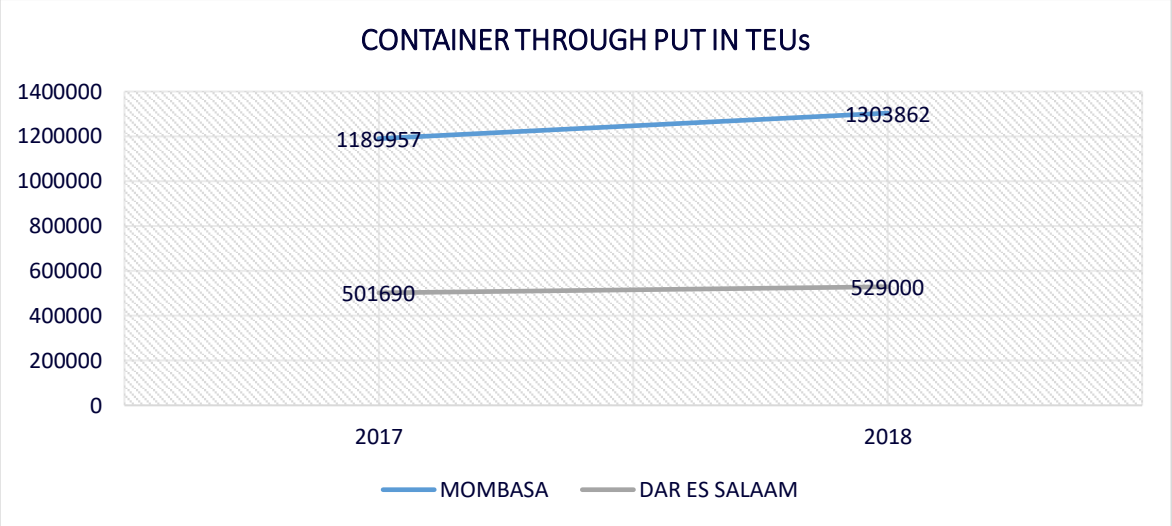


Figure 65 Source: Annual Review and Bulletin of Statistics 2018(KPA) and Central Corridor Transport observatory Annual report 2018

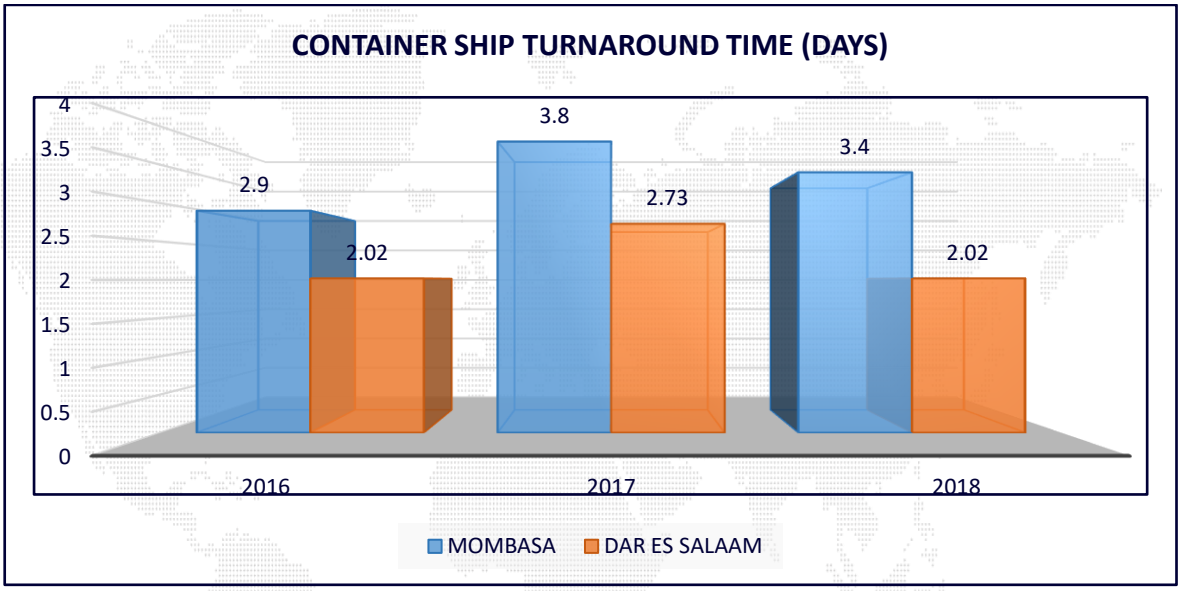


Figure 66 Figure 43 Source: Annual Review and Bulletin of Statistics 2018(KPA) and Central Corridor Transport observatory Annual report 2018

The variance in the ship turnaround time figures for the ports influenced by the disparity in parameters and definitions. Calculations for Dar es Salaam exclude waiting time of "an arrived ship".

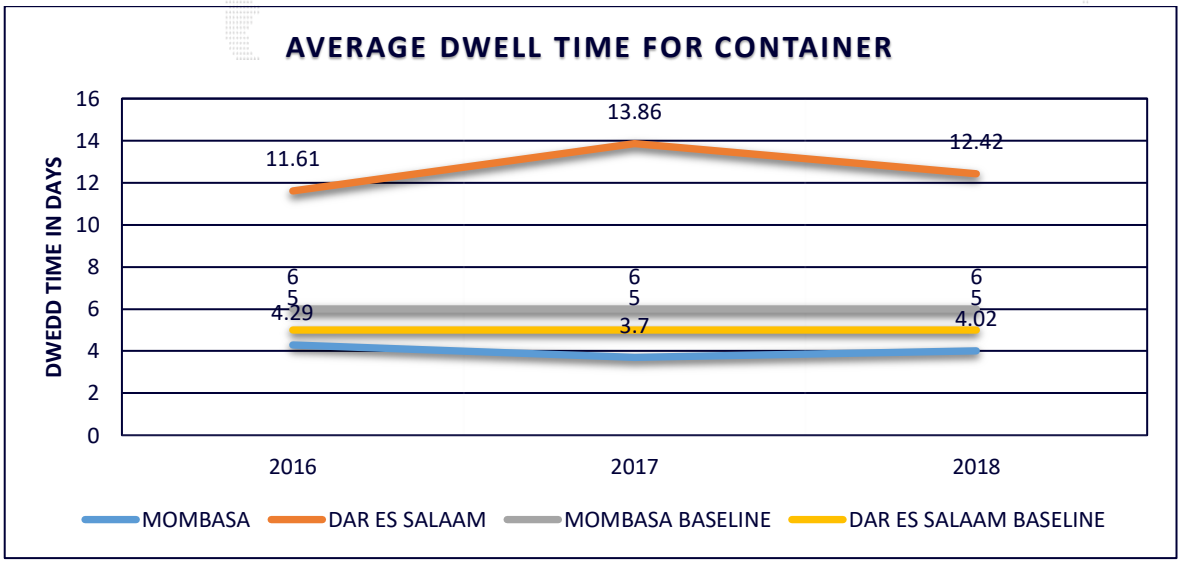


Figure 67 Figure 43 Figure 43 Source: Annual Review and Bulletin of Statistics 2018(KPA) and Central Corridor Transport observatory Annual report 2018

6.4 Benchmarking Mombasa and Dar es Salaam Fees/Charges

Taking the degree of port centrality (shipping liner connectivity), the amount of trade passing through a port, and the size of the hinterland, Durban (South Africa), Abidjan (Cote d'Ivoire) and Mombasa (Kenya) are most likely to ultimately emerge as the major hubs in Southern Africa, West Africa and East Africa, respectively (See Chart Below). The closest rivals to these ports are Lagos-Apapa (Nigeria) and Tema (Ghana) as alternatives to Abidjan, and Djibouti and to a lesser extent Dar es Salaam to Mombasa.

Due to their better operational performance, both Lagos-Apapa and Tema pose significant challenges to Abidjan's emergence as a hub, which might eventually be decided on factors such as on political stability, port performance, and quality of inland connections.

In the case of Durban, there is no real contender as its closest rival, Cape Town, is far from the main markets. The Port of Ngqura (Coega) near Port Elizabeth was built as an alternative to Durban, but despite significant capacity constraints at Durban, it has not attracted any meaningful volumes due to less than favourable inland connections and a lack of critical mass.

The chart below shows the high port performer in TEUs for the year 2017. Mombasa Port comes out as a most significant port. Considering the availability of Tariff data that could be at least show some comparisons between them, the ports of Durban and TEMA have been selected to compare some tariff based cost aspects with Mombasa and Dar Es Salaam Ports.

TEU SHARE OF 10 LARGEST SSA PORTS (TEUs p.a.) 2017

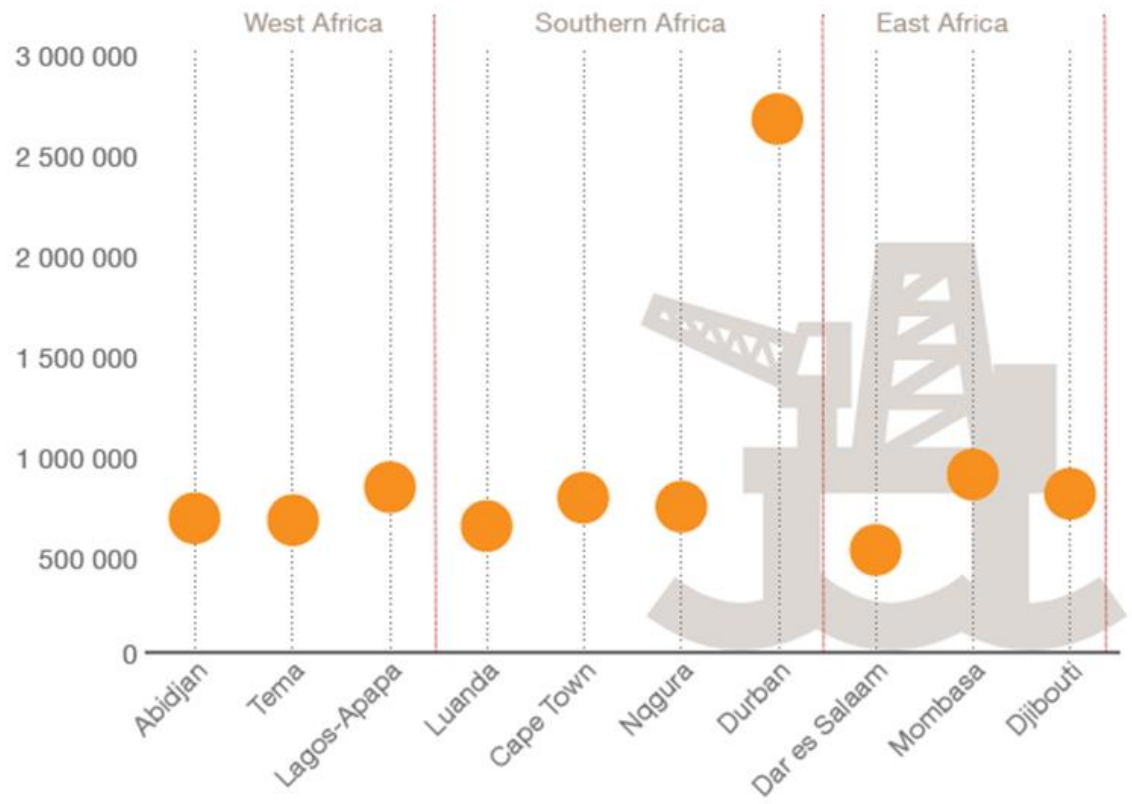


Figure 68 Source: PwC analysis. Compiled from the latest available port information, 2017

The Charts below show that Mombasa and Dar Es Salaam Ports, nearby, have a completely different tariff structure. This makes any cost comparisons inconclusive. However, there are areas where the port is need to consider reviewing:

- Pilotage and mooring and unmooring charges could be reduced
- Container free period on imports is punitive at 4 days just above Durban which is at 3,5 days

However, the ports in the region are generally, less expensive than the ports Durban and TEMA.

PILOTAGE FEES (US dollars)

Pilotage Fees(US$)	Mombasa Port*	Dar Es Salaam Port*	Durban Port****	Lagos (Npa)**	Tema Port***
Pilotage fees (100 GT)	6	4.15	1042.28	1176(Fixed)	67.5
Berthing/ Unberthing	15	14.00		1.28	294
Mooring/unmooring (100 GT)	3.30	1.5			40.56

Figure 69 Source: Respective Port Tariffs 2018

*All the variables in port dues informing port dues are different in all ports based minimum charges.

**Charges are lump sum and fixed

***Charges are lump sum and fixed

****Pilotage dues for services other than normal entering or leaving the port such as towage, standing by etc. are available on application

CONTAINER FREE PERIOD REGIMES (DAYS) AT PORTS

	Imports	Exports	Transit	Transhipment
Mombasa	4	9	Imports-15, Exports-9	15/Tbl 15
Dar Es Salaam (Ticts)	7	7	15	15
Durban	3.5	N/A	7	7
Tema	7	7	21	28

Figure 70 Source: Respective Port Tariffs 2018.

STEVEDORING CHARGES

Type	Mombasa		Dar es Salaam (Ticts)		Durban		Tema	
Containers	20	40	20	40	20	40	20	40
Domestic Imports FCL	90	148	71	107	132.12	200.04	108.70	240.66
Domestic Imports LCL	-	-	142	226				
Domestic Exports FCL	90	148	71	107	132.12	200.04	104.52	196.56
Domestic Export LCL	-	-	142	226				
Transit To Cy FCL	85	125	80	120	132.12	132.12	77.33	146.02
Transit To Cy LCL			160	255				
Transit Receive Into Cy FCL	-	-	80	120	-	-	74.36	140.08
Transit Receive Into Cy LCL	40	65	160	255				

Figure 71 Source: Respective Port Tariffs 2018

SHORE HANDLING CHARGES

	MOMBASA		DAR ES SALAAM		DURBAN		TEMA	
CONTAINERS	20	40	20	40	20	40	20	40
DOMESTIC IMPORTS FCL	105	160	7 per freight ton 3.5 "		156.13	210.07	77.50	152.49
DOMESTIC EXPORTS FCL	53	80					49.85	99.70
IMPORTS TRANSIT	85	125	6 per freight Ton 3.5 "		-	-	11.50	23.00
EXPORTS TRANSIT	40	65						

Figure 72 Source: Respective Port Tariffs 2018.

STORAGE CHARGES AT PORTS

	Mombasa Port		Dar Es Salaam (Ticts) (A)		Durban Port (B)		Tema (C)	
Container Size	20'	40'	20'	40'	20'	40'	TEUs	TEUs
Imports(Days)								
4 Days	Free	Free	7 Days Free	Free	3.5 days Free	Free	7 Days Free/TEUs	
5-7 Days	30	60	20	40	4 Days 80.0	160.80	7 Days 8.14/TEUs	
8-15 Days	35	70	40	80	5 Days 130.72	261.60	Next 7 Days 15.61	
16-24	40	80	-	-	6 Days 212.79	425.19	Thereafter 46.14/TEUs	
Over 24 Days	-	-	-	-	-	-	-	
Exports(Days)								
9 Days	Free	Free	7 days Free	Free	Nil*	Nil*	7 Days Free/TEUs	
10-11 Days	30	60	16	32	6.53	13.06	7 Days 7.72	
12-18 Days	35	70	-	-	-	-	7 Days 14.81	
19-24 Days	40	80	21 days 40	80	-	-	Thereafter 43.77/TEUs	
Over 24 Days	45	90	-	-	-	-	-	
Transit Days (Imports)								
9 Days	Free	Free	15 days Free	Free	7 days Free	Free	Transit(Exports/Imports) FCL Free Period 21 Days 7 Days 2.50/TEUs 7 Days Thereafter 3.50/TEUs	
10-11 Days	30	60	-	-	2.49	5.12		
12-18 Days	35	70	20	40				
19-24 Days	40	80	-	-				
Over 24 Days	45	90	Over 21 Days 40	80	Over 15 Days 10.34	20.91		
Exports(Days)								
15 Days	Free	Free	-	-	-	-	-	
Thereafter (Vessel berths)	16	24	-	-	-	-	-	

Figure 73 Source: Respective Port Tariffs 2018

*From stack opening date up to/including date vessel arrives or load ready

a. Although it appears TICTS is expensive by figures, the difference in free periods and categorization regimes makes it inclusive

b. its tariff arrangements is completely different from the rest,

c, TEMA port tariff is also different.

7 THE COST OF LOGISTICS TO PRODUCTION

This model for computing the logistic cost is based on the value chain analysis to understand the linkage between input and output markets. This approach avoids complex modelling and takes a generalized approach in part due to data limitations.

To address the question of procuring and distributing cost, a value chain framework is adopted as the core methodology. Using the previous assumptions stated in the methodology i.e. of a full container load of a commodity that does not require special treatment. The double value chain recognizes the fact the raw materials arrive at the port of Mombasa, are loaded on to the SGR cargo train, and transported to Nairobi ICD.

The goods are cleared by the CFA and transported by road to the manufacturer's factory where they are transformed to the required final product. The goods are then transported to the trader for onward transmission to the final consumer. We assume that the international freight, insurance, and product costs are excluded from the computation, as they are different for different goods. We also assume a full container of 40 feet because these are out of the control of individual importers and set by international market forces.

This computation focuses on internal costs that can be influenced by policy or other public-private activities geared to reducing such costs.

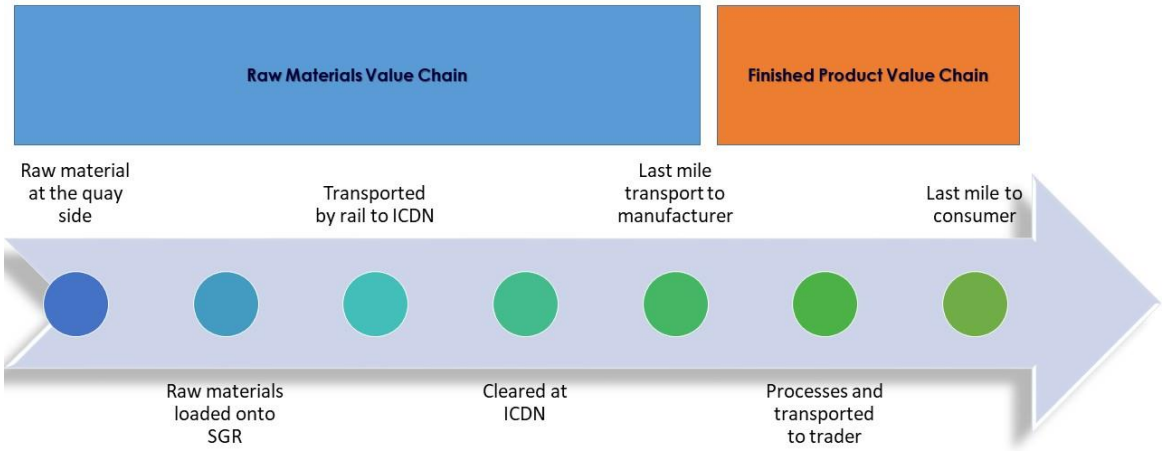


Figure 74 Prepared by AESDC

The table below summarizes the logistics cost for a forty-foot container that does not incur any punitive cost such as re-testing of the cargo by KEBS, or any demurrage charges for the container overstaying at the ICD Nairobi. The port handling charges are $320, while the transport cost to ICD Nairobi ae $700. The average CFA charges are $400 while the cost to last mile transport cost to industrial area is $150. This brings the total cost to $1,570 per fourth foot container.

COST TO PRODUCTION CALCULATION

Details	Per 40 ft. Container
Port handling charges including ICD Nairobi	$320
SGR transport Cost to ICD Nairobi	$700
CFA charges	$400
Last mile transport - Nairobi industrial area	$150
Total Cost	**$1,570**
Cost per ton	**$46.00**

Assumptions:

- One "TEU = 17.272727 metric tons it follows that one 40 ft. (TEU) container weighs 34.545 metric tons.
- Mark-up on cost of production = 30%
- Density of petrol = 0.75
- Density of edible oil = 0.93
- Coffee price per bag at auction =USD 100
- Price of Petrol = USD 1 per 1.33 Kg
- Edible oil = USD 1.3 per kg

COMMODITY	OWNER	AVERAGE COST PER TON IN THE MARKET	COST PER TON BEFORE MARK-UP	% LOGISTICS COST
Coffee	Coffee broker	USD 2,000	USD 1,538.4	3%
Edible oils	Retailer	USD 1,300	USD 1,000	4.6%
Petrol	Petrol station	USD 1,330	USD 1,023	4.5%
Maize	Miller	USD 333	USD 256	18%

8 CONCLUSION

Logistics performance in 2018 can be described as being flat in relation to changes in performance relative to 2017. Stakeholder's perception on performance for Burundi, Kenya Tanzania shows a slight decline in performance. A notable exception for these countries is the increase in perception on the performance of rail in Uganda and Kenya.

Rwanda is the only country that has shown significant improvement in perceptions across the board i.e. in airports, ports roads and warehousing. Burundi saw an increase in performance in one area that is roads however, Burundi as mentioned before shows a slight decline in performance in all other areas.

The results for 2018 show that even though government in the region have embark on numerous reforms, region is starting from a very low base and there is need to take concerted efforts to increase the pace of reforms if the region is to close the gap in terms of logistics performance. There have been a number of improvement but many times it is too little too late. The following reforms need to be hastened:

- Reduce delay in processing of Export Cargo out of airports and ports;
- Introduce post audit for exports;
- Introduce digital signatures and completely eliminate the need for any paperwork;
- Speed up reforms aimed at decongesting the port;
- Facilitate Transhipment services at both maritime ports and airports;
- Increase investment in Human Resources particularly for shippers, clearing agents and truck drivers;
- Pursue a policy that will aim at reducing the age of the regions road transport fleet to reduce cost of maintenance and reduce truck turnaround times occasioned by vehicle breakdowns;
- Support the establishment of electronic markets for freight transport so as to better utilise/optimise the use of the existing fleet of trucks;
- Integrated working Hours for all Agences working at logistics nods such as ports, ICDs, Airports and borders;
- Promote development of required airport infrastructure such as refrigerated storage facilities needed to handle fresh produce that is the predominant airfreight commodity in the region;
- Promote standardization of performance benchmarks across East African ports;

- Lower the cost of SGR freight services so that it can compete on price with road transport;
- Develop a special focus mechanism for coordinating member states responses to the world banks Logistics performance Index. Current responses are scattered, uncoordinated, and unfunded;
- Strengthening the Mandate of the EA. LPS: There is need to strengthen the LPS regional mandate through alliances with shippers across East Africa and the EABC;
- Refine the LPS scope and focus on fewer issues that the SCEA can effectively manage given its limited capacity;

APPENDICES

Liner shipping connectivity index, annual 2019

ECONOMY	2012	2013	2014	2015	2016	2017	2018
Albania	4.818	4.512	5.025	4.389	5.821	2.947	3.584
Algeria	11.289	11.010	13.078	14.690	12.079	13.375	12.811
American Samoa	6.000	6.023	6.687	6.478	7.661	7.577	7.470
Angola	21.610	21.728	22.231	26.778	23.446	25.157	25.863
Anguilla	3.608	3.608	3.608	5.180	5.201	5.106	4.386
Antigua and Barbuda	6.142	6.597	5.590	3.821	4.762	4.762	5.317
Argentina	31.119	33.238	34.458	33.155	32.303	32.457	31.481
Aruba	8.294	8.151	8.116	8.675	6.956	8.836	9.515
Australia	31.024	34.151	32.546	33.526	33.016	34.108	34.346
Bahamas	25.514	25.598	25.407	26.463	27.917	28.090	31.359
Bahrain	21.647	24.087	19.039	20.012	28.502	30.320	25.714
Bangladesh	7.883	9.750	10.978	11.930	12.276	12.506	13.259
Barbados	7.449	7.771	7.715	8.456	9.088	8.555	7.438
Belgium	79.037	78.750	85.814	85.345	87.935	87.512	88.354
Belize	8.431	8.599	8.573	9.070	9.377	8.840	11.491
Benin	14.446	15.989	16.513	16.327	17.045	17.583	17.462
Bermuda	1.689	1.680	1.680	1.680	1.680	1.680	1.680
Bonaire, Sint Eustatius and Saba	4.790	4.679	6.011	6.557	4.916	6.258	4.742
Brazil	34.333	36.493	37.488	36.678	34.173	35.524	34.155
British Virgin Islands	4.156	4.156	4.161	5.781	5.592	5.985	5.499
Brunei Darussalam	5.348	5.348	4.904	8.613	6.159	5.372	7.676
Bulgaria	6.400	6.084	9.233	7.342	6.749	7.134	7.249
Cabo Verde	4.751	4.876	4.640	4.937	5.165	7.105	6.488
Cambodia	5.999	5.955	7.573	9.157	9.025	8.352	7.998
Cameroon	17.205	16.187	14.092	17.056	17.091	24.416	16.297
Canada	38.459	44.122	39.089	40.304	43.993	47.231	42.790
Cayman Islands	2.045	2.045	1.641	1.657	1.657	1.510	1.915
Chile	30.161	29.796	29.649	30.660	35.188	37.833	35.676
China	129.260	134.797	138.882	141.581	140.078	151.299	151.909
China, Hong Kong SAR	91.387	93.115	94.225	91.071	89.156	93.536	89.470
China, Taiwan Province of	59.831	61.267	69.440	68.509	68.289	68.680	79.021
Christmas Island	..	..	..	..	1.406	1.406	1.406
Cocos (Keeling) Islands	..	..	..	..	..	..	..
Colombia	34.515	39.362	42.859	49.598	46.568	48.486	45.415
Comoros	6.570	6.620	6.958	6.829	5.789	5.917	6.718
Congo	18.662	19.873	20.936	25.807	24.227	24.121	25.564
Cook Islands	2.955	3.282	3.282	2.846	2.645	2.599	2.676
Costa Rica	18.533	18.958	17.813	17.491	17.341	18.038	18.494
Côte d'Ivoire	22.014	22.870	22.953	20.358	18.827	17.287	18.812
Croatia	18.942	20.878	23.609	26.655	30.358	32.197	35.594
Cuba	9.907	10.413	8.688	11.396	10.256	8.488	9.606
Cyprus	16.037	16.282	17.383	19.993	13.764	18.136	18.637
Dem. Rep. of the Congo	9.620	9.253	5.820	6.593	6.145	6.415	5.507
Denmark	38.693	44.519	45.772	42.945	45.650	48.347	49.573
Djibouti	19.775	21.055	24.039	31.619	28.460	34.529	31.411
Dominica	5.278	4.815	5.178	5.889	5.190	7.515	6.210
Dominican Republic	28.534	27.733	27.448	30.492	36.378	39.572	38.779
Ecuador	23.359	21.568	21.810	31.659	31.058	25.564	33.100
Egypt	53.984	57.237	59.026	58.545	54.042	62.381	66.721
El Salvador	8.425	8.586	8.913	9.290	9.296	9.755	9.470
Equatorial Guinea	8.973	10.193	11.116	5.695	11.248	11.727	12.205
Eritrea	..	..	2.826	2.826	2.826	4.868	4.593
Estonia	8.061	11.226	8.471	8.221	8.490	8.251	10.939
Falkland Islands (Malvinas)	..	..	..	..	..	..	..
Faroe Islands	4.524	4.769	4.617	4.618	4.715	4.721	3.194
Fiji	14.362	14.469	12.742	12.472	13.273	13.333	11.200

ECONOMY	2012	2013	2014	2015	2016	2017	2018
Finland	15.069	15.948	16.236	15.964	14.428	15.161	16.739
France	66.258	68.036	68.732	74.213	71.387	75.952	72.554
French Polynesia	10.796	9.677	9.463	13.291	13.470	13.765	10.785
Gabon	13.445	11.739	10.399	11.469	13.304	13.058	14.658
Gambia	10.540	10.600	10.395	7.521	6.146	8.516	6.966
Georgia	5.766	5.950	5.677	5.559	6.011	6.683	6.837
Germany	79.777	84.202	86.871	88.012	83.550	87.411	82.828
Ghana	21.576	22.729	23.064	20.228	20.537	20.144	19.844
Gibraltar	1.330	2.627	3.444	3.442	1.715	3.300	2.174
Greece	41.874	45.239	45.435	44.294	45.350	51.884	60.915
Greenland	1.738	1.699	2.343	2.343	2.110	2.110	2.110
Grenada	7.447	7.380	6.669	7.139	6.452	7.653	6.085
Guam	9.323	9.326	9.326	9.625	9.306	8.360	8.305
Guatemala	19.476	19.924	20.637	22.082	21.946	25.675	25.095
Guinea	10.406	10.768	9.279	11.026	11.509	9.580	11.233
Guinea-Bissau	4.268	5.510	4.155	4.097	6.012	5.493	4.551
Guyana	8.727	8.825	9.042	10.112	9.948	10.085	9.226
Haiti	8.773	9.548	9.825	10.315	10.972	10.589	11.123
Honduras	13.639	14.051	13.312	14.165	14.427	13.321	13.384
Iceland	5.682	5.834	5.731	5.983	5.525	5.933	4.420
India	46.086	46.398	49.399	57.182	54.628	55.306	55.538
Indonesia	36.034	34.873	35.696	33.898	42.511	45.682	44.360
Iran (Islamic Republic of)	23.973	18.803	19.716	31.361	36.843	38.242	19.799
Iraq	6.555	9.231	8.323	11.853	22.894	21.744	24.656
Ireland	11.543	11.768	11.768	12.683	11.544	12.148	14.590
Israel	31.468	30.456	31.380	33.032	37.431	40.622	42.875
Italy	65.519	65.414	64.989	64.949	65.048	64.964	72.790
Jamaica	27.207	26.643	32.426	24.101	31.087	32.055	33.195
Japan	67.422	64.872	74.753	76.682	69.344	71.054	71.216
Jordan	21.197	20.654	21.865	26.554	26.147	32.317	33.931
Kenya	14.208	14.492	14.675	15.292	16.045	21.401	16.984
Kiribati	5.805	3.825	4.729	5.583	5.832	5.783	2.013
Korea, Dem. People's Rep. of	..	..	..	..	..	..	..
Korea, Republic of	90.359	94.086	98.316	99.807	98.529	102.289	105.114
Kuwait	10.059	12.280	11.650	12.375	10.758	10.851	12.585
Latvia	7.228	8.183	7.577	7.919	6.784	8.486	11.233
Lebanon	36.004	36.821	37.610	38.897	39.134	40.647	38.543
Liberia	7.525	9.518	8.537	7.104	7.431	7.921	7.825
Libya	14.092	15.460	18.853	9.819	11.617	14.425	14.699
Lithuania	11.890	12.086	13.726	14.813	12.915	20.258	20.689
Madagascar	13.389	12.559	10.666	10.506	9.309	9.707	9.164
Malaysia	86.690	90.639	92.214	94.788	90.700	93.644	93.801
Maldives	7.801	7.691	3.124	7.380	3.130	7.220	7.421
Malta	40.923	42.090	44.096	47.815	44.612	46.302	46.683
Marshall Islands	6.755	4.929	5.683	6.368	7.705	7.485	4.919
Mauritania	6.600	8.111	7.068	8.992	7.101	11.413	8.284
Mauritius	24.219	20.619	24.272	26.802	28.680	29.733	28.008
Mexico	39.916	39.181	42.430	46.306	43.986	46.113	45.495
Micronesia (Federated States of)	2.428	2.428	2.499	2.499	2.697	4.525	4.471
Montenegro	3.665	4.163	3.912	4.384	5.253	3.189	3.345
Montserrat	..	2.838	3.138	4.460	4.481	4.386	4.386
Morocco	51.082	57.520	57.829	61.742	63.681	65.041	58.185
Mozambique	14.698	15.087	13.560	12.823	11.135	12.125	12.133
Myanmar	7.137	7.582	9.092	11.281	9.094	9.970	8.465
Namibia	16.829	16.921	18.021	16.834	16.016	15.541	15.359
Nauru	..	2.329	2.450	2.115	1.877	2.200	2.200
Netherlands	76.035	81.701	82.945	84.322	83.492	89.119	88.030
Netherlands Antilles	_	_	_	_	_	_	_

ECONOMY	2012	2013	2014	2015	2016	2017	2018
New Caledonia	13.597	14.039	12.969	13.898	14.487	12.350	11.021
New Zealand	22.326	23.555	23.402	22.375	34.451	22.924	31.863
Nicaragua	8.402	8.104	7.878	8.395	8.395	8.743	7.819
Nigeria	22.696	23.964	25.340	23.085	22.591	20.500	21.438
Niue	1.680	..	..	..	..	..	..
Norfolk Island	2.601	2.601	2.685	0.778	0.771	1.298	0.741
Northern Mariana Islands	5.136	5.169	5.164	5.350	7.770	5.175	5.120
Norway	10.666	11.099	10.894	10.771	8.826	10.550	11.113
Oman	44.885	45.857	41.899	44.871	53.860	53.785	51.969
Pakistan	28.540	27.722	32.942	34.422	33.113	35.283	34.060
Palau	3.870	3.904	3.898	3.782	3.568	3.572	3.405
Panama	42.821	41.669	44.151	48.188	47.386	50.061	48.939
Papua New Guinea	11.508	12.395	12.747	12.375	13.228	12.673	12.627
Paraguay	9.853	0.859	0.859	0.859	0.859	0.859	1.140
Peru	32.224	31.852	31.908	32.606	37.683	39.393	38.908
Philippines	24.368	25.903	22.379	27.996	28.112	29.322	30.630
Poland	38.469	44.818	47.068	46.760	47.944	53.888	51.686
Portugal	47.056	47.116	46.149	46.029	46.942	60.243	47.136
Qatar	7.194	9.099	9.394	8.607	26.596	34.959	35.761
Republic of Moldova	0.548	0.548	0.684	0.684	0.684	0.684	0.658
Romania	22.628	21.872	26.115	25.373	26.845	26.167	25.470
Russian Federation	45.110	47.485	47.174	43.891	41.166	43.711	38.073
Saint Kitts and Nevis	3.821	4.983	5.183	6.182	6.382	6.381	6.636
Saint Lucia	7.973	7.933	7.333	7.124	7.134	7.379	6.672
Saint Vincent and the Grenadines	7.478	7.654	5.906	8.119	7.880	6.697	6.969
Samoa	7.113	6.477	6.454	6.954	6.659	6.835	8.074
Sao Tome and Principe	7.273	6.950	7.327	6.554	6.330	5.525	6.320
Saudi Arabia	52.122	52.271	55.504	52.887	54.161	58.167	62.971
Senegal	13.392	14.529	15.524	16.784	17.177	15.769	16.606
Serbia and Montenegro	_	_	_	_	_	_	_
Seychelles	9.279	9.791	9.017	9.171	8.156	8.213	9.114
Sierra Leone	9.224	10.253	10.399	8.144	8.171	9.019	7.260
Singapore	96.218	93.794	100.950	102.478	102.435	110.832	108.081
Slovenia	20.685	21.519	25.737	27.700	31.839	32.607	36.664
Solomon Islands	9.567	11.389	11.153	10.749	10.726	10.539	10.658
Somalia	4.896	6.461	7.003	8.165	8.964	8.566	8.416
South Africa	35.840	38.034	37.488	36.551	37.848	38.001	34.583
Spain	75.620	83.380	82.111	88.124	85.842	86.402	84.214
Sri Lanka	39.716	43.557	49.220	53.812	61.263	62.614	62.122
Sudan	9.785	12.004	12.881	17.472	18.841	13.147	9.328
Sudan (...2011)	_	_	_	_	_	_	_
Suriname	8.977	8.997	9.214	9.541	9.377	8.942	9.057
Sweden	41.124	46.983	37.805	45.740	48.824	50.925	50.652
Syrian Arab Republic	15.106	15.195	16.403	12.463	7.874	9.394	9.543
Thailand	39.469	40.905	42.547	44.636	42.373	45.062	52.915
Timor-Leste	5.910	7.016	5.778	2.861	2.907	2.907	2.907
Togo	14.214	18.747	22.478	26.545	29.152	31.687	29.002
Tonga	6.895	6.635	5.663	7.340	8.265	8.180	7.593
Trinidad and Tobago	20.057	21.143	20.459	21.036	13.336	16.093	15.432
Tunisia	11.238	11.461	9.177	8.081	8.663	8.231	7.835
Turkey	51.915	52.806	53.945	53.717	53.860	56.314	57.452
Turks and Caicos Islands	..	..	..	..	..	..	1.170
Tuvalu	3.970	2.959	2.959	3.175	2.033	1.984	2.013
Ukraine	24.457	24.170	27.497	26.342	27.617	27.650	26.880
United Arab Emirates	62.719	60.998	60.941	65.232	67.865	72.872	71.487
United Kingdom	75.207	76.854	86.881	88.773	85.573	88.676	84.858
United Republic of Tanzania	14.575	14.737	12.764	14.729	13.848	14.898	15.939
United States of America	85.391	88.241	89.361	88.763	90.023	90.687	90.002

ECONOMY	2012	2013	2014	2015	2016	2017	2018
Uruguay	26.870	27.845	30.462	29.640	29.414	29.743	28.864
Vanuatu	8.829	9.497	8.755	8.586	8.536	8.238	7.913
Venezuela (Bolivarian Rep. of)	22.654	23.061	15.438	15.574	11.985	13.628	13.068
Viet Nam	42.142	41.829	48.396	60.058	57.574	60.380	66.512
Wallis and Futuna Islands	3.970	2.959	2.959	2.959	2.033	1.984	2.013
Yemen	17.707	18.230	16.372	17.218	9.890	6.852	6.695

Definition of Key Terms

A. Time

Time was measured in hours, where one day is 24 hours (for example, 22 days were recorded as 22 × 24 = 528 hours). If customs clearance takes 7.5 hours, the data was recorded as is.

Alternatively, suppose that documents are submitted to a customs agency at 8:00 a.m., are processed overnight, and can be picked up at 8:00 a.m. the next day. In this case, the time for customs clearance would be recorded as 24 hours because the actual procedure took 24 hours.

Information about time was obtained from the freight forwarders, as they are the ones who get the information first hand. It is estimated that there are 3,000 freight forwarders in the EAC countries.

Using the county GDP as weights the proposed sampling sample size was distributed on a prorate basis is summarized. Some of the time aspects to be computed include:

- Sea exports time to export to principle overseas export markets
- Sea imports time to import from principle overseas import markets
- Sea port dwell time
- Airport dwell time
- Freight truck turnaround time
- Freight train turnaround time
- Time to deliver products by pipeline

B. Cost

Costs are reported in U.S. dollars. Contributors were be asked to convert local currency into U.S. dollars based on the exchange rate prevailing on the day they answer the questionnaire. Contributors are private sector experts in international trade logistics and are informed about exchange rates and their movements. Insurance cost and informal payments for which no receipts are issued are excluded from the costs recorded. Some of the aspects of the cost to be computed include:

- Airfreight export charges
- Airfreight import charges
- Sea freight export charges:
- Sea freight import charges
- Road freight charges
- Rail freight charges
- Oil pipeline charges

C. Complexity

Documentary compliance captures the complexity associated with compliance with the documentary requirements of all government agencies of the origin economy, the destination economy, and any transit EAC partner states. The aim is to measure the total burden of preparing the bundle of documents that enable completion of the international trade for the product and partner pair assumed in the case study.

All electronic or paper submissions of information requested by any government agency in connection with the shipment are considered to be documents obtained, prepared, and submitted during the export or import process.

All documents prepared by the freight forwarder or customs broker for the product and partner pair assumed in the case study are included regardless of whether they are required by law or in practice.

Any documents prepared and submitted so as to get access to preferential treatment— for example, a certificate of origin—are included in the calculation of the time, cost, and complexity for documentary compliance. Any documents prepared and submitted because of a perception that they ease the passage of the shipment are also included (for example, freight forwarders may prepare a packing list because in their experience this reduces the probability of physical or other intrusive inspections).

In addition, any documents that are mandatory for exporting or importing were included in the calculation of time, cost, and complexity. Documents that need to be obtained only once and were not counted. However, documents that are needed so as to produce and sell in the domestic market—such as certificates of third-party safety standards testing were not included unless a government agency requires these documents during the export process.

Key Informants Interviews LPS 2018

NAME OF INFORMANT	INSTITUTION/ORGANISATION
1. Dr. Ely Karuhanga	Uganda Chamber of Mines and Petroleum
2. Mr Agayo Ogambi	Shippers Council of East Africa (SCEA)
3. Mr Alex K. Zulu	Intergovernmental Standing Committee on Shipping (ISCOS)
4. Mr Alex Mbonye	Uganda Shippers Council
5. Mr Ali Mwambire	Kenya Ports Authority (KPA)
6. Mr Anthony Murithi	Mombasa Port Community Charter (MPCCC)
7. Mr Apollo Kashauku	Ministry of Works and Transport – Uganda (MOWT)
8. Mr Ategeka Henry	Maritime Administration - Uganda
9. Mr Auni Bhaiji	Bolloré Transport & Logistics Kenya
10. Mr B.W. Rwabwogo	Mukwano group of companies
11. Mr Betson Kiwanga	Tanzania Truck Owners Association (TATOA)
12. Mr Charles Mwebembezi	Bolloré Logistics Uganda
13. Mr Daniel Kabaggoza	Standard Gauge Railway – Uganda
14. Mr Daniel Kiange	Kenya Trade Network Agency (KenTrade)
15. Mr Darren Brown	DBSchenker
16. Mr David B. Muhwezi	Uganda National Roads Authority (UNRA)
17. Mr Ernest Ondego	Grain Bulk Handlers Ltd
18. Mr Fred P.Babalanda	Northern Corridor Transit and Transport Coordination Authority (NCTTCA)
19. Mr Gideon Chikamai	Northern Corridor Transit and Transport Coordination Authority (NCTTCA)
20. Mr Gilbert Langat	Shippers Council of East Africa
21. Mr Harriet Wandira	Bolloré Transport & Logistics Tanzania
22. Mr Henry Ogoye	Kenya Airports Authority (KAA)
23. Mr Ian Bakiza	Uganda National Roads Authority
24. Mr Ivan Emmanuel Mwondha	World Bank
25. Mr Jackson Wambua	Kenya Association of Manufacturers (KAM)
26. Mr Jacob Bwana	Kenya Airports Authority (KAA)
27. Mr Jean Luc Miravumba	Bolloré Transport & Logistics Rwanda
28. Mr Jjemba K Mulondo	National Logistics Platform - Uganda
29. Mr John Gathaiwa	Kenya Revenue Authority (KRA)
30. Mr John Opiro	ELEQTRA (East Africa) Limited
31. Mr Juma Ahmed	Kenya Maritime Authority (KMA)
32. Mr Kajuna Benon Mwebaze	Ministry of Works and Transport - Uganda

NAME OF INFORMANT	INSTITUTION/ORGANISATION
33. Mr Katushabe Winstone	Ministry of Works and Transport - Uganda
34. Mr Ludovic DUREL	European Union
35. Mr Michael De Abreu	Bolloré Logistics Uganda
36. Mr Narayana Narasapa	Buzeki Logistics
37. Mr Opolot Michael	Civil Aviation Authority – Kenya (CAA)
38. Mr Peter Balimunsi	Ministry of Trade Industry and Cooperatives - Uganda
39. Mr Peter Musola	Kenya Airways - Cargo
40. Mr Peter Njoroge	State Department For Trade - Kenya
41. Mr Shreekesh Karia	Spedag Interfreight Tanzania Limited
42. Mr Silver Ojakol	Ministry of Trade, Industry and Cooperatives - Uganda
43. Mr Steve Arobo	Momentum Freights Ltd
44. Mr Steven Wakasenza	Uganda Railways Corporation (URC)
45. Mr Tumaini Nagoya	Kenya Maritime Authority (KMA)
46. Mr Victor Ogalo	Kenya Privet Sector Alliance (KEPSA)
47. Mr Weldon K. Korir	Kenya Ports Authority (KPA)
48. Ms Beatrice Mundia	Kenya Revenue Authority (KRA)
49. Ms Berthe Morisho M.	L'Office de la gestion de fret multimodal (OGEFREM)
50. Ms Diana Karimba	National Logistics Platform – Uganda
51. Ms Diana Karimba	National Logistics Platform - Uganda
52. Ms Evelyn Manyiraho Ahabyona	National Planning Authority - Uganda
53. Ms Florence Otory	Kenya Revenue Authority (KRA)
54. Ms Sarah Kasheka	Uganda Revenue Authority
55. Ms Victoria Nanjala	Kenya Association of Manufacturers' (KAM)

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