Regional Office for Capacity Building

World Customs Organization

East and Southern Africa Region

Impact and Implications of the **WTO Trade Facilitation Agreement in East and Southern Africa**

2nd WCO ESA Regional Research Conference

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PART I

Acknowledgments

Background

ACKNOWLEDGEMENTS

One of the greatest sons of East and Southern Africa, Nelson Mandela said, ‘It always seems impossible until it is done!’ We did it, then did it again! The East and Southern Africa Research Programme was birthed by our Governing Council, comprising the Directors General of the region. We are thankful for your wisdom, for by and by, we head towards your dream of more and more research in the region. The World Customs Organization (WCO) has remained steadfast in supporting this program, especially through its Research Unit, currently headed by Mr. Thomas Cantens. We keep drinking from your taps of grace. We acknowledge the Customs Cooperation Fund (CCF) Korea for supporting and funding the 2nd ESA Regional Research Conference, and your official Mr. Kwangseon Cho for making it come to pass.

We salute our Members, who together with the global Customs family, brought over 200 delegates from 20 nations to the conference that birthed this book. To our researchers, for you moiled and toiled researching and working, the world will always remain indebted to you for your expositions. We remain ever for thankful to the African Union Commission as well as our Regional Economic Communities for their continued partnerships.

Hats off to the WCO Regional Training Centre (RTC Kenya), under the Kenya Revenue Authority (KRA) for hosting the 2nd Regional Research Conference. Of special mention are the Commissioner General, Mr. John Njiraini and the RTC team comprising Ms. Beatrice Memo, Dr. Fred Mugambi, Mr. Mukhweso, Ms. Eunice Njenga, Ms. Caroline Wairimu, among others. Thank you for bringing along the Chief Guest, Dr. Mukhisa Kituyi, Secretary General of the United Nations Conference on Trade and Development (UNCTAD), among others dignitaries.

Finally, to Dr. Dennis Ndonga of Murdoch University, Australia, and Dr. Nellie Dhaera of Zimbabwe Revenue Authority, you have been excellent partners, supervisors to the candidates and walking with us through it all. Thank you for sacrificing your time for our region and the world.

Larry Liza

Director.

BACKGROUND

This book presents the papers, report and outcomes of the 2nd WCO ESA Regional Research Conference which was hosted by the Regional Training Centre (RTC) Kenya on the 23rd and 24th November, 2017, at the Kenya School of Monetary Studies (KSMS) in Nairobi, Kenya. It was co-organized by the ROCB and the RTC Kenya and attended by more than 200 participants from 20 nations. Participants included researchers and officials from various Customs administrations in the East and Southern Africa Region, WCO ESA Regional Training Centres (RTCs), the WCO, the African Union, the World Bank, Africa Development Bank, Regional Economic Committees (RECs) (the East African Community), the Government of Australia, Kenyan ministries, the private sector, academia, and other cooperating partners.

The theme of the conference was "Impacts and Implication of the Trade Facilitation Agreement and the WCO Mercator Programme to the ESA region" and covered the following topics: Impacts of the WTO Trade Facilitation Agreement in East and Southern Africa; Data Analysis for Effective Border Management in East and Southern Africa; Best Practices in Digital Customs in East and Southern Africa; E-commerce as a Driver for Economic Growth in East and Southern Africa; Securing and Facilitating Trade in East and Southern Africa; and Regional Integration: Addressing Levels of Intraregional Trade in East and Southern Africa.

The Governing Council of the World Customs Organization, East and Southern Africa region, established the regional research programme aiming to build institutional capacity and the body of knowledge in customs through research. The objective of the programme is to encourage research on topical themes for customs in East and Southern Africa. The programme also aims to develop a body of knowledge to guide the decision-making process concerning trade facilitation and regional economic integration in the Region.

It is also hoped that the research programme and the results from findings from the research initiatives will assist countries in sharing experiences, ideas, knowledge, and information on new innovations to improve Customs operations while creating new inventions to continue modernizing customs to ease facilitation of trade in East and Southern Africa. The envisaged output from this process will always be the publication of an e-book (and book) consisting of a consolidation of papers presented during the conference.

PART II

RESEARCH PAPERS

SECURING OUR BORDERS: THE MEASURES IMPLEMENTED BY THE MAURITIAN CUSTOMS TO BOLSTER BORDER SECURITY

Sameer Dulmeer* and Mohammad Imteaz Auckburally**

ABSTRACT

During these past few years, Mauritius has witnessed an upsurge in drug trafficking and the illicit entry of narcotics on its shores. A 2012 report by the International Narcotics Control Board (INCB) cited Mauritius as one of the top drug consuming countries in Africa. Yet, over the years the situation has further deteriorated. The scourges of drugs have reached such alarming proportions that in 2015 the Government considered it imperative to establish a commission of inquiry to investigate and report on all aspects of drug trafficking in Mauritius. The commission is currently chaired by a former Judge of the Supreme Court of Mauritius and its responsibilities extend to probing into the availability of new types of drugs, including synthetic and designer drugs, in Mauritius and the linkages between drug trafficking, money laundering, terrorist financing and other crimes.

At the level of the MRA Customs, a drug interdiction strategy was devised in 2012 where various initiatives, strategies and policy measures were implemented with a view to track down the importation of illicit substances, precursors, narcotic drugs and psychotropic substances. The authority has also invested massively in the acquisition of the latest-of-the art machines and technology. It must be said that all these efforts and investment are starting to pay off. During these few years, many cases of malpractices were foiled and successfully uncovered by the MRA Customs. Nonetheless, the battle against drug trafficking is still far from over. Traffickers are always on the look out to innovate new smuggling techniques and quite often are steps ahead of the enforcement authority.

1. INTRODUCTION

The pivotal role that Customs plays in facilitating legitimate trade and leading effective border control is not a new notion, and has been echoed for years. Yet, amidst dynamic and rapidly changing world economic order, Customs authorities, standing at the forefront of trade, have been confronted with many emerging challenges and formidable tasks. The crescendo and recurrences of terrorists' threats and attacks have further shifted international focus to enforcement and enhanced border control and prioritised these roles over other important Customs functions.

Mauritius is no exception. Riding on the globalization and new technology waves, the local nationals are increasingly being exposed to new practices and lifestyles where drug intake has become a norm. It must be said that, in recent times, the problem of drug abuse and illicit trafficking has become a matter of serious concern for Mauritius. Even social workers[1] are raising concern on the use of hard drugs (opium, heroin and codeine) by teenagers who have barely entered the age of puberty. It has been reported that, on average, the first shoot for a boy takes place at the age of 13 while for girls the first hard drug-taking goes to 16 years[2].

A United Nations Office on Drugs and Crime report[3] , ranked Mauritius fourth in the world for opiate use per capita in 2010. Moreover, Mauritius is also cited by the United States[4] as a destination for child sex tourism: an estimated 2,600 children are trafficked internally to fuel the trade. The negative publicity has the potential to seriously impact on Mauritius tourism sector, which has often marketed the island as a paradise resort along beautiful coastlines.

In fact, the direct contribution of the tourism sector to GDP was MUR36.0bn (USD1.0bn), 8.4% of total GDP in 2016 and is forecast to rise by 2.5% in 2017, and to rise by 4.7% pa, from 2017-2027, to MUR58.1bn (USD1.6bn), 9.2% of total GDP in 2027[5] . The drug and alcohol abuse problems have trickled down to other sectors of the economy and have been taunted as being a key cause to some of the crimes and social welfare problems. It must be said that the Mauritius government has been actively promoting the Island as a tourism destination against stiff rivalry from Seychelles and the Maldives. Nonetheless, all these efforts could prove futile if the drug problems are not tackled first.

In recognising the magnitude of the drug problem, the government in 2015 established a commission of inquiry to investigate and report on all aspects of Drug Trafficking in Mauritius with a view to tackle this problem at its root level[6]. The commission is currently chaired by a former Judge of the Supreme Court of Mauritius and its responsibilities extend to probing into the availability of new types of drugs, including synthetic and designer drugs, in Mauritius and the linkages between drug trafficking, money laundering, terrorist financing and other crimes.

Likewise, at the border security level, the MRA Customs has implemented a series of reform programmes which aim to reinforce security and tighten border control in order to curb the proliferation of illicit trade involving money, goods or value gained from illegal and otherwise unethical activities. The scope of illegal trading activities under the measures extend to trade in illegal drugs and illicit substances that cause health or safety risks, intellectual property infringements, smuggling, human trafficking, environmental crime, and a variety of illicit financial flows.

2. THE MEASURES IMPLEMENTED BY THE MRA CUSTOMS

Customs officers are the first line of security barriers of every country's defence against transnational crimes and illegitimate transactions. Therefore, it is indispensible for the authority to implement fitting measures to buttress the capacity of Customs so that this line of defence is not penetrated thereby endangering the country's security. To that end, the MRA Customs has implemented a series of measures designed to reinforce its border security and keep at bay all illicit undertaking.

2.1. The 'Stop Drug Platform'

Public engagement forms an essential feature of any fight against drug trafficking and law enforcement agencies need to work hand in hand with the general public to tackle the vice. It has been noted that without the active participation and communion of the population the battle against drug trafficking is a forlorn one. Bearing that important aspect in mind, the MRA Customs came up with the 'Stop Drug Platform', which was launched at the end of 2016. Through this electronic platform, the general public may share relevant information on drug trafficking in total anonymity. The information sent is kept confidential and is analysed by a dedicated team at MRA Customs for further enquiry. A dedicated link (i.e., stopdrug@mra.mu) and a hotline 8958 have been put in place to enable the citizens to anonymously report cases of drug trafficking and smuggling.

The "Stop-Drug Platform"

The initial results obtained through this initiative have been very encouraging. However, due to the very sensitive and highly confidential nature, information and data could not be made available to the general public.

2.2. The Introduction of X-Ray Scanning Equipment

During the World War II, containers were purposely invented for military soldiers to efficiently move equipment without having to involve many men in the loading and unloading of ships[7] . Nowadays, containers have become the lifeblood of global trade in helping the distribution of goods while at the same time slashing down substantially operational costs. Nonetheless, containers have also turned out to be astute ways for delinquents to smuggle drugs, contraband and illicit goods. In short, containers have become the victim of their own success – they provide transgressors with the same benefits enjoyed by ocean carriers and shippers: efficiency and security. Thus, with a view to secure the movement of global trade in such a way that does not impede but, on the contrary, facilitates the movement of that trade, the World Customs Organization (WCO) developed in 2007 the WCO SAFE Framework of Standards[8] . This WCO SAFE Framework consists of four core elements and one of which recommends Customs administrations to perform an outbound inspection of high-risk containers and cargo, preferably using non-intrusive detection equipment such as large-scale X-ray machines and radiation detectors. Major Customs administrations around the world have already implemented X-ray inspection systems for cargo containers and nowadays X-ray scanners have now become a standard feature in many ports. The resounding success of X-ray scanning systems in other jurisdictions prompted the MRA Customs to invest massively in the latest state-of-the-art technology with a view of hitting two objectives with one stone – providing hassle-free and quick Customs release of legitimate goods while at the same time efficiently tracking down smuggled, undeclared and harmful consignments. For instance, since 2006 two Nuctech x-ray container scanners became fully operational in the port and airport and thereafter in 2008/09 four additional scanners were acquired and put to use at the passenger arrival hall, courier hub, parcel post office and ferry terminal. These x-ray scanners proved to be very effective in meeting the twin objectives of improving the cargo dwell time and uncovering cases of malpractices. The performance of these x-ray scanning devices is shown in Table 1 below.

Table 1: Outcome of the X-Ray scanning of containers

Year	Number of Container / Consignment Scanned	Number of suspected Container / Consignment	Number of offences detected
2006/07	24,383	1,021	108
2007/08	51,724	1,499	266
2008/09	52,021	1,896	396
2010	61,821	1,914	411
2011	55,385	1,499	157
2012	53,040	1,377	135
2013	54,565	791	99
2014	60,439	1,216	266
2015	148,866	2,288	574
2016	342,254	5,193	1,519
2016/17*	373,916	7,093	1,134

Source: MRA's Annual Reports – various issues * Relates to 12 months period July 2016 to June 2017.

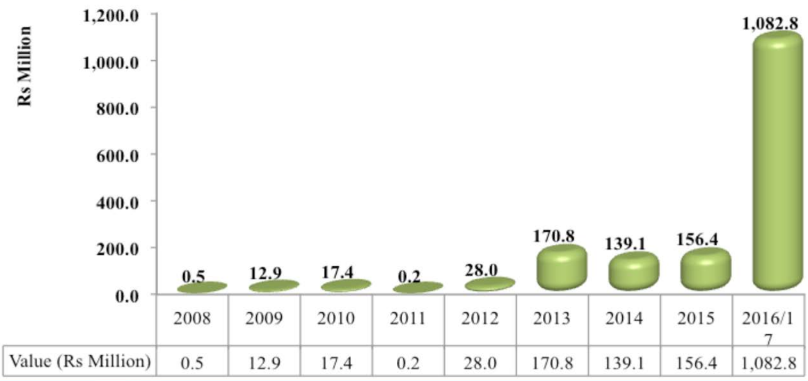
Scanning of containers at the port.

The increasing trend in the number of container/consignment scanned, number of suspected container/ consignment and number of offences detected, as indicated in Table 1, could be explained by the fact that the MRA Customs started with only two scanners in 2006 (Port and Airport). Thereafter, during the year 2008/09 four additional scanners were acquired and put to use at the courier hub, parcel post and in Rodrigues Island. In addition, eight scanners located at other strategic places are being manned by the MRA Customs. Nonetheless, all the scanning exercises are performed on a risk-assessment basis as it is impossible for the MRA Customs to examine all the 300,000 to 400,000 containers[9] which it has to handle on average every year. The rising number of offences uncovered through the use of these x-ray scanning is testimony of the efficiency of this non-intrusive instrument in shielding the borders from illicit entry of hazardous goods. These benefits have further translated into the improved global ranking, with the 2017 World Bank's Ease of Doing Business index[10] placing Mauritius as the top Sub-Saharan African country, occupying the 45th (out of 138 countries) slot worldwide.

2.3. Sniffer Dogs (K9) Unit

Drug traffickers have adopted astute ways of introducing illicit opiate substances. Gone are those days when drugs were stuffed into teddy bears or strapped to body parts to evade detection by Customs officers. Nowadays, due to their limitless wealth, traffickers are able to employ the finest brains and use the most modern equipment and technology to produce, transport and distribute their drugs[11] . Therefore, in order to keep them at bay, the authorities have to adopt insightful techniques as well. To this end, in 2004, a drug detector dog unit – which is known as the K9 Unit – was introduced, with the assistance of the French Customs, to support the then Customs Drug Unit (CDU) in combating illicit inflows of narcotics. The unit initially started with only 4 dogs brought from France which were called on to operate at different entry and exit points at the port, airport, parcel posts and courier hub. The excellent performance of the K9 Unit prompted the MRA Customs to reinforce the team with the acquisition of three additional drug detector dogs from South Africa in 2010. The MRA further received assistance from the South African Revenue Service (SARS) in training the dog handlers on detecting illicit drugs concealed in passengers' luggage, cargo, aircrafts, vessels and postal consignments. The main achievement of the K9 Unit is detailed in Figure 1 below.

Figure 1: Narcotics seizures made by the K9 Unit



Source: MRA's Annual Reports – various issues

In contrast, the total drugs and narcotics seizures intercepted by MRA Customs are shown in Table 2 below.

***Table 2: Total Drug Seizures effected by MRA Customs** (Including the K9 Unit)*

Details *(Values Rs Million)*	**Year 2010**	**Year 2011**	**Year 2012**	**Year 2013**	**Year 2014**	**Year 2015**	**Year 2016**	**Year 2016/17***
Heroin	36.1	34.8	33.7	177.5	177.7	160.6	148.8	2,672.3
Hashish/Cannabis	0.3	0.0	0.3	7.0	2.4	17.8	2.1	38.4
Subutex		31.7	10.4	9.2			0.0	-

Psychotropic substances/Ecstasy	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5
Cocaine	0.3			0.1	0.1	-	0.0	19.2
Other narcotics	0.0	0.0	0.0	0.0	0.5	0.1	19.3	3.4
TOTAL	**36.8**	**66.6**	**44.4**	**193.7**	**180.6**	**178.5**	**170.4**	**2,733.8**

Source: MRA's Annual Reports – various issues * Relates to 12 months period July 2016 to June 2017

When put into perspective, it can be deduced that since the year 2012, on average almost 80% of all drugs and narcotics seized by the MRA Customs were from the assistance of the K9 Unit. This demonstrates the important place which the K9 Unit occupies at the MRA Customs in combatting the illicit entry of narcotics and drugs. For these reasons the authority is seriously considering reinforcing the K9 Unit so as to have a total of about 20 dogs trained in narcotics and currency detection.

Nonetheless, one of the main challenges to the expansion of the program relates to the costs of acquiring the specially trained sniffer dogs and managing the program. Along with the dogs, the MRA Customs also need to invest substantially in training the Customs officers to act as dog handlers, who also need to be retained in that capacity in the long term. Moreover, there MRA Customs also needs to provide specific kennels both at the dog handler's residence and deployment posting. Therefore, though there is a willingness to expand the K9 Unit, the MRA's plans may have to be delayed due to financial and logistic constraints.

The K9 Unit Team

2.4. The "nCEN" Platform

Nowadays, with the evolution of technology and social networking, drug trafficking and organised crimes have transcended borders and have international ramifications. Therefore, it is imperative for Customs administration to share intelligence and disseminate timely information in a secured environment among their peers for efficient border control. With this in mind, the WCO has developed the Customs Enforcement network (CEN), which became operational in 2000[12]. The CEN is a web-based communication system permitting a closed user group of officers to exchange messages via encrypted channels, in real time, for the duration of an operation or project.

In an effort to liaise with partner agencies the MRA Customs implemented the National Customs Enforcement Network (nCEN) platform in 2012, which is endowed with a centralized database enabling it to manage and capture timely information relating to offences like drugs, Intellectual Property Rights (IPR), tobacco, tax and duty evasion. These critical information are, therefore, disseminated to other Customs officers in a timely manner in order to enable them to perform their intelligence work in the most efficient way. It must also be added that Mauritius has been the pioneer country in the ESA region to establish the nCEN since it was elected as a pilot country by the WCO Secretariat in 2008. Since then, Mauritius has been the nCEN regional leader and the Chairperson of the Customs Enforcement Management Team (CENMAT) for the year 2016. To that end, a large number of Customs officers from the MRA have received training on how to operate the system and its application and functionalities. It must be said that the nCEN has served as an effective risk management tool in formulating proactive actions to combat illicit trade.

A screen shot of the Mauritius Revenue Authority nCEN System

However, a challenging area for the MRA Customs is on maintaining the successive rotation of competent officials. The MRA has to constantly identify and train capable officers to operate that platform, especially after each and every periodical transfer and rotation of officers within the organisation. The MRA Customs has yet to devise a proper succession plan for the platform in order to ensure that it is managed effectively and meets its objectives.

2.5. The Risk Management Section at the MRA Customs

In 2009 the MRA created the Risk Management Section (RMS) with a view to better cope with the risks of commercial fraud, smuggling and drug trafficking. The section, which is fully dedicated to departmental risks, analyses feedback from all MRA sections and gathers intelligence from third parties (i.e.; Passport and Immigration Office, company database, National Transport Authority[13] , and other enforcement authorities) to formulate selectivity criteria and makes recommendations to the management team. The RMS also regularly posts on the MRA Customs intra-net intelligence bulletins, alerts and wrong classifications reports for the benefits of all Customs officers, especially those at the cargo examination locations. Recently, the Mauritius Network Services (MNS)[14] was approached to develop a Risk Management Software so as to enhance the existing risk management module in the Customs Management System (CMS)[15]. It is worth mentioning that through the assistance of the RMS, the MRA Customs has been able to juggle with the exigencies of providing expeditious clearance of legitimate goods while at the same time reinforcing security requirements.

2.6. Fast Interception Patrol Boat

It is evident that Mauritius, being surrounded by sea, needs to reinforce its sea interdiction capacity so as to ensure optimum control of illicit movement of goods and people. Recently, an upswing in drug trafficking through sea routes were noted where consignments of drugs were thrown overboard from ferries coming from Madagascar and some were relayed to the shore by small speed boats from coastal regions near the harbour[16].

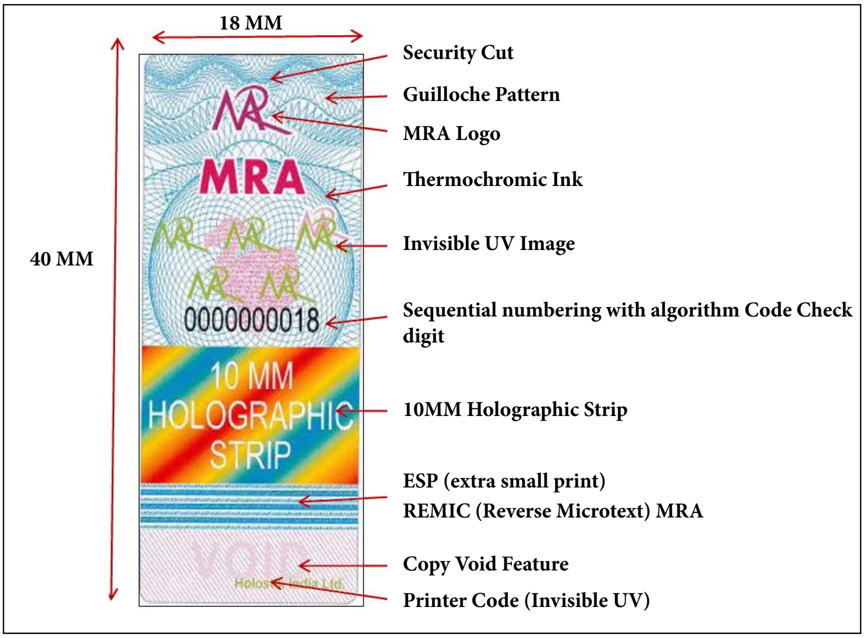
The fast interception patrol boat docking at the port

Such shrewd actions were evading both Customs and other border enforcement agencies' vigilance. To address this issue, the MRA Customs has acquired a fast interception patrol boat which became operational in March 2016. Through the regular harbour patrol, MRA Customs has reinforced its surveillance capacity not only around the port area but also beyond to track down drug traffickers and smugglers. The skippers who were recruited in 2015 have also benefited from adroit training dispensed by the US navy. Nonetheless, more squadrons are needed to efficiently protect Mauritius against piracy, drug and human trafficking, goods smuggling and terrorism as well as small arms trafficking. The recent national budget[17] has made provision to equip the MRA Customs with additional interceptor boats. Besides, the government has also commissioned into service ten Fast Interceptor Boats (FIBs) from India for the National Coast Guard (NCG). These boats are to be deployed to secure the island nation's maritime boundaries and perform surveillance duties over the Exclusive Economic Zone[18] .

2.7. Excise Stamps

On 1st May 2009, the MRA Customs introduced excise stamps on all tobacco products as a measure to curtail down trading in counterfeited cigarettes. In fact, the law[19] was amended making it mandatory for all cigarettes packs, which are put on sale on the local market, to have a proper tax stamp affixed. The revenue collected on cigarettes prior to the introduction of excise stamps was Rs 2.29 billion[20] . However, following a hike in the specific duty rate on cigarettes coupled with the introduction of excise stamps, the revenue collected from tobacco rose to Rs 3.69 billion in 2013, representing an increase of 61%[21] . The excise stamp met with such success that it even got international recognition through the reward as the Best Design Award in Dubai 2014[22] and Vienna 2013[23] , which prompted the MRA Customs to extend its application to alcoholic products in 2013[24] .

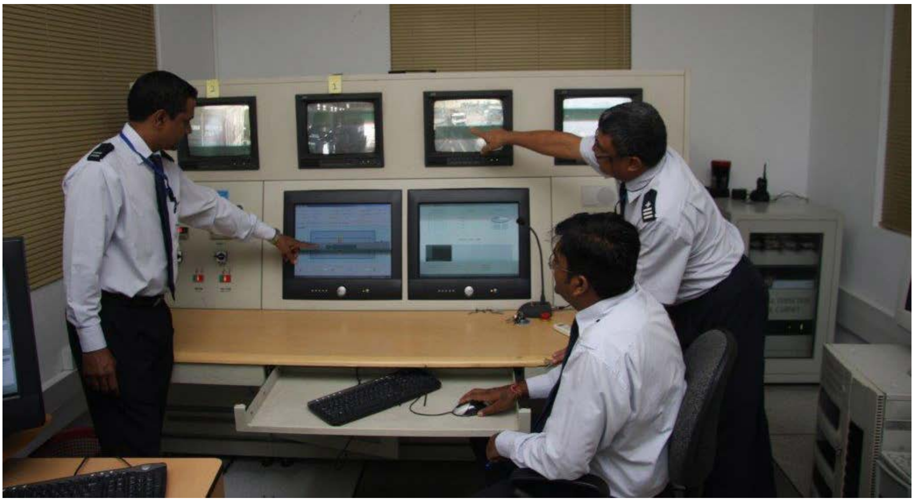
Furthermore, in order to ensure full compliance by all operators, the MRA Customs has set up a dedicated mobile Excise Enforcement Team to conduct unannounced visits and onsite audits. These teams are equipped with sophisticated handheld scanners in tracking down fake stamps or other malpractices.



Features of the excise stamp

2.8. Operation of CCTV Camera in the Port Area

The port area is a very sensitive and high-risk place which warrants round the clock vigilance. Therefore, the Mauritius Ports Authority (MPA)[25] has installed Closed-circuit television (CCTV) cameras at strategic locations, including the Customs cargo inspection sheds, x-ray scanner complex, warehouse depots and port exits in 2007[26] . The MRA Customs are granted access to these on-line camera images that are constantly being monitored by Customs Preventive Officers on a 24/7 basis inside a purpose-built CCTV monitoring room inside the Customs House. This system has reduced the need to station Customs preventive officers at fixed locations where, instead, highly mobile Customs preventive units are now instantly deployed when suspicious activities are detected in the Customs area. In the same vein, and in compliance with international security standards, the number of entry and exit gates at the port has been reduced to only three and the fencing around the port area has been improved. Accessibility to the port and airport areas are now restricted to only those who have a proper valid access pass.



The CCTV monitoring room

2.9. Anti-Money Laundering Unit (AMLU)

The MRA Customs has also set up an Anti-Money Laundering Unit (AMLU) in order to track down the illicit movement of currency which may be linked with money laundering and terrorist financing. The law was amended to empower Customs to require all travellers, either entering or leaving Mauritius, with more than Rs 500,000 in cash or Bearer Negotiable Instruments or its equivalent in any foreign currency, to declare that sum to Customs and state its origin and intended use[27] . A traveller who is in transit may also be required to make similar declaration to the MRA Customs. If the Customs officer believes that the disclosure made is false or misleading, and the funds may involve money laundering or the financing of terrorism, the officer may seize the monies and refer the matter to the Police. In addition, the suspect may, on conviction, be liable to a fine not exceeding Rs 500,000 and imprisonment for a term not exceeding 3 years.

2.10. Intellectual Property Rights (IPR) Unit

Mauritius is regarded as a tourist destination where reputed trademarks and branded goods are sold in various malls. Therefore, in order to keep its shores safe from counterfeited goods and protect the interest of the tourism industry, the MRA Customs has been empowered to enforce IPR laws[28] . In order to cope with the exigencies of the business world, the laws were further reinforced in order to allow for effective enforcement of IPR. For instance, through the use of "Ex-Officio" powers, the MRA Customs has now been authorized to suspend, on its own initiative, the clearance of goods which are suspected to be counterfeited.

Destruction of counterfeited goods

It must be said that there is a well-established link between organized criminal groups and counterfeit products, as the infringement of intellectual property is the favourite method of financing for terrorists[29]. This generates high illegal profits, which lead to the spread of such crimes and which are also invested in a huge structure of other organised cross-border crimes which are often fatal[30].

2.11. Weighbridge

Traditionally, Customs has been using ship or aircraft manifests as the basis for control, admissibility and assessing pre-arrival risk. However, with the evolution of trade, Customs is now compelled to make optimum use of risk management techniques to allow for the immediate release of consignments based on risk indicators among which weight is a critical factor. Consignments with a discrepancy in weight could be subject to special attention as overweight containers could indicate excess and undeclared goods and by extension potential revenue loss to the government. Inaccurate weight data also nullifies the findings of a risk exercise and leads to targeting of wrong consignments. Therefore, to gauge the exact weight of any container, the MRA Customs, in collaboration of the MPA, has already initiated all the procedures for the acquisition and installation of a weighbridge in the Port area. This will be used as a risk assessment tool in the proper targeting of risky consignments from pre-arrival information from manifests. In addition, this will also alleviate the risks associated with wrongly declared weight which impact on industry workers, ships equipment, operational reliability and shippers.

2.12. The Customs Anti-Narcotics Section (CANS)

With the coming into operation of the MRA in 2006, there were already different sections and units at Customs which were assigned with the responsibility of protecting the borders at various levels. These were, at that time, the Customs Drug Unit (CDU), Customs Investigation and Intelligence Unit (CIIU), Flexible Anti-Smuggling Team (FAST), Joint Port Drug Unit (JPDU), Port Surveillance & Enforcement Unit (PSEU), Airport Surveillance & Enforcement Unit (ASEU), and, Commercial Fraud Unit (CFU). All these sections and units were performing their tasks independently and produced outcomes that were disjointed and lacked coordination and synergy. With that in mind, the government recommended the MRA Customs to come up with a strategic plan and thereafter a "Drug Interdiction Procurement Strategy" was devised[31] .

135 kgs of Heroin concealed in sandblasters

One of the major initiatives which was implemented involved the centralisation of all the erstwhile sections and units at Customs under one entity. Hence, the MRA Customs has, since August 2016, set up a dedicated Customs Anti-Narcotics Section (CANS) for drug and other illicit substances interdiction at the various points of entry. This new section has regrouped together all Customs enforcement sections and is supported by a team of 69 Customs officers who are posted on a 24/7 shift basis at the port and airport for the enforcement of national anti-drug laws with regards to import and export of goods and movement of travellers. Since its operation, the CANS has wasted no time in providing tangible results. In fact, during the first quarter of 2017, the CANS has succeeded in uncovering 23 cases of drug trafficking, including a record seizure for the Indian Ocean region[32] of 135 kilograms of heroin worth Mauritian Rupees Rs 2.5 billion (i.e.; US$ 70.8 million) in March 2017.

3. COORDINATED BORDER MANAGEMENT (CBM) AND COOPERATION

The concept of "borders" has undergone significant changes over time – the "physical borders" are still here but with integration of markets the concept of "virtual borders" has emerged and taken primacy. Therefore, risk to the borders can now lie anywhere, not just within territorial limits or national jurisdictions of a single country but across borders. This is why the WCO has considered it essential for Customs authorities to adopt a coordinated border management approach to tackle the emerging challenges they are called to face[33] .

The CBM[34] simply refers to a coordinated approach by border control agencies, both domestic and international, in the context of seeking greater efficiencies over managing trade and travel flows, while maintaining a balance with compliance requirements. The CBM, in general, consists of two different dimensions – domestic and international. Domestic border management involves domestic coordination within and between agencies, whereas the international border management system calls for collaboration between neighbouring and trading partners. The underpinning foundation of CBM is communication, as shown in Figure 2 below.

Figure 2: Coordinated Border Management

Source: Stefan Aniszewski (2009) Coordinated Border Management – a concept paper

In Mauritius, the government has devised such an approach with the firm aim of reinforcing security within and outside the borders.

3.1. Cooperation at National Level

As highlighted earlier, CBM is considered as a part of the solution for achieving greater efficiencies in the management of trade and travel flows. However, most important is the collaborative approach it promotes with other enforcement agencies in combating drug trafficking and the smuggling of illicit goods. Likewise, the MRA Customs participates in the following committees which fall under the aegis of the Prime Minister's Office (PMO), which are the:

- National Civil Aviation Security Committee (NCASC);
- Airport Border Control Committee (ABCOC);
- National Maritime and Harbour Security Committee (NMHSC).

These committees regularly meet to discuss security-related matters and coordinated enforcement actions. Such cooperation can be vital for the country not only in warding off the entry of narcotics and illicit goods but also in emergency situations when it is critical to safeguard the health and safety of the citizens, and ensure national security. One good example of such inter-agency cooperation is in 2014 when alerts were issued at the national level to contain the propagation of pandemic communicable diseases across borders and Customs fully collaborated with the Ministry of health and other authorities to implement control policies and measures[35] .

Furthermore, with a view to reinforcing the fight against the influx of illegitimate goods and narcotics, the MRA Customs works in close collaboration with the Police, especially the Anti-Drug Smuggling Unit (ADSU) and NCG. This concerted collaboration has synergised the authorities' efforts in anticipating and countering the changing trends applied by smugglers. The MRA Customs also has access to the database of the Passport and Immigration Office (PIO) which greatly assists the Customs officers in their profiling of suspicious and high-risk passengers.

3.2. Cooperation with Regional and International Agencies

The MRA Customs also makes extensive use of the various networks available for the gathering, sharing and dissemination of drug-related information at regional and international levels. Some of them include:

(i) The **Pre-Export Notifications Online System** – such a system is used by member states of the United Nations for easy online exchange of information on precursor chemicals, in conformity with article 10 of the 1988 Convention against Illicit Traffic in Narcotics Drugs and Psychotropic Substances.

(ii) The **World Customs Organisation Regional Intelligence Liaison Offices (RILO)**, which enables the global sharing and exchange of information on trafficking/ smuggling among the 179 WCO member countries, including Mauritius. It must be said that Mauritius is linked to the East and South African Regional Intelligence Liaison Offices (RILO) which acts as a global linkage to other Customs members around the world.

(iii) Other international Agencies collaboration in the fight against drugs trafficking – the MRA Customs works in close collaboration with the International Narcotics Control Board (INCB) and the United Nations Office on Drugs and Crime (UNODC). In addition, the MRA Customs concurs with the WCO in devising relevant strategies regarding drugs interdiction and for coordinated enforcement joint actions by Customs Administrations to identify consignments that may contain drugs and precursor chemical.

4. NEW STRATEGIES IN LIGHT OF THE RECENT DEVELOPMENT OF DRUG SMUGGLING

The fight against drug trafficking is a perpetual one and the authorities should always be on the look out to innovate, identify and implement new strategies. It must be acknowledged that drug traffickers are increasingly becoming quite "skilled" at evading detection and this is rendering the task of MRA Customs more challenging. The recent drug seizures made by the MRA Customs have revealed that some of our strategies should be revamped or other new processes introduced. Some of them are enumerated as follows:

4.1. Advance Passenger Information System (APIS) or Passenger Name Record (PNR)

The APIS/PNR is any such system which allows all the travellers' biographic data and flight details, which are initially captured by the carrier prior to departure, to be transmitted electronically to the border control agencies in the country of destination[36] . These valuable details may be used proactively by the border agencies in the screening and identification of high risk passengers prior to their arrival. This project is still in the pipeline where the PMO together with the Department of Civil Aviation (DCA) is dealing with the procurement of the relevant APIS/PNR software. Hopefully, with the implementation of such a measure, the MRA Customs may act proactively and conduct their profiling exercise in a more efficient way.

4.2. Memorandum of Understanding (MoU) with the Police

With the intensification of drugs trafficking by way of sea, the MRA Customs, the ADSU and the NCG have aligned their enforcement actions together to beat the challenges posed by these smugglers. A Memorandum of Understanding[37] (MoU) with the Police has already been prepared highlighting the major areas of cooperation between MRA Customs and Police including the ADSU, NCG and the PIO[38] . It is also worth noting that there are some commercial activities, especially bunkering beyond the harbour area, which may involve arms smuggling and drug trafficking thereby seriously undermining national security. Therefore, the joint Customs and police collaboration in the sharing of resources to maintain higher levels of surveillance within the harbour and its surroundings is of vital importance.

4.3. Yacht and Pleasure Boat Monitoring System

The MRA Customs is also envisaging the acquisition of a "Yacht and Pleasure Boat Monitoring System" software which will link MRA Customs and other border enforcement authorities to better monitor the movement of all yachts and pleasure boats around Mauritius and other outer islands[39] . Through such a system, the risks posed by all yacht and pleasure crafts will be minimised. Currently, Customs may track the position of any yacht or pleasure craft from high seas through the Vessel Tracking Websites[40] provided that their satellite Automatic Identification System is switched on.

4.4. MRA Customs laboratory

Nowadays the *modus operandi* of drug traffickers has reached to such a level of sophistication that without the use of modern technology Customs is destined to fail. Today we have synthetic and designer drugs which are conceived in sophisticated laboratories that are extremely challenging for Customs to detect. Therefore, it is believed that all Customs and border agencies around the world should be equipped with a dedicated laboratory. This view was strongly supported by the participants at the "WCO Asia Pacific Regional Workshop on Chemical Analysis for Customs Purposes" held in Japan in 2013[41] . The participants reaffirmed that a Customs laboratory would provide scientific support necessary for the proper and rapid uniform application of HS classification, as well as the identification of controlled substances, such as illicit drugs, at the border. This would serve an important role in enabling Customs administration to effectively and efficiently achieve their mission. It is in that perspective that the MRA Customs has initiated relevant steps for the setting up of a purpose-built laboratory to curb down the proliferation of illicit drugs and narcotics. The laboratory may also add value and further expedite the analysis process in suspicious cases of wrong tariff classifications of goods.

4.5. Acquisition of Drones

The next decade will undoubtedly be shaped by advances in nanotechnology, artificial intelligence and robotics. All these will present new challenges for the international trade supply chains and cross-border movement of people and goods. It is believed that new driverless modes of transport, also known as Unmanned Aerial Vehicles (UAVs) such as drones, will bring about another challenge for the MRA Customs to secure its borders since drones are operated wirelessly and any information relating to departure, destination, and who owns and operates this novel mode of transport would pose formidable challenges to the organisation. The US Drug Enforcement Agency reported that drug-carrying drones made an average of 150 trips between Mexico and the US[42] . Similarly, Russian news agency TASS reported that a Lithuanian self-made drone detained in Russia was used for smuggling cigarettes into Russia. According to the WCO, criminal organisations are increasingly making use of this technology to transport shipments of contraband more quickly, and with less risk of being caught. Therefore, the MRA Customs has already been provided with the necessary funds for the acquisition of two sophisticated drones equipped with night camera vision to counteract these new forms of crimes.

5. CONCLUSION

It is evident that Customs has the daunting task of fighting against the illicit entry of narcotics, terrorism threat and transnational crime while at the same time enabling free flow of legitimate trade and people. This means that Customs has to constantly juggle between law enforcement and enhancing economic competitiveness. In order to achieve these twin objectives, Customs should have a comprehensive understanding of all border threats and the potential consequences.

Mauritius, being an island deprived of any land frontier, has only the port and airport as natural borders which are nexus to a continuum of activities that threaten the national interests of both security and prosperity. In order to cope with these risks, the MRA Customs constantly reviews its strategies and establishes collaborative efforts with other enforcement agencies to secure the global supply chain system.

It must be said that the MRA Customs has left no stone unturned to implement the best available strategies and best practices to combat those scourges. The government has also invested massively in pricey equipment and technologies to reinforce the capacity of the MRA Customs through the acquisition of scanners, drug-detector dogs, fast-interceptor patrol boats, weighbridge, drones and other such sophisticated devices.

In addition, the fight against drug problem is an everlasting one and it cannot be successfully tackled without the eradication of socio-economic ills, such as poverty, unemployment, discrimination, and social exclusion. As had been said, drugs are such plagues that transcend borders. Therefore, it is in the best interest of all countries to join hands together to improve international cooperation against drugs. The current era is one of joint responsibility and better co-ordinated border cooperation among Customs authorities. This is where the solution to tackle that scourge lies.

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COMBATING CUSTOMS REVENUE FRAUD IN WCO ESA REGION: A MIRROR ANALYSIS THROUGH THE LENS OF MALAWI

Frank Kalizinje*

ABSTRACT

Pursuant to 2017 WCO theme of data analysis for effective border management, the paper focuses on Customs taxes and employs a mirror trade statistics to expose goods in which fraud is significantly suspect. It further categorizes the type of fraud existent in goods being imported into Malawi from major trading partners in WCO-ESA region. The paper conducts the mirror analysis of Malawi against South Africa, Tanzania and Zambia, which accounted for 98% of Malawi's imports from WCO ESA region in 2015. The analysis reveals that revenue fraud in Malawi Customs is significant in products like motor vehicles, motor vehicle spare parts, food preparations, beauty makeups, Portland cement and fabric. The study finds that the fraud takes the form of misclassification, smuggling, undervaluation and overvaluation. Interestingly, the study unearths potential overvaluation in duty free products like fertilizers and raw materials, which are often neglected due to their low revenue intensity. This points to potential capital flight and transfer pricing manipulation. The analysis further quantified Customs revenue losses in selected products that were imported in 2015. The study proposes special audits and investigations in the goods with significant mirror gaps in order to drill down, quantify and get to combat the revenue fraud. This will enhance the risk profiles, boost the post clearance audits and effectively reduce revenue fraud in Malawi. A fraud control plan has been suggested and it will see Malawi Customs establishing a fraud control system that strengthens the risk management unit, facilitate trade by reducing physical controls at the border and ultimately seal revenue leakages in a smart and cheap way.

1. INTRODUCTION

Domestic resource mobilization through taxation is key for a country's stable growth and development. In Malawi, the need for more tax revenues became even more important in 2011/12 Fiscal Year (FY) when the Common Approach to Budgetary Support (CABS) was indefinitely suspended due to governance issues. The donor budgetary support accounts for over a third of the total national budget and the suspension negatively affected Malawi's economy and the government was forced to implement a zero deficit budget.[1] This stagnated the country's growth and development and with a budget deficit of 4.3% of the Gross Domestic Product (GDP) in 2014/15, coupled with a tax ratio of only 15.9% of GDP in 2015/16, there is a critical need for Malawi Revenue Authority (MRA) to ensure that tax revenues are thoroughly collected and that revenue fraud is identified and minimised.[2]

Revenue collection by Customs administrations remains a strategic priority for many developing countries. However, MRA Customs division is currently succumbing to the contemporary tax challenge of declining revenues from import duties mainly due to trade liberalization. For instance, in 2004/2005 FY, the percentage contribution of Customs revenue to the total revenue basket was 52%, which later dropped to 33% in 2016/17

FY.[3] Inevitably, this problem is not only pertinent to Malawi but also other members of the World Customs Organization (WCO) - East and Southern Africa (ESA) region, and replacing the lost revenues is usually a challenge.[4] Therefore, it is imperative that Malawi Customs administration and its regional partners guard against all forms of Customs revenue fraud that bleed revenue.

Historically, revenue collection has been the core function of Customs administration besides other contemporary functions like trade facilitation and securing the supply chain.[5] Unfortunately, the World trading system has fast undergone a major transformation with rising trade volumes and introduction of more complex business systems and logistics processes. These challenges overwhelm Customs administrations and related stakeholders thereby undermining service delivery along the supply chain. Moreover, the resources afforded to Customs administration are also becoming inadequate to effectively handle the expanded roles. These complexities allow for revenue fraud to go undetected, unless more innovative data analytics and intelligence methods are employed.

Cognizant of the strategic importance of revenue in its member countries, the WCO established a revenue package tool in order to ensure efficient and effective revenue collection. It further developed various tools that assist in reducing revenue risks and gaps in Customs operations. An example of such a tool is mirror analysis. According to Cantens,[6] mirror analysis involves the comparison between import (or export) data of country A and the data for imports to (or exports from) country B by one or more countries. The resultant trade discrepancies adjusted to other factors,[7] indicate potential Customs revenue fraud.

Several studies have used mirror analysis in trade analysis to trace and estimate tax evasion. For instance, Bhagwati[8] employed mirror trade statistics to show the effect of under (over) valuation in of trade statistics on balance of payment in Turkey. Similarly, Fisman and Wei[9] examined the link between tariff schedule and evasion gap in China. Their study, found that a 1% point increase in the tax rate was associated with a 3% increase in evasion. Interestingly, the study established that the evasion took the form of misclassification and under invoicing.

This study purports to build on this literature by employing mirror trade statistics[10] to expose goods in which Customs revenue fraud is suspect specifically in imports from Malawi's major trading partners in the WCO ESA region. This is achieved by quantifying and evaluating irregularities in trade data in order to isolate risky commodities. The study goes further to categorise the types of Customs fraud existent in the identified goods and the associated revenue loss. This study aims to complement the Malawi Customs efforts in countering revenue fraud by informing its assessment and targeting of risky consignments through which revenue leakage occurs.. The paper further demonstrates how Customs administrations can efficiently use the readily available huge chunk of often-underutilized Customs data and turn it into value through data analytics and mining.

The main objective of the study is to detect, classify and approximate Customs revenue fraud in Malawi's imports from its main trading partners in WCO ESA region. Pursuant to the main objective, the study will seek to: (i) identify products in which significant Customs fraud is suspect; (ii) understand the Customs fraud mechanism that is used; (iii) quantify potential revenue losses in high revenue yielding goods.

The significance of this study is that it will help Customs officers assess, identify and target risky goods and eventually develop helpful profiles for risk analysis that will effectively reduce revenue risks. In the same vein, the study will also direct the focus and functions of Post Clearance Audits (PCA) and enforcement in Customs compliance checks, inspection and investigation. Ultimately, this will ensure that physical control of merchandise at the border is effectively reduced thereby facilitating smooth trade. This is a cost efficient way of minimizing revenue leakages, as it will ensure that resources are efficiently channeled to where they are required the most. The study will also be critical to other WCO ESA countries, who still rely on Customs revenue as a major source of national revenue,[11] and can easily be replicated to address their revenue challenges. To the economic operators, the paper provides key lessons on how Customs revenue fraud affects them and as to how they can support initiatives aimed at combating such fraud.

The rest of the study is organized as follows: the succeeding section brings forth the institutional background of Malawi Customs in relation to WCO ESA and this is followed by literature review in section three. Research methodology and analysis are discussed in section four and five respectively. Section six gives the recommendations and conclusion to the study.

2. INSTITUTIONAL BACKGROUND OF MALAWI CUSTOMS ADMINISTRATION

Malawi is predominantly a consuming and importing country. Therefore, imports revenue remain a strategic way of financing the government. This section discusses the structure of imports and trade patterns with its WCO ESA trading partners. It further discusses the modernisation initiatives employed by MRA to leverage on the power of data and strengthen its operations.

2.1 The role of Malawi Customs and Structure of Malawi's Imports

The Customs and Excise division of the MRA is primarily mandated to collect Customs revenue, which accounts for about 35% of MRA's total revenue collection.[12] Other roles include facilitation of legitimate trade, enforcement of exports proceeds, collection of international trade statistics and protecting the society. The division administers three main types of taxes namely: import duties, import value added tax, and import excise.[13] Malawi is mainly a net importer with product groups like; raw materials, consumer, intermediate and capital goods accounting for a larger proportion of imports. As of 2015 the trade deficit was at US$707 million and imports of both goods and services accounted for 36% of GDP.[14] In 2015, most of Malawi's imports were from the Republic of South Africa (RSA), China, India, United Arab Emirates (UAE) and Zambia. The top imported products ranged from petroleum products, chemical fertilizers and medicaments.[15]

2.2 Digitalization, Data Analytics and Business Intelligence

The vision of Malawi Revenue Authority (MRA) Customs is '*[T]o be a modern, proactive Customs administration that adapts to the challenges of a changing environment thereby achieving and maintaining excellence in service delivery to all stakeholders'*. Cognizant of this vision and of course in line with international best practices as specified in the Revised Kyoto Convention (RKC), the division has been pursuing various modernization initiatives in order to improve its predictability and efficiency in service delivery. For instance, in 2000 the division automated the clearance procedure through implementation of an UNCTAD's Automated System for Customs Data (ASYCUDA) 2.7, which was later upgraded to ASYCUDA ++ in 2004. Currently, MRA Customs uses ASYCUDA World, which was rolled out to all its major border stations in 2016.

In line with MRA's strategic goal of business process re-engineering, in 2015 it rolled out a Business Objects Business Intelligence (BOBI/BI) system. This is a technology that consolidates data from various units in MRA and enables easy analysis of the data to assist users make proactive business decisions. This initiative enabled comprehensive reporting and provided a common ground for operation of MRA's internal stakeholders that for long were operating in silos. All these initiatives have availed large volumes of data, which can be used for business analytics and intelligence for informed policy direction.

2.2 Malawi's Trade with WCO ESA Member Countries

According to African Development Bank (ADB), intra-regional trade among African countries remains poor with only about 16% of African trade being within the continent in 2014.[16] Furthermore, the trade among African countries is mostly dominated by Africa's biggest economies.[17] All this is confirmed in table 1 which presents Malawi's top trading partners in the WCO ESA region who reported their exports to Malawi from 2014 to 2016.

Table 1: Imports to Malawi's as reported by Top Trading Partners in WCO ESA Region from 2014 to 2016

Partner Country	Annual Trade Values in 1,000 US$	% Share			
	2014	2015	2016	Total	
South Africa	409,406	327,224	361,275	1,097,906	67.27
Zambia	147,970	107,289	122,518	377,778	23.15
Tanzania	41,291	56,132	30,788	128,212	7.86
Zimbabwe	4,752	3,468	4,235	12,456	0.76
Botswana	2,292	1,607	1,725	5,623	0.34
Namibia	1,822	393	109	2,324	0.14
Madagascar	167		4	171	0.01
Mauritius	95	59	66	220	0.01
Rwanda	81	72	905	1,058	0.06
Ethiopia (excl. Eritrea)	25	199		224	0.01
Uganda	8	56	30	93	0.01
Burundi			8	8	0.00
TOTAL	609,924	498,514	523,679	1,632,118	100.00%
WCO ESA % share of ROW	43%	41%	47%	44%	
% share of top the 3	98%	98%	98%	98%	

Source: UNCOMTRADE data from WITS

As illustrated by table 1, out of the 24 WCO ESA member countries, only 12 reported UNCOMTRADE to have exported to Malawi in the 3-year period. This might be due to a number of reasons. Firstly, some countries do not necessarily report their trade statistics for each and every year and UNCOMTRADE does not estimate the missing data.[18] Secondly, it might be the reason that a particular WCO ESA member did not trade with Malawi or did so to insignificant levels and as such the data is not available. The latter reason can of course be crosschecked with the local imports data. These reasons are also the limitations of UNCOMTRADE dataset, which should always be borne in mind during mirror analyses.

Malawi's total imports from the WCO ESA region as reported by member countries is on decline from US$ 609 million in 2014 to US$523 million in 2016. This trend is largely driven by RSA, which accounted for over 67% of imports that Malawi made from the WCO ESA region. This was followed by Zambia and Tanzania at 23% and 7% respectively. Ultimately, the top 3 trading partners accounted for 98% of imports that Malawi made from the WCO ESA region. These statistics confirm two main findings by UNECA on intra-regional trade in Africa.[19] Firstly, trade among African countries is dominated by few big economies like RSA. Secondly, intra-regional trade is low due to poor infrastructure development and connectivity, which makes transportation of merchandise expensive. This is also observed in table 1, as two of the main exporters to Malawi are neighbouring countries namely Tanzania and Zambia. On average, WCO ESA region's exports to Malawi accounted for 44% of the total imports made by Malawi from the rest of the World.

Against this backdrop, the study focuses on the three top countries that accounted for the largest proportion of Malawi's imports (98%) in the year 2015.[20] As already illustrated in table 1, the countries are RSA, Zambia and Tanzania.

3. LITERATURE REVIEW

Mirror analysis has its roots in seminal work by Bhagwati who used mirror statistics to demonstrate that products with severe mirror gaps in Turkey were attracting higher duty rates suggesting that tax evasion was partly explained by high tariff rates.[21] Fisman and Wei reinforced this finding using data from China and they found that a 1 % increase in tax rates is associated with a 3% increase in tax evasion.[22] They further detected fraud mechanism to be in form of under-invoicing and misclassification of imports from higher taxed goods.

Most of the studies relating to mirror analysis had not comprehensively tackled Customs revenue fraud specifically how Customs officers can reduce it in practice. However, recently there have been some studies that are directly useful to Customs practice in combating fraud, for instance Raballand, Cantens and Arenas used Cameroon's Customs data and UN COMTRADE data to test how mirror trade statistics can be used to improve revenue collection and decrease fraud through application of an experimental risk analysis design.[23] Their study found that mirror trade statistics can be used for operational controls like classifying and quantifying systematic Customs revenue fraud. On the same token, the Italian Customs and Monopolies Agency also employed mirror trade statistics to identify undervaluation of imported textiles.[24]

Revenue fraud, general as it may be, needs to be further classified for it to be meaningful. Against this backdrop, a study conducted by Chalendard, Raballand and Rakotoarisoa proposes the use of ratio and gap indicators of fraud to help establish whether the fraud is in form of smuggling, undervaluation or misclassification.[25] The gap indicators of fraud include the trade gap and weight gap, which is the reported export value (weight) less reported import value (weight). The significance of these indicators is that they enable estimation of losses thereby enabling prioritization. On the other hand, ratio indicators are categorized into ratio of weights, ratio of values and a ratio of density values and they are calculated as follows:

$$Ratio\ of\ value = \frac{reported\ import\ value\ (US\$)}{reported\ export\ value\ (US\$)} \dots\dots\dots\dots\dots\dots\dots (1)$$

$$Ratio\ of\ weight = \frac{reported\ import\ weight\ (kg)}{reported\ export\ weight\ (kg)} \dots\dots\dots\dots\dots\dots\dots (2)$$

$$Ratio\ of\ density\ values = \frac{ratio\ of\ values}{ratio\ of\ weights} \dots\dots\dots\dots\dots\dots\dots (3)$$

The study further asserts that these indicators coupled with knowledge of the effective taxation of imports can collectively reveal forms of revenue fraud to be either smuggling, undervaluation or misclassification, as well as possible revenue losses. For instance, if equation 2 is close to unity and equation 1 and 3 yield low than unity values, it is a sign of undervaluation. Furthermore, if equation 3 yields values close to unity and equations 1 and 2 are lower than unity, it suggests misclassification or a possible case of smuggling.[26]

4. RESEARCH METHODOLOGY

The study closely follows Chalendard et al., and Cantens by adopting mirror analysis methodology in order to unearth traces of revenue fraud between MRA Customs and its top importing WCO ESA trading partners. Mirror analysis involves the comparison between import data of a country and the data for imports to the country.[27] Thus, in the case of this study, mirror trade statistics entails the computation of the differences between exports to MRA Customs reported by WCO ESA member countries and imports locally reported by Malawi Customs for the same type of goods. This enables the study to ultimately identify sectors or products in which Customs revenue fraud is significant by way of detecting trade gaps which are essentially the difference between exports to Malawi reported by the WCO ESA trading partner and imports from the exporting country as reported by Malawi Customs.

The mirror analysis methodology is warranted as it permits an objective approach of complementing the traditional methods of conducting risk analyses like intuition, experience and intelligence. Thus, as echoed by Cantens,[28] the methodology helps to comprehensively detect, classify and quantify many forms of fraud so that they are pursued and treated in totality. However, Nitsch,[29] has criticised mirror analysis by pointing out that researchers tend to interpret the mirror gaps too quickly and restrictively without considering other factors like differences in classification which might explain the gap. Another possible reason for trade gaps relates to discrepancies due to expressing imports as cost, insurance and freight (CIF) and exports as free on board (FOB) (see Yeats).[30] It is for this reason that despite the mirror analysis posing as a strong tool in analysing Customs revenue fraud, it has to be treated with caution.

To achieve its objectives, the study compared export (mirror) trade data extracted from UN COMTRADE database using WITS (World Integrated Trade Solutions) software and import data extracted from Malawian Customs ASYCUDA system. Thus, the paper presents fraud diagnosis using mirror analysis with RSA, Tanzania and Zambia and the year of analysis is 2015. This year was chosen because complete data for the year before the incumbent year may not be readily available as countries may report to WITS later in the year.[31]

The UN COMTRADE allows for an analysis at a disaggregated Harmonised System (HS) 6 digit level, 4 digit level as well as 2 digit level. According to Chalendard et al,[32] the more disaggregated the unit of analysis is in terms of HS code, the higher are the chances that the resulting mirror gap value is not solely attributable to fraud. Therefore, for the purposes of this study, HS 4 digit level using the HS 2012 nomenclature is adopted in carrying out the fraud diagnosis.

Gap indicators in terms of trade and weight gap best provide the quantitative estimate of the revenue fraud, and as such they are a guide towards sectors with potential fraud. Malawi's imports are captured in CIF and the Customs Single Administrative Document (SAD) captures imports data in both FOB and CIF. Therefore, FOB-CIF adjustment was not required on the import data to make it comparable to the export data reported by partner countries in FOB. This helped us maintain some level of precision in the data. However, the import FOB values were in various foreign currencies i.e. Rands for South Africa, Kwacha for Zambia and Shillings for Tanzania. Therefore, the values were converted into US$ using the 2015 average exchange rates as provided by World Bank in the 2015 World Development Indicators (WDI) series. The weights were all in kilograms hence were directly comparable. The data cleaning and manipulation was done using Microsoft Excel as the size of the data permitted use of spreadsheet.[33] At first, we worked with most disaggregated level (HS 6-digit) in order to separately establish positive and negative differences. Then the product codes were collapsed to aggregated levels (HS 4-digit) for ease of analysis.

Initially, we computed gap indicators for both trade values in US$ and net weight in kgs. This computation allowed us to establish the quantitative estimate of the fraud. We then sorted and separated the sectors or products with positive trade gaps from those with negative differences.[34] These gap indicators assist in estimating the losses in value and facilitate prioritization. Thereafter, ratio indicators were also computed in order to facilitate categorization of fraud into whether the type of fraud is potentially misclassification, undervaluation or smuggling.

Following Chalendard et al,[35] when the ratio of weights close to unity goes together with low ratio of density values, it indicates probability of undervaluation. When the ratio of density values close to unity combined with the ratio of weights and ratio of values that are lower than unity it suggests misclassification or smuggling. Table 2 and 3 present all the scenarios of Customs revenue fraud classification with the use of ratio indicators. The study follows these tables to detect and classify fraud between Malawi and the three WCO ESA members. Furthermore, where possible, revenue loss estimates are also quantified on products whose effective tax rates were computable.

Table 2: Types of Fraud according to Ratio Indicators

ValueRatio → / Weight Ratio ↓	<1	1	>1	Density ↓ Value Ratio
<1	M-, S & U			
1	U			<1
>1	M+, U	M+	M+, SO & U	
<1	S, M-			
1		E		1
>1			M+, SO	
<1	N.C	N.C	N.C	
1			O	>1
>1			M+, SO & O	

Source: Adapted from table 18 of Chalendard et al (2016)

Table 3: Descriptions of Abbreviations Used in Table 2.

Abbreviation	Description
E	Expected i.e. no fraud
M-	Misclassification: the product is declared under another heading
M+	Misclassification: Under this product, other products are misclassified
O	Overvaluation
S	Smuggling into country of import
SO	Smuggling into country of origin/export
U	Undervaluation
N.C	Not Consistent
&	and
	Impossible

Source: Adapted from table 19 of Chalendard et al (2016)

5. RESULTS AND ANALYSIS

This section presents results for the mirror analysis conducted between Malawi and each of the three identified WCO ESA members. We focus on products that had significant positive and negative mirror gaps as well as those which were deemed to have a significant bearing on Customs revenue. The results are presented in 4-digit product code, which will also be referred to as sectors.[36] Other products were left out either because of their sensitivity, insignificant trade gap as well as data unavailability and inconsistencies. It is imperative to note that fraud can take place within the sector or between them; therefore the results ought to be interpreted and taken with caution.

5.1 Mirror Analysis between Malawi's and Republic of South Africa in 2015

Table 4: Trade Gaps and Ratio Indicators for selected products imported from RSA

Product Code	Commercial Product Description	Trade gap 1,000 US$	Value ratios	Weight ratios	Density value ratio
8708	Motor vehicle spare parts	2489.8	0.7	0.8	0.8
1512	Sunflower seed/cotton seed oil	1306.3	0.6	0.6	1.0
1901	Malt extract, infant milk	698.0	0.7	1.2	0.6
3401	Soaps	386.2	0.8	0.9	0.9
2202	Juices, sweetened water	-301.5	1.1	1.2	0.9
4011	New pneumatic tyres	-593.9	1.2	1.5	0.8
2712	Petroleum jelly , wax	-936.8	1.4	1.1	1.2
2106	Food preparations	-1750.5	1.4	1.8	0.8
3102	Fertilizers	-3192.0	1.6	1.2	1.3
3902	Polymers of polypylene	-5946.0	1.8	1.5	1.2
8703	Vehicles for transport of persons	-15493.3	3.9	4.1	1.0

Source: Author's computations from UNCOMTRADE and ASYCUDA

5.1.1 Undervaluation

According to table 4, we suspect that there was also undervaluation of motor vehicles spare parts (HS: 8708), new pneumatic tyres (HS: 4011), malt extracts and infant milk (HS: 1901), juices, sweetened water (HS: 2202) and food preparations (HS: 2106). We zero in on motor vehicle spare parts because in practice most of them are imported from RSA. The trade gap in this sector was US$2.5 million implying that RSA reported to have exported a lot yet Malawi reported less in terms of value. In Malawi, these products attract a duty rate of 25% and a maximum excise duty rate of 15% and import VAT of 16.5%. As such, MRA Customs might have lost about US$1.6 million in revenue.[37]

5.1.2 Misclassification and Smuggling

Sunflower or cotton seed oil (HS: 1512), motor vehicle spare parts (HS: 8708), new pneumatic tyres (HS: 4011), flavoured and sweetened waters (HS: 2202), and food preparations (HS: 2106) were some of the products that were potentially misclassified and smuggled. Under these sectors, other products were also misclassified implying that other products were disguised as belonging these group of products. Specifically, soaps (HS: 3401) and sunflower oils were potentially misclassified under wrong heading and were also prone to pure smuggling.

Interestingly, chemical fertilizers (HS: 3102), polymers (HS: 3902) and motor vehicles for transport of persons (HS: 8703) were either smuggled into the country of origin, misclassified or overvalued and they all recorder negative trade gaps. Fertilisers in Malawi are duty free and zero rated implying that VAT charged on inputs relating to the fertilisers may be claimed as input tax. So, the incentive of overvaluation fraud may relate to the need to claim more VAT or money laundering. On the other hand, polymers are duty free but VAT is payable, so the only possible incentive of traders overvaluing them is to externalise forex, conduct money laundering or simply transfer pricing manipulation especially where related parties are involved. Therefore, it is imperative to further investigate these products by comparing the import prices with international prices at importer level as they are often ignored due to their low revenue intensity. One notable and important sector that involved a lot of Customs fraud was vehicles for transport of persons (HS: 8703). These goods registered a negative trade gap of US$15.5 million and they were subjected to smuggling into the country of origin and under these products some goods were misclassified. In Malawi, these products attract high rates of duty: import duty ranging from 25% to 30%; import excise duty ranging from 15% to 100% and a flat import VAT rate of 16.5%. Therefore, traders have an incentive to reduce the tax burden. Importers can also enjoy duty exemptions if they present SADC certificates of origin that a particular good originates from RSA. So, it is unsurprising to see that some of these goods were disguised as having originated in RSA or having belonged to this sector.

5.2 Mirror Analysis between Malawi's and Zambia in 2015

Table 5: Trade Gaps and Ratio Indicators for selected products imported from Zambia

Product Code	Commercial Product Description	Trade gap 1,000 US$	Value ratios	Weight ratios	Density value ratios
3406	Candles, wax	415.1	0.4	0.6	0.7
1704	Sugar confectionaries	252.4	0.9	1.0	0.9
2523	Portland Cement	212.5	0.8	0.9	0.9
3208	Paints and vanishes	134.4	0.6	0.8	0.8
2202	Waters, sweetened, flavoured	-41.7	1.1	1.0	1.1
2009	Juices	-220.0	1.7	1.6	1.0

Source: Author's computations from UNCOMTRADE and ASYCUDA

5.2.1 Undervaluation

Goods from Zambia that were potentially undervalued in 2015 include: Portland cement (HS: 2523); candles, waxes (HS: 3406) and sugar confectionaries (HS: 1704). Portland cement is one of the most contentious products in the sense that Malawi has local producers of the same product but Zambian cement is usually cheaper. Therefore, traders import Portland cement from Zambia, which attracts a duty rate of 10%, and imports VAT of 16.5%. In the year 2015, there was a positive trade gap of US$ 212 thousand implying that Zambia reported to have exported more than what Malawi recorded to have imported. This lost value translates into potential Customs revenue loss of US$ 37.5 thousand.[38]

5.2.2 Misclassification and Smuggling

Some of the products that were misclassified and smuggled in 2015 were juices (HS: 2009), sweetened or flavoured waters (HS: 2202), paints and varnishes (HS: 3208) and Portland cement. Malawi's border with Zambia is very porous such that smuggling is rampant. Most of the traders are also small-scale traders. It is therefore unsurprising to find out that smuggling is indeed one form of the Customs fraud that prevailed in 2015 between these two countries.

5.3 Mirror Analysis between Malawi's and Tanzania in 2015

Table 6: Trade Gaps and Ratio Indicators for selected products imported from Tanzania

Product Code	Commercial Product Description	Trade Gap 1,000 US$	Value ratios	Weight ratios	Density value ratios
2712	Petroleum jelly	1994.1	0.0	0.0	0.3
3304	Beauty make up preparation	607.8	0.6	1.1	0.5
3401	Soaps	502.9	0.7	0.7	0.9
1518	Animal/vegetable fats	88.1	0.8	0.9	0.9
4804	Toilet or facial tissue	54.8	0.8	0.8	1.0
2523	Cement	-347.8	1.1	1.1	1.0
6304	Furnishing articles	-2039.5	2.9	1.0	2.9
5208	Woven fabric	-4114.2	76.8	5.6	13.8

Source: Author's computations from UNCOMTRADE and ASYCUDA

5.3.1 Undervaluation

As can be deciphered from table 6, undervaluation was potentially suspect in sectors like petroleum jelly (HS: 2712), beauty make up preparations (HS: 3304), soaps (HS: 3401) and animal or vegetable fats (HS: 1518). Imperative to note, all these products posted positive trade gap in 2015. Of particular interest is sector HS: 3304-beauty or make up preparations for the care of the skin. Malawi imports a significant amount of these products from Tanzania but they attract high duty rates; 25% import duty, 10% excise duty and 16.5% import VAT. This is probably why it is prone to undervaluation. The lost value, which amounted to US$608 thousand, imply that Malawi potentially lost revenue in excess of US$ 365 thousand in revenue.[39]

5.3.2 Misclassification and Smuggling

Misclassification was suspect in all the products from Tanzania that are shown in table 6. Specifically, soaps (HS: 3401), animal or vegetable fats (HS: 1518), and petroleum jelly were potentially misclassified under different headings. On the other hand, woven fabric (HS: 5208), furnishing articles (HS: 6304) and cement (HS: 2523), which recorded negative trade gaps, were potentially smuggled into the country of origin. Thus, some of these products were masqueraded to have originated from Tanzania while in true sense they had not.

6. RECOMMENDATION

The study provides pointers as to which goods from which sectors to focus on and conduct a further mirror analysis on in order to combat Customs fraud in Malawi. Based on the findings, the study proposes a fraud control plan that should target the identified main cases. This initiative can be conducted by the enforcement, post clearance audit in conjunction with the risk management team. These identified products need to be subjected to serious scrutiny and the risk profiles ought to be updated accordingly so that the goods are thoroughly and periodically subjected to Customs checks. It is always imperative to confirm the suspicions of fraud by consulting those on the ground; therefore, field investigations needs to be conducted to confirm the findings of this study. This would ensure that more information is gathered on how revenue fraud in the goods can best be tackled. This will ensure that mirror analysis acts as an aide-de-camp to existing risk identifying strategies and will better orient Customs officers at the borders. In the same vein, the study can easily be replicated by other WCO ESA members to identify and combat fraud in their administrations.

The main contemporary challenge of a typical Customs officer is balancing between border controls and trade facilitation. In developing countries like Malawi, where Customs operations are more revenue oriented, officers are more likely to forego risk management practices and increase the intensity of physical control of goods at the border. Mirror analysis, can help solve this problem and cheaply provide intelligence on suspicious trade flows to frontline officers. Since it involves much of data mining and document validation than physical control of goods at the border, it further acts as a critical trade facilitation tool.

One of the contemporary aspects that is often overlooked by Customs is that of transfer pricing in relation to Customs valuation. This is often practiced by related party transactions in order to facilitate capital flight. Sometimes, capital flight can be achieved through over-invoicing in order to externalise fund in form of buying various goods. These aspects do not form the core functions of Customs hence, more often than not, they are side-lined. Against this backdrop, the study unearthed and suspected traces of capital flight in form of either over-invoicing or transfer pricing. As the world becomes even more complex and border security becomes even more diverse, the future role of Customs will expand. For this reason, it is imperative that Customs emphasises on capital flight investigation by at least identifying and reporting to responsible persons for further analysis. Customs is better positioned to carry out such functions because it is at the fore where it is easier to suspect transactions.

Economic operators as critical stakeholders in the global supply chain ought to appreciate the importance of revenue to Customs in developing countries. A mirror analysis at importer level complemented with the style of this study would be an ideal way of establishing the compliance and revenue risk of economic operators in their daily operations. Thus, mirror analysis will likely shape the operations of Customs in addressing Customs related fraud as it is a powerful investigative and intelligence tool. Therefore, it is imperative for economic operators to ensure integrity in their daily operations and engage in activities that would help reduce Customs revenue fraud.

7. CONCLUSION

The study employed mirror analysis to unearth products in which Customs revenue fraud was significantly suspect especially on Malawi's imports from its major trading partners in WCO ESA region in 2015. This was better permitted by a synthetic analysis of gaps indicators and ratio indicators. The former assisted in identifying and quantifying the potential Customs fraud in products in which fraud was suspect and the latter assisted in helped in establishing the type and mechanism of the fraud. The study has stimulated debate on Customs fraud and has provided directions for further investigations and scrutiny in order to identify and seal revenue leakages that are experienced by Malawi in relation to WCO-ESA trading partners. The major weakness of this study is that trade/mirror gaps are attributable to various reasons ranging from CIF-FOB adjustment to error or lags in reporting trade data. This study could not separate the impact of each of these possible explanations. Nevertheless, the study worked on literature's assertion that a significant part of mirror gaps is attributed to fraudulent trade flows.

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NOTES

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33 Thomas Cantens, above n 8, 10. Strongly advises use of statistical of database management software like Stata or R. This is because spreadsheets require extensive pre-processing for each analysis, which is worsened with big data size.

34 Trade gaps are also known as 'mirror gaps'.

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36 Following Chalendard et al (2016) consider a consistent cluster of two digit HS codes as sectors.

37 We apply an effective tax rate of 67% on the trade gap to estimate the potential duty loss.

38 Effective rate on Portland cement from Zambia is 17.6%

39 Effective tax rate for such products was calculated to be 61%.

DWINDLING OF CUSTOMS REVENUE COLLECTION BY INTRA-REGIONAL TRADE LIBERALIZATION: IS THERE A POSSIBLE WAY OUT FOR DEVELOPING AND LEAST DEVELOPED COUNTRIES? CASE STUDY OF MALAWI.

Murendere Chaponda*

ABSTRACT

This paper examines the routes that least developed and developing countries may take after seeing their Customs duties downsizing due to an effect of intra-regional trade Agreements. It further investigates the new roles that customs administrations in the LDCs as Malawi will undertake after their traditional role of revenue collection is reaped off due to the effect of trade liberalization. The motivating aspect that led to the development of this paper are the current trade developments in Africa on the expansion of intra-regional agreements that have seen the coming up of the COMESA External Tariff that is binding on COMESA member countries. In addition the undergoing discussions among member countries of SADC, COMESA and EAC regional trade blocs (commonly known as the 'Tripartite') on the proposition of having one free trade union has also been a questioning factor of what will be the future of Customs revenue collection on countries like Malawi that have a considerable dependence on trade taxes. This study used Malawi as a case study country and investigated if domestic tax reform route, exports route or import substitution route could be the probable options for trade revenue replacement. The study is thought to be significant because Malawi is one of the least developed countries that highly depend on taxes of which import taxes forms a substantial revenue base for national income. The research found that Malawi will benefit from increased revenue gains if it implores the option of export growth as opposed to domestic taxes path; as long as those exports are aligned to strike Malawi's balance of trade within the trade union region. The option of import substitution was found viable for Malawi as long as it is tactfully made to be a preparatory phase for setting up a vibrant export regime. Findings on the new path of Customs role after losing out its traditional role of revenue collection indicated that the future orientation of Customs will require moving towards a knowledge-based and customer-orientated model which support timely customer-focused processes and services that minimize the administrative burden on legitimate trade. In addition a more focused approach of the SAFE Framework of Standards and Intelligence-driven risk management will take its course.

Key Words:

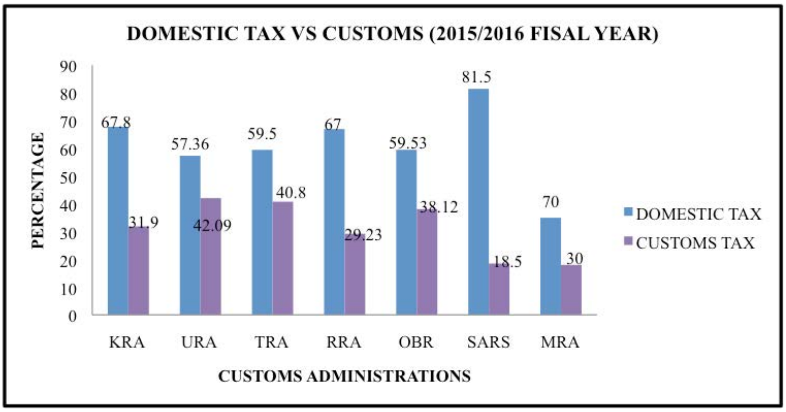
Trade Taxes, Trade Liberalization, intra-regional Trade Agreements

1. INTRODUCTION

In many Developing Countries (DCs) and Least Developed Countries (LDCs), import duties and related taxes represent a significant proportion of the national revenue. Owing to this, revenue collection understandably becomes the prime focus for Customs administration of the DCs and LDCs. There has however, been increasing focus on trade facilitation and border protection measures in many DCs, with particular emphasis on the enforcement of import and export prohibitions and restrictions, including those arising from Free

Trade Agreements. The current global trend shows a paradigm shift, even among DCs and LDCs, from Customs traditional focus on revenue collection to diversified activities that promote trade facilitation, global free trade and border security[1] . Frameworks such as the WCO SAFE Framework of Standards to Secure Global Trade, The Kyoto Convention and World Trade Organization (WTO) Trade Facilitation Agreement have provided a higher standard for Customs that goes beyond revenue collection.

Customs focus on revenue collection is to continually diminishing on one hand because of the integration of trade among countries through tariff liberalization reached through multilateral and bilateral trade agreements. These agreements have in one way or the other affected the trade regime of the signatory countries and Customs authorities have been the first players to experience the impact of trade liberalization through distortions in collection of trade revenues. Removal or reduction of trade taxes is a major issue for consideration in undertaking tariff liberalization. This research found that trade taxes still form a significant contribution to overall tax collection by revenue administrations in East and Southern Africa. The graph below covers the fiscal year 105/2016 and presents the percentage of Customs collection against domestic tax collection in some of the Eastern and Southern African member revenue authorities. It covers the Kenya Revenue Authority (KRA), Uganda Revenue Authority (URA), Tanzania Revenue Authority (TRA), Rwanda Revenue Authority (RRA), Burundi Revenue Authority (OBR), South Africa Revenue Service (SARS) and the Malawi Revenue Authority (MRA).



Source: URA, 2017[2]

The graph above shows that Customs taxes forms a large percentage of the total fiscal revenue collection in several African States. For the fiscal year 2015/2016, Malawi and all countries in the East African Community had their trade taxes accounting for over 20% of their total fiscal revenue. Additionally, a study conducted by Amanda and Mathew noted that all the countries in the Southern African Customs Union (SACU) except South Africa heavily depend on Customs duties, with specific countries like Botswana, Lesotho, Namibia and Swaziland (commonly termed the 'BLNS') having their trade taxes accounting between 10% and 30% of GDP; and between 27% and 65% of government revenue[3] . These findings depicts the critical role that Customs revenue plays in financing governments activities.

The current global trend continues to show a shift towards free trade areas in Africa with member States of the Common Market for East and Central Africa (COMESA) trade bloc merging into a Common External Tariff (CET), with the East African Community (EAC) making a similar shift. In addition, The Tripartite Free Trade Area Agreement (TFTA) signed in Sharm-el-Sheikh, Egypt on 10 June 2015 by 26 member countries of COMESA, EAC and the Southern African Development Community (SADC)[4] . The agreement aims to create a continental free trade area that uses on Common External Tariff (CET) among member States of SADC, COMESA and the EAC. The question raised by these developments is: *'How will the shift* *from the traditional Customs role of revenue collection be adopted by DCs and LDCs to maintain the status quo in revenue collection?'*

This research investigates other alternatives for replacing the dwindling Customs trade taxes by focusing the possible tax bail out strategies for enhancement of national income, and further defines a new role for Customs. The research focuses on Malawi, which is a signatory to a number of regional trade agreements as well as bilateral and multilateral trade agreements.

2. PROBLEM STATEMENT

Looking at the available literature, previous research so far found that there is a direct correlation between countries' reliance on international trade tax and the country's income levels[5] . This assertion is positively proven with the understanding that most of the DCs and LDCs usually lack administrative capacity, which in turn reduces the efficiency of domestic tax collection. In addition, these economies also possess large informal and subsistence sectors implying that a considerable amount of transactions is not taxed. Taking the National fiscal budget into perspective and considering the narrow domestic tax bases, governments are thus geared to be highly depended on easy-to-tax sources like international trade taxes as the alternative to increasing their revenue scope in order to meet their fiscal needs. However, the shift towards trade facilitation and liberalization does pose a serious issue for governments in implementing trade and tax reforms.

Malawi, one of the LDCs located in the South-Eastern Sub-Saharan Africa that is substantially dependent on international trade taxes as a reliable means of financing its economy. On average, Malawi's Customs revenues contribute about 30% of the total trade taxes and 25% of the National fiscal Budget[6] . As noted above, although the international trade revenue has gradually become less important in many developed countries, it remains a major source of government finance for many developing countries like Malawi. For the period 2012 to 2014 Malawi lost approximately US$11,722,793.09 (Computed from MRA's Customs ASYCUDA++ System) of trade taxes through bilateral and regional trade agreements. Noting the shift towards comprehensive trade integration among African with the growing popularity of the tripartite free trade agreement and other Customs Administration tariff alignments such as COMESA CET, there is need for a more clear understanding of what will replace the Malawi Government's trade taxes to keep the revenue at the same level of the foregone trade taxes. This paper explores domestic ways that are the best possible alternative that offsets the foregone Customs taxes. General answers as provided by previous studies in other countries are not likely to be very helpful for Malawi owing to the differences in economic structure, tax administration systems and political obstacles.

3. OBJECTIVES

The overall objective of this research is to investigate the possible revenue alternatives that will cover the foregone Customs taxes after Malawi fully commits itself to the upcoming intra-regional tariff phase down, including the COMESA CET programme and the tripartite agreement still in discussion. The paper also tackles the likely future direction that Malawi Customs Division will take after shifting from the traditional role of revenue collection. Specifically the research undertakes to achieve the following objectives.

1. To investigate the effect of the current Malawi's balance of trade on the economy and how best it may inform export revenue gains.
2. To investigate the position of domestic taxes on revenue growth worthy enough to cover phased down trade taxes.
3. To investigate if import substitution may be a good alternative for more revenue gains.
4. To investigate the future role that Customs administration will undertake after shifting from the tradition role of revenue collection.

4. LITERATURE REVIEW

Section 4.1 below presents the theoretical literature on trade taxes and trade liberalization while section 4.2 presents empirical literature on the same.

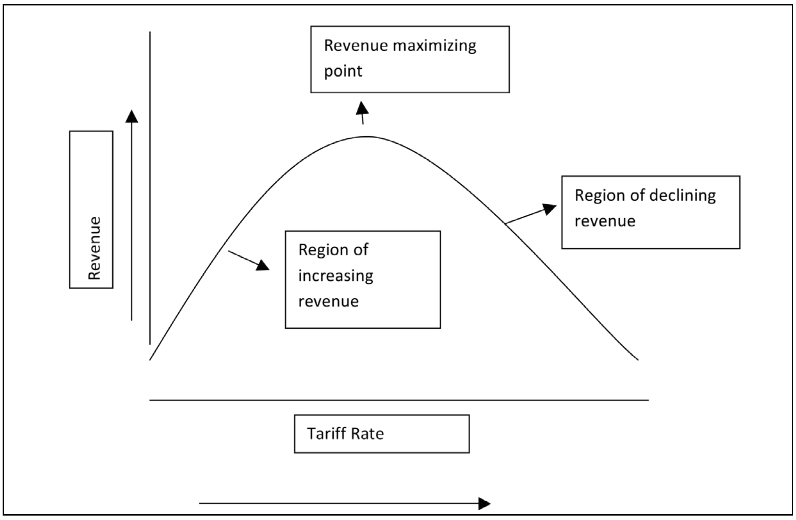
4.1. Theoretical Literature

The theoretical literature below will present the relationship between trade liberalization and government revenue in 4.1.1 and will present the association between trade liberalization and devaluation in 4.1.2.

4.1.2 Trade liberalization and government revenue

Several theories have been developed on the effects of changes in tariff rates on government revenues. In the Wealth of Nations, Adam Smith[7] states that higher taxes may result in government yielding smaller revenues. He argues that the higher tax may on one hand deter importation hence diminishing the consumption of the taxed commodities locally, and on the other hand encourage smuggling as people will find means of by passing the revenue collecting body as a means of relieving themselves from higher trade tax charges. To illustrate this effect better, the Laffer curve has been used to show the relationship between tax revenues and the tax rate as given below. It plots total tax revenue against the tax rate and recognizes two rates at which given revenue can be collected, the normal range (being the region of increasing revenues as shown in Figure 4 below) and prohibitive range (region of declining revenues).

Figure 1: Laffer Curve



Source: Bamusi, I.(2014)[8]

Observation from the Laffer Curve given above is that when the tariff rate is very high, reducing the rate increases revenues from the tax but when the rate is low, reducing the rate reduces revenues. Quantitatively the Laffer curve indicates that at zero tariff rate the collected revenue is zero while at 100% tariff rate the collection rate would still remain at 0. This implies that revenue is at a maximum when the tariff rate is placed at a rate between zero and 100%. When the trade regime is very restrictive because of high tariff rates, trade volumes are likely to be severely compressed. Reducing restrictions will result in a strong increase in trade volumes. This will more than compensate for the lower tax rate, leading to higher trade tax revenues. However, when the trade regime is already fairly liberalized, any further reductions in restrictions will not cause a sufficiently large increase in trade volumes to offset the lower tariffs and the overall revenues will therefore decrease.[9] With unchanged import values, a reduction in tariffs reduces Customs revenues and can also be accompanied by reductions in revenues from excises and Value Added Tax (VAT) levied on imports at the importation stage. Such a change in relative prices would typically induce changes in the level and composition of imports and exports. The revenue outcome thus depends also on the price elasticity of demand for imports and the price elasticity of supply of import substitutes. If imports are sufficiently price elastic, there may be a revenue gain.

4.1.2 Association between trade liberalization and devaluation.

Trade liberalization is often accompanied by a devaluation of nominal and real exchange rates, which raises the domestic value of imports, with a positive effect on trade tax revenues.[10] In effect, the domestic cost of government spending programmes increases hence consumption switches from tradable to non-tradable goods. This incidence results in trade tax revenues declining and domestic indirect taxation increasing. Trade liberalization could have long-term revenue effects by enhancing the domestic market growth performance. If growth increases then increased income levels will translate into a large base for domestic direct taxation.[11]

4.3 Empirical Literature

Previous studies found varying results on the effect of trade liberalization. The Economic Commission for Africa (UNECA) study on fiscal implication of trade liberalization on African countries found that trade liberalization is a potential source of fiscal instability for African countries because of their high dependence on international trade tax.[12] UNECA used the Generalized Method of Moments of Arellano and Bond[13] to estimate both tax revenue and trade tax revenue Regressions. The estimation focused on all African countries except Democratic Republic of Congo, Eritrea, Liberia, Libya, and Somalia over the 1980-2002 period. The study found that the decrease in trade tax revenue can be matched by an increase in revenue from domestic tax, and in particular VAT. The study by UNECA concluded that that sound macroeconomic environment is critical to preventing fiscal distress during trade liberalization and effective institutional reform is likely to help fiscal consolidation.

In a review of African countries' experience of fiscal impact of trade liberalization, a study by Fukasaku (2003)[14] realised that the overall impact of trade liberalization in sub-Saharan Africa is ambiguous and depends on a multiplicity of facts such as the nature and sequencing of reforms. In an examination of 22 African countries, Fukasaku, found that trade liberalization had contributed to declines in the ratio of trade to total government revenue of more than 20% in Mauritius, more than 10% in Côte d'Ivoire and Senegal, and more than 5% in Cameroon, Tunisia, and Mozambique. In many of the countries, it was found that domestic resource mobilization was fairly weaker. Similarly, a study by Ebrill et al. (1999)[15] found that many developing countries implemented trade reform as a means of avoiding significant revenue losses. The study concluded that trade liberalization could be tailored to avoid adverse consequences, for example, with improved Customs administration and reduction in exemptions, non-tariff barriers, and regulations. Nevertheless, the study found that in the long-term, trade liberalization inevitably reduces the total share of revenue derived from trade taxes and to ensure that revenue is maintained, domestic tax reforms must accompany trade liberalization.

5. METHODOLOGY

This study is Qualitative and adopts an explanatory case study approach to match patterns from our analysis of the literature and key informant interviews. The research seeks to respond to the following question: *What key possible alternatives of revenue generation should Malawi Government undertake to replace Customs trade taxes when the region goes into a Free Trade Zone Area?* The research has been prepared following an extensive review of available literature and discussion with key informants in Malawi. The greater part of the findings of this research is based on Secondary data analysis and a little of primary data arising from discussions held with key informants of the Malawi Revenue Authority.

6. FINDINGS

In order to find the best alternatives for Customs trade tax replacement the research reviewed literature on what other developed and developing countries did or are doing to generate the required national revenue without relying on trade taxes. The research then analysed the capacity of Malawi by checking its weaknesses and strength and eventually defined the best possible position that Malawi could exploit to regain economic empowerment when trade tariffs are removed. The last part of the findings outlines the investigated reforms that Customs authorities may undertake as part of their responsibility after being diverted from revenue focus.

A study by Pupongsak[16] identified three possible routes for dealing with the effects of decreased trade revenue collection by utilizing trade as a growth generator, namely; adopting an export promotion strategy, increasing in domestic demand, and import substitution. This research therefore undertook an in-depth analysis of Malawi stand in respect of these routes to unveil the most appropriate course for Malawi to take to generate revenue growth.

6.1 The Route of Exports Exploitation

In order to understand a country's trade regime, the study on balance of permits plays an important role. This research therefore studied how the import and exports trade between Malawi and the global community had been fairing for a period of ten years to 2016. The period of ten years was considered sufficient to enable drawing of reliable conclusions on Malawi's global trade position. Table 1 below presents a tabulated status of imports and exports performance of Malawi government for the period 2006 to 2016.

Table 1. Total Goods Trade flows and balance

Period	Imports	Exports	Balance	Total trade				
	Value (Mio£)	Growth* (%)	Value (Mio£)	Growth* (%)	Value (Mio£)	Growth* (%)	Value (Mio£)	Growth* (%)
Annual data								
2006	967		532		-434		1499	
2007	1012	4.7	638	19.8	-374	-13.9	1649	10.0
2008	1504	48.7	604	-5.3	-900	140.6	2108	27.8
2009	1452	-3.4	848	40.5	-604	-32.9	2300	9.2
2010	1642	13.1	805	-5.0	-837	38.5	2448	6.4
2011	1747	6.4	1023	27.0	-725	-13.4	2770	13.2
2012	1816	3.9	921	-9.9	-895	23.5	2773	-1.2
2013	2145	18.1	910	-1.2	-1235	37.9	3055	11.6
2014	2091	-2.5	1011	11.1	-1080	-12.5	3103	1.5
2015	2085	-0.3	973	-3.8	-1112	2.9	3058	-1.4
2016	1885	-9.6	983	1.0	- 902	-18.9	2868	-6.2

Source: European Union, 2017

The results from table 1 above shows that just like many of the LDCs Malawi registered a trade balance deficit for the whole period of 10 years from 2006 to 2016. The growth rate of balance of permits indicates a fluctuated movement. However, the data shows that there were more increases than decreases in the growth rate of balance of permits. The overall trade shows there is growth for both imports and exports but with exports failing to grow exponentially compared to imports. In the year 2016 Malawi realized a balance of permits record figure of 902 million pounds. This current state on Malawi's balance of trade tells us that something has to be done to boost the exports industry but the question is: *how can Malawi boost its exports* *industry to benefit more out of trade liberalization in a way that offsets the losses made in trade taxes?* This requires further investigation on Malawi's top trading partners to determine if their partnership is capable of inducing exports growth. Table 2 below provides a list of Malawi's top trading partners.

Table 2. Total trading partners 2016

Imports		**Exports**		**Total Trade**							
	Partner	**Value**	**Share in world**		**Partner**	**Value**	**Share in World**		**Partner**	**Value**	**Share in World**
		(Mio£)	(%)			(Mio£)	(%)			(Mio£)	(%)
	World	1,885	100.0		World	983	100.0		World	2,868	100.0
1	South Africa	377	20.0	1	EU 28	262	26.6	1	EU 28	488	17.0
2	China	257	13.7	2	Zimbabwe	127	12.9	2	South Africa	448	15.6
3	EU 28	226	12.0	3	Mozambique	108	11.0	3	China	302	10.5
4	India	203	10.8	4	South Africa	71	7.2	4	India	233	8.1
5	UAE	182	9.6	5	USA	58	5.9	5	UAE	209	7.3
6	Zambia	106	5.6	6	China	45	4.5	6	Mozambique	165	5.8
7	Mozambique	58	3.1	7	Egypt	36	3.6	7	Zimbabwe	147	5.1
8	USA	55	2.9	8	Russia	35	3.5	8	Zambia	115	4.0
9	Mauritius	51	2.7	9	India	30	3.0	9	USA	114	4.0
10	Japan	38	2.0	10	Ukraine	29	2.9	10	Russia	59	2.1

Source: European Union, 2017[17]

The results from table 2 above depicts that on the import side, Malawi often trade with four countries from Africa and other six countries outside the African continent. A key feature of Malawi's four African trading partners is that they fall within the intra-region trade agreements of which Malawi is a member also. Thus the given countries belong to either COMESA or SADC or both. However, on the export side it shows that some of the African countries that Malawi imports most from are not available on the exports side for example Mauritius and Zambia. The Republic of South Africa (RSA) features in both sides but Malawi's import value from RSA surpasses the value of its exports to that member country. Similarly, when comparing the overall balance of trade between Malawi and its African counterparts it shows that imports values summation is £592 million while the Export side is £342 million.

The research further investigated the balance of trade between Malawi and other member States within the SADC/COMESA region. The aim was to investigate how active is Malawi in terms of trade with other individual members which it shares the same trade blocs with. The table 3 below provides balance of trade details in the 2015 fiscal year.

Table 3: Balance of Trade between Malawi and SADC/COMESA (2015)

COUNTRY	EXPORT (mioU$)	IMPORTS (mioU$)	TRADE BALANCE (mioU$)
EGYPT	56.90	5.82	51.08
ZIMBABWE	64.30	25.00	39.30
UGANDA	13.35	1.18	12.17
RWANDA	1.4	0.093	1.31
BURUNDI	0.737	0.002	0.74
SUDAN	1.62	0.0495	1.57
DRC	1.60	0.482	1.12
ETHIOPIA	0.273	0.657	- 0.38
SEYCHELLES	0.168	0.830	- 0.66
SWAZILAND	0.185	23.780	- 23.60
MADAGASCAR	0.096	4.63	- 4.53
KENYA	15.30	30.90	- 15.60
South Africa	75.30	448	- 372.70
Tanzania	21.10	53.30	- 32.20
Mozambique	46.90	70.70	- 23.80
MAURITIUS	4.24	21.00	- 16.76
ZAMBIA	21.20	119.00	- 97.80
TOTAL	**324.669**	**805.424**	**- 480.75**

Source:*oec tree map*

Implications

Although exports have boosted economic growth in several countries such as South Africa, Japan and China,[18] this current study has established that the Malawi Exports industry is not yet vibrant and its revenues may not replace the trade taxes that may come with trade liberalisation. In both table 2 and table 3, a problem has been realized that Malawi is not active in exporting goods to its trading partners within the region. Table 3 indicates that Malawi has a negative trade balance with most of its African trade partners within the SADC region. The implication is that in this case trade liberalization will work well for those actively exporting countries than actively importing countries. This research therefore serves as a wake-up call to Malawi and other Least developed countries to ensure that once they enter into intra-regional trade agreements they must create a substantial exports base to be traded in the partnering member states.

The study further investigates Malawi's future outlook if it fails to increase its exports base in the presence of reduced trade taxes. The likely position is that the import volumes would increase hence worsening the trade balance and the eventual absence of corresponding export increases would lead to a trade deficit which would further result in a current account problem. In this regard there is need for political will to initiate the expansion of Malawi's export base beyond traditional exports to processed goods that would compete with other products in the liberalized region. Support by government through funding of exports-based infrastructure may be a better option coupled by a government appeal to appreciate locally made products as part of industrial growth strategy.

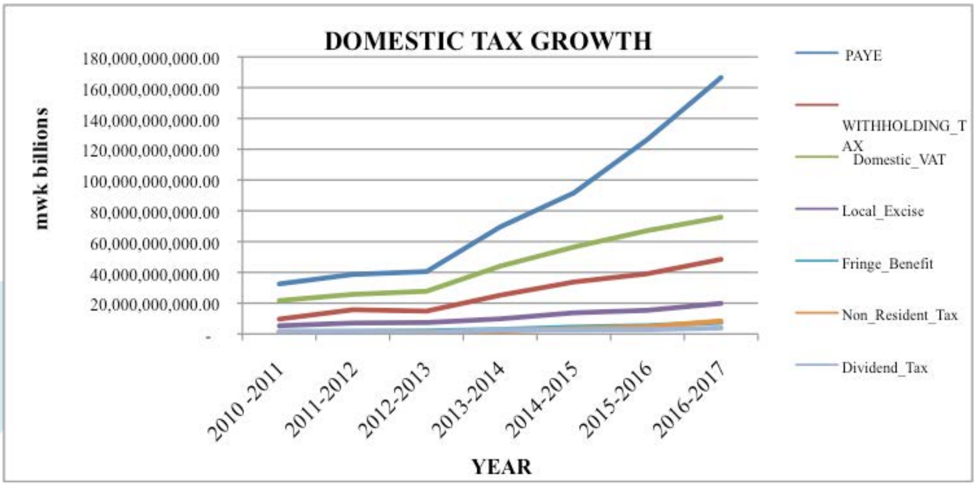
6.2 The Domestic Tax Route

Increasing of domestic tax base is one of the suggested routes that this study adopted to explore if it may be a measure possible enough to generate the required revenue that may offset trade taxes for Malawi. The Malawi tax system is a mixture of direct and indirect taxes. Direct taxes are typically based on taxpayer's wealth/income. A direct tax is the one that the tax payer pays directly to the revenue authority for example income tax while indirect taxes are those which are collected indirectly by the revenue authority from the supplier who then attempts to pass on the tax to final consumer for instance VAT. There are basically five main groups of the domestic tax bands in Malawi, namely: taxes based on income (thus for both corporate or individuals e.g. Pay As You Earn), taxes based on wealth (estate duty), sales taxes (e.g. VAT, Turnover tax and withholding tax) and domestic excise duties. Investigation was undertaken to identify if the current position of the Malawi domestic tax system is sufficient to raise the revenues required to cover the foregone trade taxes.

A review of literature revealed that in the few past decades international institutions such as the World Bank and IMF had made suggestions to developing countries to consider replacing trade taxes with domestic consumption taxes particularly VAT, and income taxes particularly corporate income tax.[19] Presently, the Malawi Revenue Authority are doing their best to control leakages through modern methods of collecting taxes using technology based systems such as the introduction of electronic fiscal devices in 2014 and intensifying of web-based electronic payments.

However, the study established that Malawi has a relatively large informal sector (when compared to formal sector) which may not be easily taxed. It is noted that alike many developing countries, the income tax base in Malawi is mostly comprised of wages of public sector employees because most other taxpayers are self-employed or small businesses who completely evade payment of income tax by deliberately understating their financial position to be outside the tax brackets. The graph below shows the performance of various types of domestic tax revenue collection.

Graph 1: Revenue Performance by Domestic Tax Type



Source: *Author's computation (from MRA's Revenue Table 1)*

Results from the graph above indicate that among all tax types only PAYE has been having a sharp increase in revenue growth as compared to other tax types. In order to understand the reason, it was found that PAYE taxes comes from a pool of companies who are royal in tax remittance and it is easily done through direct deduction of the tax from employees' salaries. However narrow tax base and non-tax compliance of traders especially those in the informal sector (which forms a larger market size) affects revenue collection of the other types of taxes. This research found that like PAYE, the tax growth of VAT would have also been impressive but it faces more cases of system manipulation whereby people challenge the use of electronic fiscal devices by intentionally printing lower values than the selling prices to reduce the VAT taxable values.

This study therefore concludes that domestic tax revenue growth in a country characterized by an informal sector market where issues of tax evasion in domestic taxes are high like in Malawi, trade taxes may not be easily replaced by domestic taxes. To this effect tax reforms to increase revenue collection base, encourage voluntary tax remittance and control tax avoidance and evasion in less developed and developing countries are critical for domestic tax revenue growth. Currently, Malawi is in the course of modernizing and automating its domestic tax systems for effective collection of domestic taxes through implementation of measures such as the electronic tax payment system (integrated with banks) and fiscal electronic fiscal devices for issuance of authorized tax invoices. However, there is still more to be done on automation and enforcement measures. Meanwhile it could not be objective for Malawi to completely move away from trade taxes until its domestic tax system is reformed to generate revenues enough to cover the percentage contribution of trade taxes in the National Income.

6.3 Import substitution route and Smart Protectionism

Finally import substitution is one such an option that a country may take to boost its trade domestically. Import substitution is a strategy that reduces the country's foreign dependency and appreciates the domestic production by substituting the imported goods with the locally produced goods.[20] This strategy works by having the State lead economic development through nationalization and subsidization of vital industries and aims at protecting the domestic industries (i.e. infant industries) up to the time that they will be able to compete with the foreign industries.[21]

In the sugar industry, Malawi has ILLOVO Sugar Corporation, which is benefiting from import substitution advantage and this helped the company with a sound financial muscle that has seen its products soaring on the world market.[22] Sugar is one of the main export products from Malawi. According to FAO,[23] sugar is currently the second largest export revenue earner in Malawi after tobacco. The first sugar cane plantation dates back to the 1960's in southern Malawi and the second plantation in the North Central region, along with the introduction of out-growers, to the 1980s. By 2009/10, approximately 300 000 tonnes of sugar, 73 000 tonnes of molasses and 19 million litres of alcohols, including ethanol, are being produced annually. Approximately 70% of the sugar is sold on the domestic market and 30% internationally (50% to Europe under preferential trade agreements). Borrowing from the same example, this paper finds import substitution as one of the better alternative which Malawi may benefit from and that in the long-run such companies may benefit from economies of scale and be able to compete their products on the international market. Import substitution may be important for Malawi as a preparatory phase in the first place for boosting its export base in the second phase. However achieving an import substitution method is not all that easy as it may appear. It will require a policy making body of the ministry of trade and industry to analyse the world market trend and come up with industries that shows potential of international business that Malawi may take advantage. This will result to boosting up of potential infant industries through import substitution pending for its growth to a vibrant export industry.

However, in-terms of exports, it may be important for the Government to promote locally based industries as opposed to foreign industries, which take privilege of Malawi's comparative advantage of cheap labour and resources but end up not remitting their export proceeds back to Malawi. In such a case Malawi is only used as a production base of whose profits are put in offshore accounts and not for the benefit of Malawi.

Nonetheless, import substitution alone cannot form a better base to yield enough revenue growth that replaces trade taxes but coupling it with a vibrant exports industry may be a success story.

6.4. The Future Role of Customs

The last part of the study undertook to investigate what will be the future role of Customs after shifting from the tradition of revenue collection. Through literature the research discovered that the future orientation of Customs will require moving towards a knowledge-based and customer-orientated model. Staff competencies will need to support timely customer-focused processes and services that minimize the administrative burden on legitimate trade. Following the provisions on SAFE Framework of Standards the Malawi Customs authority will have to migrate to a more *Intelligence-driven risk management*, which will have a more sophisticated understanding of the risk continuum. This will strengthen the cross-border security and as well protecting the society perspective. With removal of Customs duties, it is expected that the *Customs trade partnership will improve* as Customs authorities in the absence of strenuous revenue targets will better understand the concerns of business, while businesses will also better understand the requirements of Customs.

7. CONCLUSION

This study aimed at identifying ways that least developed countries like Malawi, which substantially depend on trade taxes, can take in order to forego trade taxes and further open their markets in response to the call for trade liberalization and regional integrations. The study sought to find options that may replace the foregone trade taxes to maintain the government's status quo in terms of national income. The study focused on the GDP's components of Net Exports and taxes which finance government expenditure.

The study found that Malawi's trade balance (net exports) is negative with most of the countries within the SADC/COMESA region. It further identified that Malawi is not active in terms of exports in Africa but has most of its export market mostly in agriculture produce outside of Africa.

In order to effectively gain from the intra-region trade liberalization agreements, this study proposes that Malawi needs to develop its export capacity, which will increase its share of goods being traded across the member countries that shares same trade bloc with Malawi. This will enable striking of a trade balance and reciprocal gains from trade partnership as the revenue collected from export proceeds may cover the revenues that were used to finance government expenditure from trade taxes perspective.

This research also explored the domestic taxes route to identify if Malawi has reliable domestic tax collection controls and collection base that can sustain the national income in the absence of trade taxes. The findings were that Malawi has a relatively large informal sector (when compared to formal sector) which is not easily taxed. Results indicated that among all tax types only PAYE had a sharp increase in revenue growth as compared to other tax types. It found that PAYE taxes were easy to collect as they were directly deducted from employees' salaries and comes from a pool of compliant companies. However, other taxes did not carry a similar growth potential due to narrow tax base and non-tax compliance of traders especially those in the informal market sector, which forms a larger market size for Malawi. This study therefore concluded that domestic tax revenue growth in a country characterized by an informal sector market where issues of tax evasion in domestic taxes are high like in Malawi, trade taxes may not be easily replaced by domestic taxes. The study therefore proposed for domestic tax reforms that will increase revenue collection base, encourage voluntary tax remittance and control tax avoidance and evasion.

The study found import substitution strategy as the best preparatory stage for growth of exports. However this is to involve the ministry of trade to select the products which when promoted would yield maximum economic gains on the external market to provide enough revenues that offsets the lost trade taxes. The Government would also take the course of funding industries that have potential of penetrating external markets. However strong remittance controls would have to be put in place such that the export proceeds would be retained for consumption in Malawi other than externalized.

In conclusion, this study found that reforming the domestic tax division for increased and effective revenue collection and growing the exports industry for intra-regional trade would form the best alternative to offset trade taxes that may be foregone due to intra-regional trade liberalization. However, the domestic tax reforms and exports growth has to firstly be achieved before fully removing the trade taxes.

NOTES

* Murendere is a Customs Officer who has worked in various Customs clearance departments which includes Declaration Processing Centre, Inland and Border Stations and Technical Department of the Malawi Revenue Authority's Head Office.

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REGIONAL INTEGRATION: ADDRESSING LEVELS OF INTRAREGIONAL TRADE IN EAST AND SOUTHERN AFRICA

Sendra Chihaka

ABSTRACT

Intra-regional trade levels within East and Southern Africa (ESA) remain low (about 10%, according to UNCTADStat, 2015, despite the various initiatives taken by the regional trading blocs to promote intra-regional trade. RTAs in ESA are mostly made up of countries geographically near each other yet trade is still low, thus to some extent defying the gravity model. This study investigated why levels of intra-regional trade remain low in ESA despite concerted efforts to promote regional integration and proffered solutions on what can be done to improve the intra-regional trade. The study is limited to trade in goods within SADC, COMESA and EAC. Research objectives were fulfilled through interviewing exporters registered to trade under SADC and COMESA trade protocols, Ministry of Trade and Investment Promotion officials in Zimbabwe, as well as members of Shipping and Forwarding Agents Association of Zimbabwe (SFAAZ). Although there have been numerous studies on regional integration, the uniqueness of this study is that it also incorporates exporters' views to explain why intra-regional trade is especially low in ESA. This study will be of paramount importance to policy makers especially as it comes soon after the coming into force of the World Trade Organisation (WTO) Trade Facilitation Agreement (TFA) whose measures will play a pivotal role in promoting regional integration. Exporters interviewed cited high transport costs and strict and cumbersome rules of origin as major challenges they face when they engage in regional trade. Lack of regional value chains, lack of product complementarity, poor infrastructure, cumbersome customs procedures are other factors that hinder trade within ESA. In order to address the low levels of intraregional trade in ESA, governments need to complement infrastructure investments with trade facilitation measures.

1. INTRODUCTION

In as much as there has been an increase in the signing and conclusion of preferential trade schemes in Africa, intra-regional trade in East and Southern Africa (ESA) has not grown in proportion. Intra-regional trade levels within ESA trading blocs remain low despite the various initiatives taken by the regional trading blocs, Southern Africa Development Community (SADC), Common Market for East and Southern Africa (COMESA) and the East African Community (EAC) to promote intra-regional trade.[1]

The establishment of One Stop Border Posts (OSBPs), transit corridors, and harmonisation of customs valuation, the Tripartite Free Trade Area (TFTA), the adoption of the SADC Trade protocol and the AU

Action Plan for Boosting Intra-African Trade (2012) are some of the collaborative efforts being undertaken to improve intra-regional trade in ESA[2]. This paper will look at why such efforts are not yielding anticipated results and proffer recommendations to address the situation.

UNCTADStat database indicates that over the previous years, intra-African trade has been averaging between 10 to 12 percent which is very low compared to other parts of the world like 40% for intra-Association of South East Asian Nations trade (ASEAN)[3]. The low volumes of intra- African trade in general and intra-ESA trade in particular are attributed mainly to poor infrastructure, lack of regional value chains, electricity shortages and cumbersome customs clearance procedures[4]. Trade facilitation indicators and Logistics Performance Indices (LPI) in ESA are poor compared to other similar trading arrangements in for instance, the EU as highlighted in the WB Ease of Doing Business Trading across Borders indicators. Customs delays cost the EAC and Southern Africa about US$ 8 million and US$ 48 million respectively per year which negatively affects intra-bloc trade as they are an indirect cost to trade[5].

2. BACKGROUND

2.1 The East and Southern Africa (ESA) Region

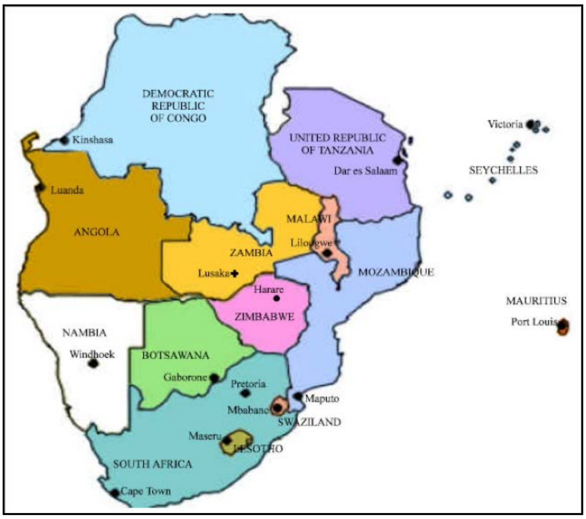
The ESA region is made up of 3 main regional blocs which are SADC, COMESA and EAC. SADC is made up of 16 countries, EAC 6 countries and COMESA 19 countries. These 3 regional trading blocs are in the process of negotiating for a TFTA which covers 26 countries whose objective is to boost intra-regional trade. The TFTA is envisaged to account for 58% of Africa's output, 48% of the African countries and 57% of the continent's population making it the biggest FTA in Africa's history.[6]

2.1.1 Southern African Development Community (SADC)

Prior to 1990, SADC was called the Southern African Development Co-ordination Conference (SADCC). It comprised of 9 Southern African member states namely Angola, Botswana, Malawi, Mozambique, Lesotho, Swaziland, Tanzania, Zambia and Zimbabwe. The main objective of SADCC was to start the process of regional political and economic integration between Frontline States as well as reducing its members' economic dependence on South Africa. In 1990 SADCC transformed to SADC to promote deeper economic cooperation and integration among member states. This was necessitated by inter alia the small size of member states' individual markets, their low-income base, inadequate socio-economic infrastructure coupled with high per capita cost of providing such infrastructure.

Among other objectives, SADC sought to support economic growth and socio-economic development for ultimate poverty eradication, self-sustaining development premised on the interdependence of member states as well as promoting complementarity between national and regional initiatives (www.sadc.int). These objectives were followed by the definition of timelines in the trading bloc's Regional Indicative Strategic Development Plan (RISDP) to meet the envisaged milestones in the region's development that included attainment of a SADC Free Trade Area by 2008, SADC Customs Union by 2010, SADC Common Market by 2012 and Monetary Union by 2016. Under the SADC Free Trade Area, all tariffs between Member States would be abolished save for external tariffs. The SADC Free Trade Agreement has resulted in the elimination of trade barriers and the lowering of tariffs yet the levels of IRT remain low [7]

Figure 1: SADC member states

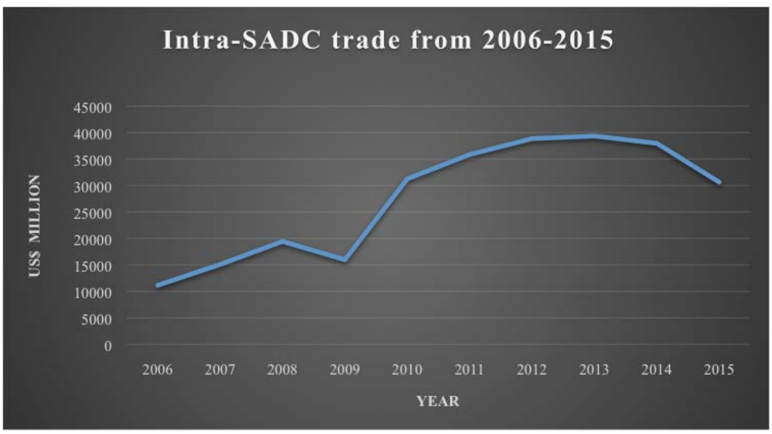


Source: www.sadc.int

Currently, SADC is made up of 16 countries which differ in size and stage of development (*Figure 1*). Dependence on the region for trade divides SADC countries into two groups. Countries like Mozambique, Malawi, Zimbabwe and Zambia heavily depend on SADC, especially for imports[6]. These four countries source more than 50 percent of their imports from other SADC countries and sell in excess of 20 percent of their exports to the region. The other countries in SADC have much stronger trade relationships with the external markets.

The levels of IRT are not even among the countries in SADC as countries like South Africa dominate the bloc's exports but in turn imports less from the other member states. About 58.7% of all imports into SADC and 46.2% of all exports out of SADC member states are destined for, or respectively originate in, South Africa (www.sadc.int).The top 10 products account for 70% of intra-SADC trade for most of the member states which also highlights the countries' comparative advantage in primary products as well as lack of product diversification.

Figure 2: Intra-SADC trade (2006-2015)



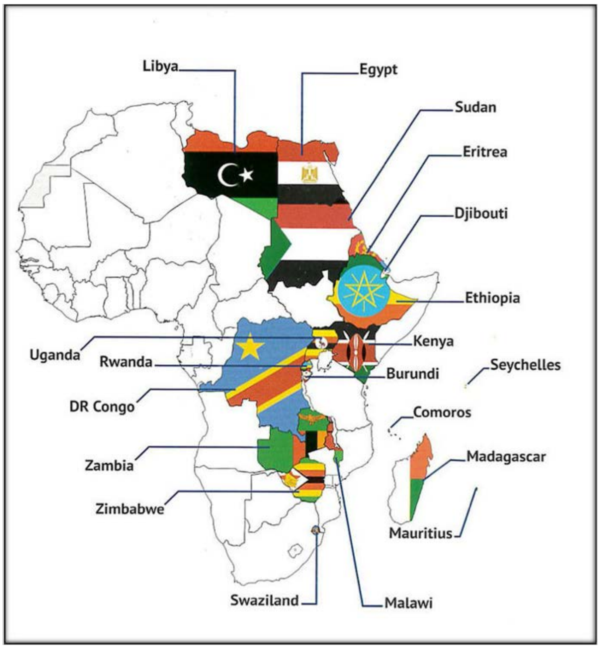
Source: Author's derivation from UNCTADStat 2016

Intra-SADC trade grew significantly between 2006 and 2008 (about 100%), took a dip in 2009 due to the world economic recession and then rose steadily from 2009 to 2014 (***Figure 2***). However, the above trends indicate that from 2014, trade dropped by about 30%.

2.1.2 Common Market for East and Southern Africa (COMESA)

COMESA was established in December 1994 as a successor to the Preferential Trade Area (PTA). Its aim was to create a common market within 10 years. COMESA's focus was on increasing the volume of intra-regional trade through trade liberalization as well as enhancing transport systems through formation of inter-state transport systems (www.comesa.int).

Figure 3: COMESA Member states

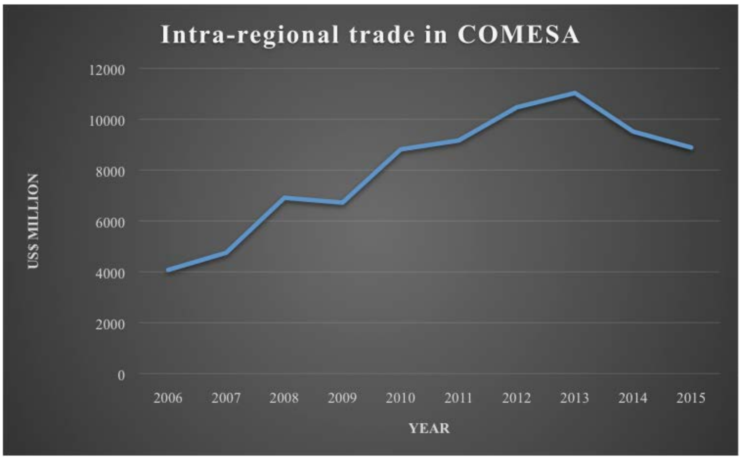


Source:www.comesa.int

The COMESA region has remained the fastest growing economy in the world with five member States Democratic Republic of Congo (DRC), Djibouti, Ethiopia, Kenya, Rwanda and Uganda recording growth levels of between 5% and 10% in 2015 (*Figure 3*). Egypt and Kenya registered the biggest share of intra-COMESA export market in 2015 with 22% and 17% share respectively (www.comesa.int). Zambia, DRC and Uganda followed with 13%, 12% and 11% respectively. Copper ores and concentrates were the most exported products in value terms ($760 million) in the region during the period 2011 to 2015 followed by black tea ($382 million). Cobalt oxides & hydroxides products minerals also performed relatively well in 2015 taking the third slot with an export value of $172 million[8]

With regards to intra-COMESA import market share, Zambia registered the biggest share at 24% with goods worth US$ 2.0 billion in 2015. DRC, Sudan, Uganda, Libya, Kenya and Egypt followed with 11%, 10%, 9%, 8%, 7.4% and 6.7% respectively. Zambia's intra-COMESA imports were mainly copper ores and concentrates and Cobalt oxides and hydroxides from DRC.

Figure 4: Intra-regional trade in COMESA



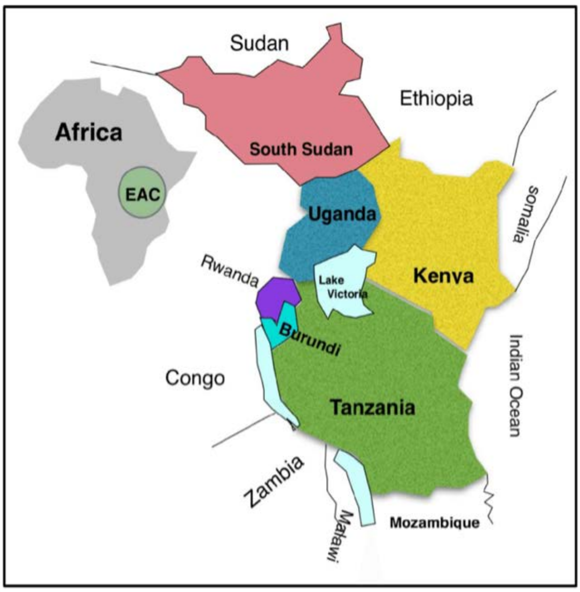
Source: Author's derivation from UNCTADStat 2016

Compared to SADC, intra-COMESA trade has been growing at a slower pace (*Figure 4*) despite COMESA having more members than SADC. The reason for this is that there is more high value industrial activity (manufacturing) in SADC than in COMESA which is more into low value primary goods.

2.1.3 East African Community (EAC)

The EAC consists of Rwanda, Burundi, Uganda, Tanzania, South Sudan (all Least Developed Countries) and Kenya (which is a non-LDC) (*Figure 5*). The East African Community (EAC) seeks to deepen regional integration and by so doing launched 3 steps toward its goal of regional deepening which are the customs union (2005), the common market (2010), and the monetary union (2013). The member states aim to introduce a single currency by 2024[9].

Figure 5: EAC member states

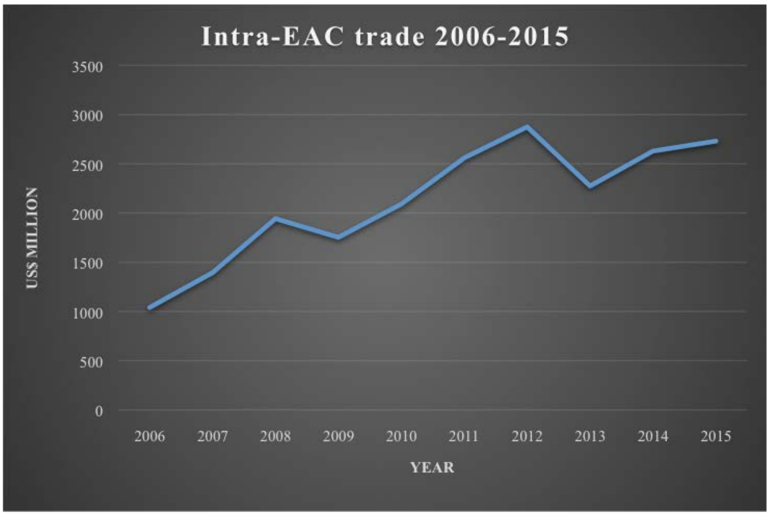


Source: Journal of Pan African Studies (2016)

Kenya is the trade hub of EAC and thus dominates intra-regional trade in the region. In 2009, the country accounted for about 32.8% of intra-regional trade in EAC while Tanzania and Uganda accounted for 26.4% and 23.6% respectively (AFDB, 2011:5). The domination by Kenya is viewed as a setback to the integration process as there are fears of economic polarization. The share of Tanzania's exports going to EAC members is only 7.91 percent, demonstrating that most Tanzanian exports are traded more outside the EAC than within. Rwanda has the lowest share of exports traded among EAC members at 7.34 percent and Uganda has the largest at 23.67 percent[10].

Kenya's largest exports to the EAC are cement and petroleum and Uganda is the largest importer of these products while Burundi imports the least. Burundi's largest import from Kenya is mineral or chemical fertilizers. Tanzania's largest intra-regionally traded commodities are cereals/maize as well as wadding, felts, and nonwoven materials .Kenya imports the most cereals/ maize from Tanzania at $94.08 million[11].

Figure 6: Intra-EAC trade 2006-2015



Source: Author's derivation from UNCTADStat 2016

Form the UNCTAD statistics, it can be concluded that among the 3 trading blocs under study, IRT in EAC is the lowest. The global financial crisis in 2008 did not spare the region as it affected the EAC members' GDP growth between 2008 and 2009.

The launch of Trade Africa in 2013 was aimed to inter alia double intra-regional trade in the EAC, reduce average time taken to export or import a container from Mombasa by 15 percent and reduce transit times. Despite this initiative, IRT in the Community remains low and exports to the US actually increased by $223 million[9]. Countries still focus on exporting primary commodities to external parties' due to poor infrastructure among other challenges. The EU is one of the largest recipients of goods from the EAC with trade increasing by 65 percent since 2006[12].

2.2 Regional Integration

Regional integration has long been viewed by African decision-makers as a way of enhancing social and economic development[13]. Many African governments embraced regional integration after their independence mostly for political reasons. Later they began to view it as a development strategy meant to overcome landlinkedness, their small markets and to take advantage of economies of scale brought about by a larger market and efficiency in production.

Regional integration is viewed as the most promising approach to unite the many fragments of Africa which were brought about by colonialism. The once connected economic spaces, now divided into small economic entities, currently struggle to deal with their smallness which is resulting in market limitations. For instance, a third of all the African countries are each inhabited by less than three million people while about 70% of them have populations less than 15 million each[14]. Regional integration thus brings with it a larger population thereby increasing the demand base or market size which stimulates production, investment and competition in global trade. This will also bring about efficiencies in production associated with economies of scale.

African countries have entered into various regional integration agreements (RIAs) such that currently there is no country on the African continent which is not a member of at least a regional economic arrangement[15]. This has resulted in effect an overlap of membership (the "spaghetti bowl") resulting in conflicting ideologies especially in policy harmonization in the areas of SPS and TBT within the RECs. Regional integration groups currently in place in Africa include the Economic Community of West African States (ECOWAS) in West Africa, the Economic Community of Central African States (ECCAS) in Central Africa, the East African Community (EAC) in East Africa, the Common Market for Eastern and Southern Africa (COMESA)

in Southern and Eastern Africa and the Southern African Development Community (SADC).

Various definitions of regional integration have been put forward. Winter[14], and Mengesha,[15] define regional integration as any policy designed to reduce trade barriers between a group of countries regardless of whether those countries share a common border or are even close to each other. However, many international regional integration agreements comprise of neighbouring countries hence the term "regional". Mambara[16] defines regional integration as the creation of closer economic linkages amongst countries that are geographically near each other particularly by forming preferential trade agreements (PTAs). This paper will adopt the latter definition[16].

2.2.1 Efforts to promote regional integration

In a bid to promote IRT in ESA, numerous initiatives have been put in place. According to political economic analysts, the initiatives have however not resulted in the desired results. This section looks at some of the initiatives and why they have not achieved the desired results.

In ESA, One Stop Border Posts (OSBPs) have been designed to improve customs clearance processes which in turn would boost IRT. Examples of OSBPs in the ESA region include the Chirundu OSBP between Zimbabwe and Zambia, Busia and Malaba between Kenya and Uganda and the Namanga OSBP between Tanzania and Kenya. OSBPs are associated with faster border clearances as is the case at Chirundu, where a recent study by the African Development Bank indicates that there has been a reduction in duplication of processes between Zimbabwe and Zambian customs resulting in time taken by commercial trucks to cross the border being reduced from 3 days to 2 hours[17] . Chirundu OSBP, however is mostly the conduit of world imports to the rest of Africa and hence has not led to improved IRT in ESA but to faster movement of traffic to the rest of Africa and not particularly to ESA.

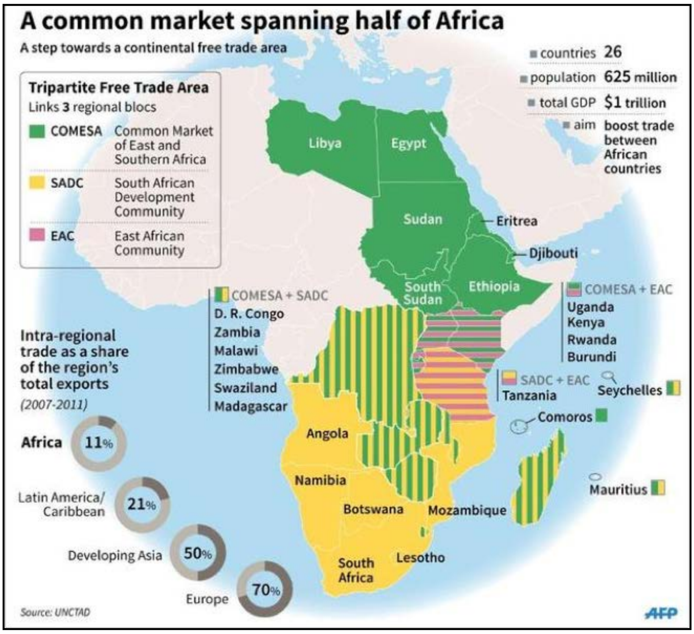
In another effort to improve IRT in ESA, transit corridors have been introduced so as to involve landlinked countries in regional trade. Transit corridors like the Northern Corridor which link Kenya with Burundi, Uganda and Rwanda, aim to ensure secure and efficient transit along defined routes in order to benefit land linked transit countries. The Northern Corridor has helped in reducing transit time between Mombasa and Bujumbura from 30 days to about 15 days[18].

In order to augment transit corridor operations, a unified customs transit document (the road customs transit document) was adopted in 2012, which later on was substituted by the COMESA/SADC customs document. Some ESA countries have gone further to introduce standard road transit fees, a regional vehicle insurance scheme as well as a cargo tracking systems. All these efforts point out to trade facilitation which involves the harmonisation, simplification and standardisation of processes and procedures relating to international trade and are aimed at improving IRT in ESA.

In addition to other efforts to improve IRT in ESA, The SADC Protocol on Trade was launched by heads of SADC states in 1996 to liberalise further intra-regional trade and was amended in 2016 with the objective to eliminate barriers to intra-SADC trade. It is surprising to note that all the 3 regional blocs aim to facilitate trade and eliminate trade barriers in order to improve intra-bloc trade but the situation on the ground points out to the contrary. The decrease in non-tariff barriers has been offset by an increase in tariffs, which defeats the goal to promote intra- bloc trade.

Leaders at the African Union (AU) Summit in 2012 backed a proposal to set up a Continental Free Trade Area (CFTA) by 2017. The envisaged CFTA would become a key component of the AU's plan to augment intra-regional trade by at least 25-30 percent in the next decade (International Centre for Trade and Sustainable Development, 2012). Currently, EAC, COMESA and SADC are in negotiations to the establishment of an Expanded FTA, the COMESA-EAC-SADC FTA which is also known as the Tripartite FTA (TFTA). The main goal of the TFTA, as depicted in *Figure 7* below, is to expand intraregional trade and investment resulting in economic development and growth[19]. The TFTA will account for 58% of Africa's output, 48% of the African countries and 57% of the continent's population making it the biggest FTA in Africa's history[20]

Figure 7: The Tripartite Free Trade Area



Source: UNCTAD 2015

The TFTA has been developed to pursue the general benefits of liberalized trade more widely in Africa and to deal with the problems of overlapping membership. This objective includes eliminating non-tariff barriers (NTBs) applicable to intraregional trade within the broader eastern and southern African region. However, the TFTA does not yet exist as a formally established arrangement with its own agreement. To the extent that these three RECs are in the meantime cooperating in addressing NTBs (while also negotiating the TFTA), it does not yet happen as part of a binding agreement

Although import duties or trade tariffs have gradually declined over the years in SADC, especially since 2001 when most countries started implementing the regional tariff phase down (in line with SADC Protocol on Trade obligations) which resulted in the bloc becoming a free trade area (FTA) in 2008, other non-tariff measures (NTMs) or non-tariff barriers (NTBs) like TBT and SPS measures have however offset the benefits which were supposed to be enjoyed as a result of the FTA status. In an effort to deal with these NTMs/NTBs, most regional members, both on individual capacity and at SADC regional level have started considering ways of removing these barriers through trade facilitation[21].

2.3 Problem Statement

RTAs in ESA are mostly made up of countries geographically near each other. According to the Gravity Model, countries sharing borders are most likely to trade more with each other. Therefore, intra-regional trade in ESA is expected to be high but it is not the case. As a result, this paper seeks to investigate why the levels of IRT remain low in ESA despite concerted efforts to promote regional integration and to proffer solutions on what can be done to improve the IRT.

2. 4 Objectives

1. To investigate why levels of IRT are low in SADC, COMESA and EAC
2. To proffer solutions on what can be done to promote IRT in SADC, COMESA and EAC

2.5 Scope

The paper will be limited to trade in goods within SADC, COMESA and EAC.

2.6 Justification

Although there have been numerous studies on regional integration, a few of these studies focus on why IRT is low in specifically ESA using exporters' views. This study will be of paramount importance to policy makers especially as it comes hard on the heels of the coming into force of the World Trade Organization (WTO) Trade Facilitation Agreement (TFA) whose measures will be useful in supporting the regional integration agenda. Moreover, it will add to the existing body of knowledge on regional integration.

2.7 Structure of Paper

The rest of the paper is structured as follows: Chapter 2 provides the background of the study, which includes the evolution, and objectives of SADC, EAC and COMESA. Chapter 2 also defines regional integration benefits and efforts being done in ESA to promote IRT. Chapter 3 provides a review of various literature on the subject matter. The research methodology follows in Chapter 4. Findings are discussed in Chapter 5 and Chapter 6 concludes the paper and provides recommendations for better intra-regional trade.

3. LITERATURE REVIEW

3.1 Theoretical Framework of Regional Integration

The gravity model of international trade is a theoretical economic model used in international relations to evaluate the impact of trade agreements on regional trade. The model has had much empirical success in predicting bilateral trade flows[22]. According to the gravity model, trade between two countries tends to be proportional to the product of their respective GDPs (which generally reflect both their productive capacity and their buying power), and diminishes with the distance between them (which increases the cost of transporting goods). As a result, large countries tend to trade together in especially differentiated goods. ESA countries generally have small economies and it is no surprise that intra-regional trade levels are much lower than in economically larger regions. Therefore, the gravity model does not to a greater extent explain IRT in ESA because most of the countries' GDPs are small and even close countries tend not to trade more due to NTBs like border delays, regulatory requirements and other infrastructural challenges.

Intra-regional trade in ESA is best explained by the Hecksher –Ohlin Theory which is a further development of the Ricardian Theory of Comparative Advantage. According to the Hecksher-Ohlin theory, trade patterns and structure is influenced by relative factor abundance. The theory states that a country which is capital-abundant will export the capital-intensive good. A country which is labour-abundant will export the labour-intensive good. Each country exports that good which it produces relatively better than the other country. In this model a country's advantage in production arises solely from its relative factor abundance[23].

The nature of IRT in the 3 trading blocs under study is such that countries with an abundance in labour export labour-intensive primary products. This is the nature of trade between countries like Zimbabwe and South Africa. Zimbabwe mostly exports tobacco and minerals to South Africa which in turn exports manufactured goods to Zimbabwe since it is a highly capitalised economy. In EAC, Kenya is the most capital intensive and imports raw materials to use in its industries mostly from Uganda and Tanzania. Since most of the countries in ESA are labour-intensive, they also tend to export labour intensive raw materials mostly agricultural, which are similar thus resulting in low levels of IRT despite efforts to improve the levels of trade.

The Hecksher –Ohlin model demonstrates that advantageous trade can occur between countries if the countries differ in resource endowment. This is due to the fact that a country that is capital abundant is well endowed with capital relative to the other country. This gives the country a propensity to produce the capital-intensive good. If the two countries were in autarky, the price of the capital-intensive good in the capital-abundant country would be low due to excess supply relative to the price of the good in the other country. Likewise, in the labour abundant country, the price of the labour-intensive good would be bid down relative to the price of that good in the capital-abundant country.

The theory demonstrates that differences in resource endowments as represented by national abundances are a motivator for international trade. The standard Hecksher-Ohlin theory assumes 2 countries with identical technologies as well as aggregate preferences across countries. It also assumes 2 factors of production, labour and capital whose mix varies across countries. Differences in factor endowment is the difference that exists between the 2 countries.

3.2 Why Intra-Regional Trade Is Low in ESA Trading Blocs

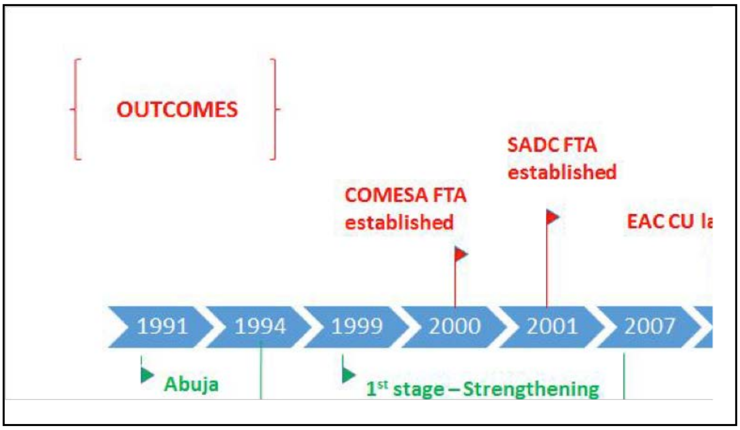
Although there have been numerous studies on RI, a few of these studies focus on why IRT is low in specifically ESA in spite of the strategies put in place to promote IRT in that region. This study will be of paramount importance especially as it uses a combination of exporters', clearing agents' and Ministry officials' input. The study comes hard on the heels of the coming into force of the WTO TFA whose measures will play a fundamental role in promoting regional integration. Moreover, it will add to the body of knowledge on regional integration.

Despite the long history of regional integration on the continent, the level of intra-African trade remains low in comparison with other regions. About 10-12% of Africa's trade takes place amongst African states[24] .Intraregional trade in ESA trading blocs has not been very impressive either despite the various regional integration initiatives[25]. Various schools of thought put across various arguments on the reasons for the low levels of intraregional trade in ESA ranging from lack of regional value chains, product complementarity, poor infrastructure, energy challenges to other NTBS.

There are various types of determinants of intra-regional trade. These include economic variables, like complementarities in trade structures and differences in factor endowments, to policy variables such as tariffs and Non-Tariff Barriers[26]. Geographical location, among other factors may also serve as a non-tariff barrier to having access to particular markets. Similar production structures may be conducive to intra-regional trade between high-income countries but can be a hindrance to intra-regional trade for low-income countries[27].

The AU 2015 attributes low intraregional trade in ESA mostly to the slow or weak implementation of RTAs (*figure 8*) which are meant to rid the continent of tariff and NTBs. For instance, the SADC Free Trade Area that was launched in 2008 is still not having all SADC member states participating in the FTA. Some member states have not lowered their tariffs in line with the required tariff reductions in the FTA due to their reliance on tariffs for economic projects[28].

Figure 8: African regional integration process: key milestones



Source: ICTSD

Doing away with national interests and protectionism and as a result acting regionally, is a difficult strategy for African countries to adopt. Many of the agreements are not implemented or are only loosely implemented. Most African governments feel defensive and vulnerable when it comes to trade policy, due partly to structural imbalances and inequitable rules governing agricultural trade. Unilateral trade policy reforms are not widely embraced while regional agreements are often partial and shallow.

The UNDP (2016) argues that lack of value addition and beneficiation in most COMESA, SADC and EAC member states affects intra-regional trade in the regions. This is due to the fact that most of the trade in ESA is in low value primary products like mineral ores, fuel and agricultural produce which are found in most of the member states and whose prices are susceptible to price shocks. Consequently, there is no room to take advantage of comparative advantage associated with the traded products due to lack of product complementarity.

Generally, manufactured products are vital to intra-African trade since most countries are producers of raw products. Manufactured products attract higher prices on the international market compared to primary commodities. The export of capital equipment will enable manufacturing to take place in ESA and thereby enhance ITR since there will be product complementarity.

Africa in general and ESA in particular is characterised by a plethora of RTAs resulting in multiple and overlapping membership. This leads to different regulations and policy disharmony in the different trading blocs which discourages IRT. Overlapping mandates among the regional trading blocs lead to duplication of activities and in some cases disharmony of policies and standards. Different RTAs often have different transit regulations, local content requirements reflected in rules of origin as well as other regulatory requirements like weighbridges and axle loads. Such differences bring about high compliance costs thus discouraging regional integration efforts.[29]

Although the UNDP (2016) argues that lack of value addition is a cause of low IRT in ESA, Behar et al,[30] argue that high transport costs coupled with inadequate physical infrastructure are a major barrier to trade in most

ESA regional blocs[31]. Costs associated with transport are a major determinant of the overall competitiveness of firms. In ESA, all forms of transport are expensive including feeder roads which link farmers to markets[32]. Transport cost in Africa is more than 60% higher than the average in developed countries owing to poor infrastructure. Studies show that high transport costs can isolate markets, lower economies of scale and consequently discourage trade. A study by ADB (2013) revealed that it costs an average of $100 to $300 per tonne to move goods along Africa's major trading corridors. Due to the predominantly agrarian economies of ESA where smallholder farmers dominate production, the extent of intra-regional trade depends critically on the transport network.

A background paper by the African Development Bank in collaboration with World Bank (2013) attributes low intraregional trade in ESA to the shortage of electricity which is supposed to play a vital role in manufacturing. Electricity shortages affect industrial production and result in high production costs. ESA's power infrastructure delivers a small fraction of the service compared to other parts of the developing world. Unreliable power supply results in frequent power cuts which halt production, damage machines and in some cases, lead to the whole batch under production (e.g. plastics) going to waste which drives up operating costs. Use of alternative sources of energy like generators is very expensive as it is 3-5 times more expensive than electricity. In as much as ensuring a reliable supply of electricity is a priority in most ESA countries, addressing the problem requires huge and costly new investments[27]

A desk study combined with in-depth interviews by Tanyanyiwa et al, to study the challenges hindering trade in SADC revealed that the reluctance or lack of private sector participation in trade issues in SADC greatly affects trade[24]. Private sector plays a very insignificant part in SADC negotiations which are normally dominated by senior government officials. When represented, the private sector is usually by Chambers of Commerce which offer inadequate advice. The private sector is a very vital sector of the economy as it contributes a lot in investments and government revenues and as such should be actively involved in trade decisions.

Non-tariff barriers mostly in the form of cumbersome customs procedures, corruption, roadblocks, multiple border agencies and restrictive rules of origin as well as lack of harmony in regional policies further compound the challenges to intraregional trade in ESA and in the process stifle trade facilitation[33]. For example, SADC's restrictive ROO on clothing and textile (double transformation) reduces the ability of countries to benefit from the trade agreement. This leads to low trade as importers prefer buying from suppliers who furnish them with certificates of origin[34]. Barka agrees that customs procedures play a leading role in affecting trade flows. While conducting studies on challenges to intra-African trade, Barka, identified that customs procedures are lengthy in many African border posts[35]. This, the researcher noted was due to the fact that there was little or no use of modern technology to support customs clearance processes at many African border posts.

An analysis by Jodie Keane et al, on the effects of NTMs on intraregional trade in SADC using Botswana, Namibia, South Africa and Swaziland as a sample and making use of UNCTAD TRAINS database, affirms that trade-related administrative NTBs divert imports from the region to non-regional partners[36]. The analysis revealed that introducing one or more NTMs in a particular sector stifles imports from other SADC countries to the benefit of non-SADC members in that sector. As a result, intraregional trade in SADC is affected.

Trudi Hartzenberg attributes low intraregional trade in ESA to focus being directed on border measures whilst neglecting behind the border issues like investment and services (deeper integration)[37].Trade facilitation measures are in most ESA countries directed mostly at efficient border management in the form of OSBPs while issues like creating a conducive atmosphere for investment are neglected. Intra- regional trade thus requires complementarity of on the border and behind the border measures.

4. RESEARCH METHODOLOGY

Regional integration plays a crucial role in trade creation, creating demand and ultimately economic development, thus it was of paramount importance to investigate the levels of IRT in ESA.

In order to investigate why levels of IRT remain low in ESA despite concerted efforts to promote regional integration and to proffer solutions on what can be done to improve IRT in ESA, both primary and secondary data were used. The researcher gathered data through interviewing Ministry of Trade and Investment Promotion officials in Zimbabwe, exporters registered to trade under SADC and COMESA trade protocols as well as Shipping and Forwarding Agents of Zimbabwe (SFAAZ) members. This was meant to get a firsthand appreciation of the hassles that Zimbabwean exporters and importers go through in order to export or import their goods to and from other SADC and COMESA member states and solicit their views on what can be done to improve the situation. To complement the primary data, the researcher also interrogated trade databases like the UNCTAD Statistics and WB Development Indicators as well as reviewing of existing literature on the subject. In order to get a balanced research, both primary and secondary data were used.

5. FINDINGS

5.1 Herfindahl Hirschman Index of diversification

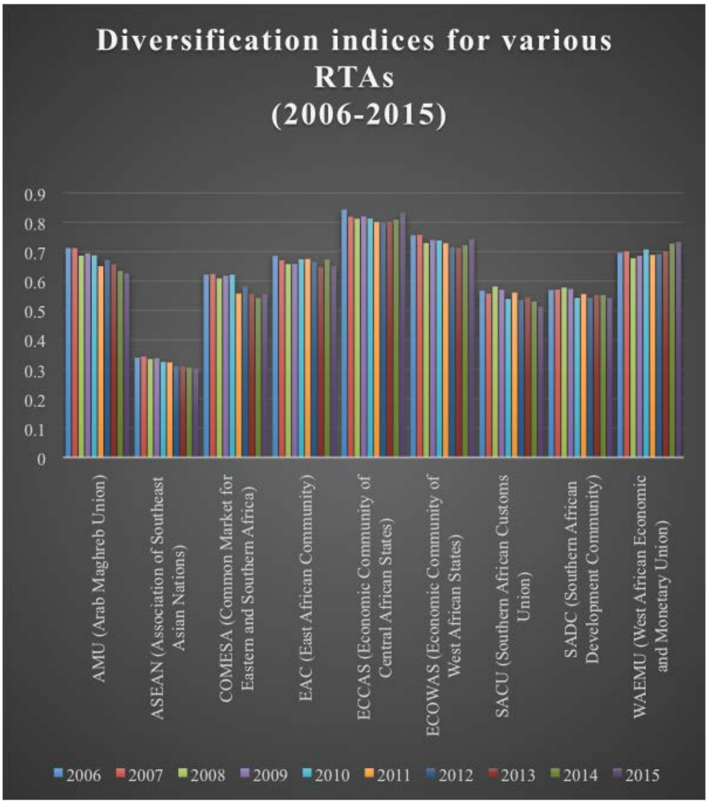
The Herfindahl Hirschman Index is a measure of how diversified a country's export basket is. An index closer to 0 indicates that the country's exports are diversified while an index closer to 1 indicates that the country's exports are concentrated, that is a few products dominate the country's export basket.

Table 1: Diversification Indices for various RTAs

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
AMU (Arab Maghreb Union)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
ASEAN (Association of Southeast Asian Nations)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
COMESA (Common Market for Eastern and Southern Africa)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6
EAC (East African Community)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7
ECCAS (Economic Community of Central African States)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
ECOWAS (Economic Community of West African States)	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
SACU (Southern African Customs Union)	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
SADC (Southern African Development Community)	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.6	0.6	0.6
WAEMU (West African Economic & Monetary Union)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7

Source: UNCTADStat 2016



Source: Author's derivation from UNCTADStat 2016

From the diversification indices analysis of the RECs (***figure 9***), it can be concluded that the 3 blocs under study are less diversified as all of them are above 0.5. SADC is the most diversified of the ESA blocs which also proves why it performs better than EAC and COMESA. COMESA is more diversified than EAC. The Association of South East Asian Nations (ASEAN) was used as a benchmark since it is one of the best performing RECs in terms of IRT in the world. ASEAN exports are much diversified as the HI is closer to 0 than to 1. Form the analysis, one can conclude that export diversification is fundamental for IRT.

5.2 Local exporters, SFAAZ and Ministry of Trade and Investment Promotion

According to exporters interviewed in Zimbabwe, the process of getting registered for SADC or COMESA is lengthy and bureaucratic. It involves submission of the following documents or information to the customs administration, the Zimbabwe Revenue Authority before an inspection is conducted and registration of the exporter is done:

1. A formal application letter (on company letterhead/logo) to be registered under the agreement.
2. A certified copy of the certificate of incorporation.
3. A valid tax clearance certificate.
4. List of contact persons together with their cell numbers and physical addresses.
5. A list of products intended for export (tariff headings optional.
6. List of raw materials used and where they are sourced from (tariff headings optional).
7. A detailed step by step description of the manufacturing process for each product.
8. A sketch plan of your factory showing machinery layout.
9. A certified copy of title deeds or lease agreements for the premises together with any copies of utility bills incurred in the last 3 months.
10. A factual cost analysis of the products you intend exporting as well as calculation of local or import content.
11. List of employees involved in the manufacture of the product(s).
12. Wage sheets for the employees.
13. Job descriptions for the employees.
14. Proof of overheads e.g. rent bills, electricity bills, etc.
15. Any other documents that may be required.

After submission of the above documentation to ZIMRA, an inspection is then carried out to verify whether the manufacturing being carried out by the potential exporter is acceptable under SADC or COMESA Trade Protocols. The inspection of manufacturing process is carried out by one office whilst registration is carried out by another office, thereby increasing red tape.

However, for trade agreements with non-African countries like the Generalised Scheme of Preferences (GSP) and EURO, there is no need for registration and inspection by Customs. An exporter just completes the EURO 1 or GSP certificate, presents it to customs for authentication and verification of the origin of the goods and off they export. This makes trade with non-African countries to be more than with African countries. This is consistent with what Trudi Hartzenberg (2015) observation that more than 80 percent of Africa's exports are still destined for outside markets like the European Union (EU), the United States and

China. Subsequently, Africa imports more than 90 percent of its goods from outside the continent.

SADC and COMESA registrations only cater for registered companies meaning that unregistered SMEs are not able to export to SADC and COMESA. They would rather export to EU and other international countries where no strict rules apply.

Due to the emergence of China as a global economic powerhouse, there is not much manufacturing taking place in SADC and COMESA. Exporters cite that it is cheaper to import ready-made goods like clothing from China instead of manufacturing locally citing expensive overhead costs.

Exporters also cited that rules of origin are stricter for manufactured products than for wholly produced goods like agricultural produce and minerals. For example, in order to be registered to export refrigerators (HS code 8418 under SADC, the value of imported components should not exceed 50% of the ex-works value of the final product. However, to be registered as a minerals exporter, the mineral should be wholly produced in Zimbabwe. This is the end results in exporters being able to export primary goods which are also produced by the other member states, making trading with the international market more sensible than with the regional market.

Lack of industrial capacity for diversified manufactured goods, high transport charges, poor rail and road linkages, too many regulations, too many roadblocks and bribes by the police, cumbersome customs procedures were also cited as barriers to IRT. According to a recent Freight Forwarders meeting in Tanzania in August 2017, freight forwarders bemoaned police roadblocks and bribes as well as exorbitant transit charges at Beitbridge as a barrier to goods transiting through Zimbabwe. One exporter cited that it takes them 53 days to export paint to Uganda from Zimbabwe by ship. The shipment is consigned through Beira, Dubai then Dar es Salaam and later on transported by road to Uganda.

Table 2: Road freight rates for various SADC destinations

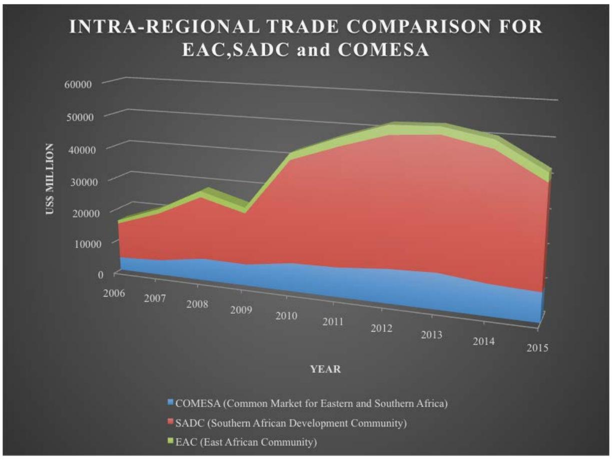
DESTINATION	COST(USD) PER TONNE
Durban	70
Johannesburg	50
Gaborone	70
Lubumbashi	100
Lusaka	60
Copperbelt	75
Blantyre	60
Lilongwe	75
Beira	35
Maputo	85

SOURCE: Compiled from information provided by several truckers

The rates shown in Table 2 are based on cargo moving in loads of 30 tonnes. The transport charges depend on distance from origin to destination, availability of back or return loads and the level of trade between the 2 countries. Where backloads are available, the rate per running kilometre is reduced. The less the level of trade, the higher the trucking charges.

5.3 UNCTADStat and WB

Figure 11: A comparative analysis of intra-regional trade in SADC, COMESA and EAC

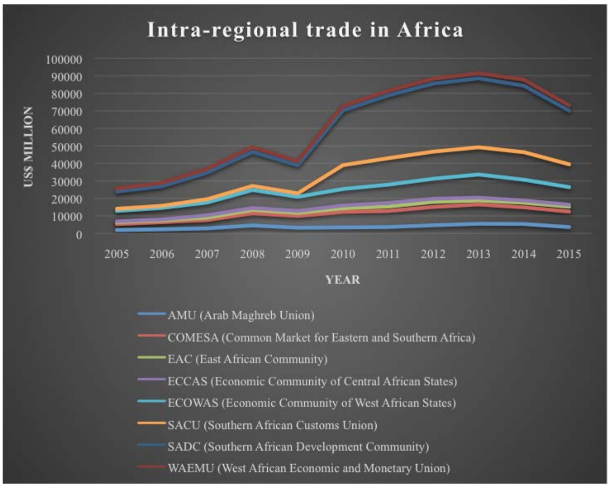


Source: Author's derivation from UNCTADStat 2016

Of the 3 trading blocs in ESA, SADC performs the best, followed by COMESA then EAC (*Figure 11*). Although intraregional trade in ESA is mostly made up of primary products, SADC's economies are more diversified resulting in more demand for the region's products unlike in COMESA and EAC where product complementarity is low.

On a continental platform, the ESA trading blocs, especially COMESA and EAC, do not perform well compared to other trading blocs (*Figure 12*)

Figure 12: An analysis of intra-regional trade in Africa



Source: Author's derivation from UNCTADStat 2016

5.4 The World Bank Logistics Performance Index (LPI)

5.4.1 Table 3: LPI for COMESA

COUNTRY	LPI RANKING	2016 SCORE	CUSTOMS	INFRASTRUCTURE	INTERNATIONAL SHIPMENTS	LOGISTICS COMPETENCE	TRACKING AND TRACING	TIMELINESS
Libya	137	2.26	1.88	2.04	2.4	2.5	1.85	2.83
Egypt	49	3.18	2.75	3.07	3.27	3.2	3.15	3.63
Sudan	103	2.53	2.23	2.2	2.57	2.36	2.49	3.28
Eritrea	144	2.17	2.01	2.06	2.16	2.25	2.03	2.5
Djibouti	134	2.32	2.37	2.3	2.48	1.96	2.09	2.69
Ethiopia	126	2.38	2.6	2.12	2.56	2.37	2.18	2.37
Kenya	42	3.33	3.17	3.21	3.24	3.24	3.42	3.7
Burundi	107	2.51	2.02	1.98	2.42	2.46	2.68	3.45
Comoros	98	2.58	2.63	2.36	2.58	2.6	2.44	2.82
Madagascar	147	2.15	2.33	2.12	2.17	1.93	2.01	2.35
Uganda	58	3.04	2.97	2.74	2.88	2.93	3.01	3.7
Rwanda	62	2.99	2.93	2.62	3.05	2.87	3.04	3.35
DRC	127	2.38	2.22	2.01	2.33	2.33	2.37	2.94
Zambia	114	2.43	2.25	2.26	2.51	2.42	2.36	2.74
Zimbabwe	151	2.08	2	2.21	2.08	2.13	1.95	2.13

5.4.2 Table 4:LPI for SADC

COUNTRY	LPI RANKING	2016 SCORE	CUSTOMS	INFRASTURE	INTERNATIONAL SHIPMENTS	LOGISTICS COMPETENCE	TRACKING AND TRACING	TIMELINESS
Angola	139	2.24	1.8	2.13	2.37	2.31	2.21	2.59
Botswana	57	3.05	3.05	2.96	2.91	2.74	2.89	3.72
Mozambique	84	2.68	2.49	2.24	3.06	2.44	2.75	3.04
Lesotho	154	2.03	1.91	1.96	1.84	2.16	1.92	2.35
Tanzania	61	2.99	2.78	2.81	2.98	2.6992	2.98	3.44
Zambia	114	2.43	2.25	2.26	2.51	2.42	2.36	2.74
Zimbabwe	151	2.08	2	2.21	2.08	2.13	1.95	2.13
South Africa	20	3.78	3.6	3.78	3.62	3.75	3.92	4.02
Namibia	79	2.74	2.65	2.76	2.69	2.63	2.52	3.19
DRC	127	2.38	2.22	2.01	2.33	2.33	2.37	2.94

5.4.3 Table 5:LPI for EAC

COUNTRY	LPI RANKING	2016 SCORE	CUSTOMS	INFRASTURE	INTERNATIONAL SHIPMENTS	LOGISTICS COMPETENCE	TRACKING AND TRACING	TIMELINESS
Uganda	58	3.04	2.97	2.74	2.88	2.93	3.01	3.7
Kenya	42	3.33	3.17	3.21	3.24	3.24	3.42	3.7
Rwanda	62	2.99	2.93	2.62	3.05	2.87	3.04	3.35
Burundi	107	2.51	2.02	1.98	2.42	2.46	2.68	3.45
Tanzania	61	2.99	2.78	2.81	2.98	2.92	2.98	3.44

The World Bank Logistics Performance Index (LPI) was used in this study to assess whether trade logistics affect intra-regional trade in ESA. The 2016 LPI for the different countries in the SADC, COMESA and EAC were analysed. The LPI is a benchmarking tool created to assist countries in assessing their trade logistics performance and ways to improve the performance if need be. The LPI is the weighted average of country scores on the following dimensions: efficiency of clearance processes by border authorities including customs, quality of trade and transport related infrastructure, ease of arranging competitively priced shipments, competence and quality of logistics services, ability to track and trace shipments and timeliness of shipments in reaching destination within the expected delivery time. The LPI ranges from 1 to 5, with 1 being the worst and 5, the best. The 2016 LPI allowed for comparisons across 160 countries.

From the SADC LPI analysis, most member states' averages are below 3. South Africa was the best SADC performer in 2016 with an average of 3.78 whilst Lesotho was the worst with 2.03. In COMESA, Kenya was the best performer (3.33) whilst Zimbabwe was the worst (2.08). In EAC, Kenya was the best with 3.33 whilst Burundi was the worst with 2.51. A comparative analysis of the RECs LPIs indicate that EAC is the best with an average of 2.97, followed by SADC with 2.64 and COMESA with 2.55. The low LPIs for the three RECS are related to the low levels of IRT in the region.

6. RECOMENDATIONS AND CONCLUSIONS

6.1 Addressing the Low Levels of Intraregional Trade in ESA: Recommendations

Urgent practical interventions are required to deal with the various barriers to regional trade integration in Africa thus in the process facilitating the smooth flow of goods and services[38].

- In addition to infrastructure development, ESA member states need to seriously act to implement regulatory reforms and to integrate the services market in order to address non-tariff barriers.
- Political will and implementation are the major interventions which do not even require huge investments or finances. Other measures will however need further financial and technical support.
- To enhance value addition and produce complementary products, there is need for SADC, COMESA and EAC countries to engage in Regional value chains whereby each country specialises in the manufacture of components that they can do competitively. For example, in EAC, Tanzania can specialise in production of sugar, refining it and exporting to Kenya for production of chocolates. Uganda can grow coffee then export it for further processing into chocolates since Kenya is the industrial hub of the bloc. In SADC, countries should take advantage of South Africa as the industrial hub for manufacturing and processing of minerals. Countries should take advantage of their comparative advantage as propounded by the Hecksher Ohlin model.

- In order to address the low levels of intraregional trade in ESA, governments need to complement infrastructure investments with trade facilitation measures. There is need for ESA to adopt trade facilitation measures as stipulated in the WTO TFA. This will lead to harmonisation, simplification and standardisation of trade processes and procedures. The WB Ease of Doing Business, Trading Across Borders indicators as well as LPI for ESA are poor and can be improved by ensuring that trade laws and procedures are published which results in transparency and predictability which is vital for planning.
- There is also need for countries to reduce border delays through automation processes and reducing bureaucracy which breeds corruption and other rent-seeking behaviour. Most borders are characterised by a multiplicity of agencies each playing their own role which may be duplicated by another agency, thus border agency cooperation and the introduction of Single Window may result in quicker clearance and movement of goods in the RTAs.
- The use of risk management techniques, pre-arrival processing, post clearance audits, advance rulings, authorised economic operators, as well as simplified and standardised transit procedures will make IRT smooth and thus increase trade flows.
- Good and reliable transport infrastructure is the backbone of trade and thus IRT cannot happen without good transport linkages. Thus, there is need for improvement of transport infrastructure especially roads, railway and port facilities. These however require a huge financial investment and call for public private partnerships
- For RTAs to be effective, there's need to have services liberalization to keep pace with trade liberalization[27].
- Bottlenecks are created by regulatory and administrative failures which prevent infrastructure assets from intended service delivery. Therefore, there's need for regulatory harmonization to be implemented together with physical integration. As long as administrative procedures and regulatory frameworks are not harmonized to allow the free flow of services across national boundaries, physical integration of infrastructure networks will not be effective[39]. There is no point in opening borders to trade in goods when the same goods cannot be moved from one country to another or when traders do not have the means to effectively communicate.
- Existing rules of origin in the 3 ESA trading blocs are too restrictive thus improving market access is critical to encourage greater intra-industry trade within Africa and attract more foreign direct investment. Reforms are needed to hasten the process of registering exporters for trade protocols and do away with a lot of documentation, simplify rules of origin and mutually recognize and harmonize standards.
- There is need for regional blocs to pool their resources and harmonise their objectives and activities in order to achieve their targets.
- In as much as most ESA countries have rich mineral deposits as well as good climatic conditions favouring agriculture, there is need for the member states to diversify their export baskets to improve IRT. Mutual and beneficial trade only takes place when countries produce complementing products.

7. CONCLUSION

Despite various initiatives to promote intra-regional trade in ESA, the levels still remain low compared to other regional blocs. Poor infrastructure, cumbersome customs procedures, high transport costs, lack of regional value chains and lack of product complementarity are some factors that hinder trade within ESA. There is thus need to complement infrastructure investments with trade facilitation measures in order to address the low levels of intraregional trade in ESA. Above, there is need for political will and prioritization of implementation of the regional integration agenda.

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IMPACT OF REGIONAL INTEGRATION ON INTRA REGIONAL TRADE IN THE EAST AFRICAN COMMUNITY

Kugonza Julius and Ronald Nsubuga

ABSTRACT

The importance of regional economic integration is a very pertinent issue in Africa, particularly in light of existing political and economic weaknesses. It is for this reason that the East African Community member states have since 1999 set up mechanisms to spur trade amongst themselves by establishing regional trade agreement to facilitate intra-regional trade amongst themselves. It is over 15 years ever since the EAC was reestablished and the volume of intraregional trade among the countries still remains very low. This study assesses the Impact of Regional Integration on Intra Regional Trade in the East African Community. A questionnaire and interviews were used to collect data from Traders about the impact of multilateral trade protocols, Common External tariff, rules of origin and one stop border posts on boosting intra-regional trade. The results of the research show if multi-lateral protocols are adhered to, the volume of intra-regional trade would increase by 8.1%. If there is enough sensitization of the CET and reduced multiple memberships to different RECs; this would increase intra-regional trade by 0.9%. Rules of origin challenges if worked on would increase intra-regional trade by 13.8% and finally one stop border posts challenges if solved would increase intra-regional trade by 8.4%. In order for the EAC region to enhance intra-regional trade within EAC, the member states should prioritize reducing non-trade barriers. To achieve this, the EAC member countries should increase their commitment towards the EAC regional integration through aligning their diplomatic, trade and economic policies towards an enabling environment for EAC integration.

Key Words: East African Community, Regional Integration, Intra regional Trade

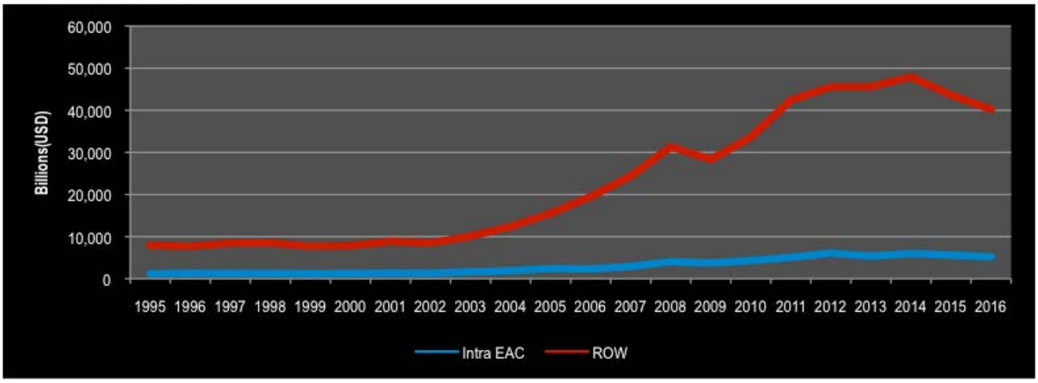
JEL Classification Codes: F15, N17

1. INTRODUCTION

The idea of political and economic integration in East Africa began in 1927 with Uganda, Kenya and Tanzania. The East African Community was created in 1967. However ideological differences and personality problems between the leaders led to its collapse in 1977. Fortunately, the African Economic Community resolved that by 1999, the entire continent ought to have been organised into various regional trade partnerships[1]. As a result, most of the African countries belong to one or more of various economic blocs among them are EAC, SADC, COMESA, ECOWAS etc.

The East African Community member states have since 1999set up mechanisms to spur trade amongst them by establishing regional trade agreements to facilitate intra-regional trade. Regional trade agreements are tools for a strong regional integration which is the only reliable avenue to develop markets and achieve internal economies of scale for Africa and producers in Africa to compete globally[2]. Regional integration widens the market that would lead to thriving small and large scale private sector businesses that can alleviate poverty by contributing to economic growth, job creation and people's incomes[3].

Figure 1: Graph showing the EAC intra trade and How EAC trades with Rest of the World



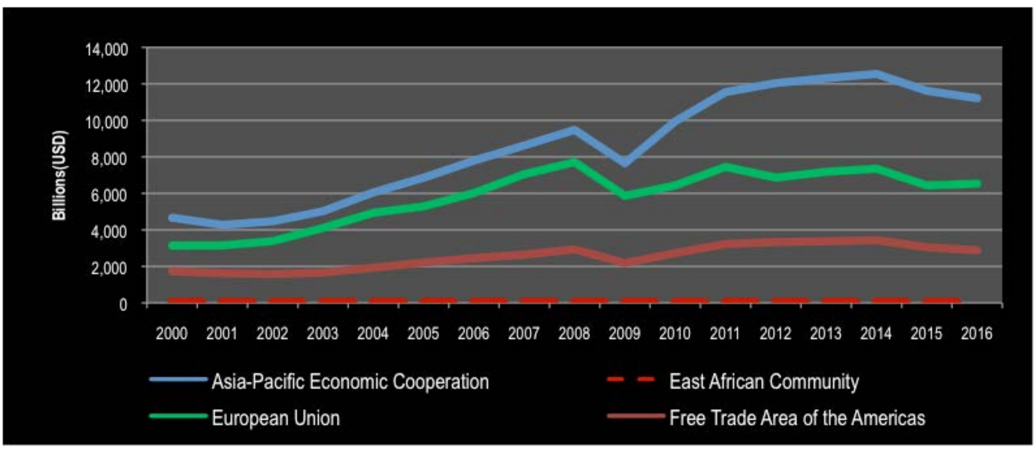
Source: UNCTAD Trade Statistics2017

Figure 1 illustrates the intra EAC trade between 1995 and 2016.The graph above further shows an average of 11.35% as intra EAC trade between 2005 and 2016 which means that even after the establishment of the EAC customs Union in 2005, EAC still trades mainly with the Rest of World.

Whereas there are arguments and issues fronted by researchers, economists and academicians to be pertinent for intra EAC trade, there is still a knowledge gap on the impact of regional integration on intra-regional trade which can aide to establish grounds for improvement, learning and scale up of best practices and effective trade policy.

There is tendency of drawing excellent trade policy mechanisms and directions guided by the established regional integration regulations but remaining on paper. These recommendations are not reciprocated to reflect field implementation and experiences which leave a gap that ought to be bridged in order to achieve intended results.

Figure 2: Graph Comparing EAC intra-regional trade with Intra trade in other Blocs.



Source: UNCTAD Trade Statistics2017

Figure 2 above compares intra EAC trade to other regional blocs like Asia-Pacific Economic Cooperation (APEC), European Union and the Free Trade Area of the Americas (FTAA).In 2016, Intra trade in APEC, EU and FTAA amounted to USD 11,212.085 billions, USD 6,529.862 billion and USD 2,884.310 billion while Intra EAC trade in the same year 2016 amounted to only USD 5.211 billion.

Statement of the Problem

The Customs Union has been in force since 2005 as defined in Article 75 of the Treaty for the Establishment of the EAC. Partner States agreed amongst themselves on a common external tariff (CET), EAC Rules of Origin and with provisions of the Protocol with a major goal of stimulating intra-regional trade and spurring economic development among the partner states.

However, intra-EAC trade remains extremely very low compared to other blocs as seen in figure 2 between the years 2000 to 2016. For example, in 2016 EAC intra trade accounted for only 11.47% of the total trade which compares very poorly with other regional economic blocs such as the Asia Pacific Economic Cooperation, European Union and the North America Free Trade Agreement, where intraregional trade accounts for over 69.87%, 61.73% and 45.99% of total trade respectively in the same year 2016.

This study focused on bridging the knowledge gap on the impact of regional integration on intra-regional trade in EAC. This study explored the impact of regional integration in terms of multilateral trade protocols, common external tariffs, rules of origin and one stop border posts on intra-regional trade in EAC.

Key Research Questions

1. What is the impact of multilateral trade protocols on intra-regional trade in EAC?
2. What is the impact of Common External tariff on intra-regional trade in EAC?
3. What is the impact of rules of origin on intra-regional trade in EAC?
4. What is the impact of one stop border post on intra-regional trade in EAC?

2. LITERATURE REVIEW

Multilateral Trade Protocols

Multilateral trade agreements take course when leaders from two or more countries respectively meet to discuss and sign a trade facilitation agreement which ideally leads to the establishment of various forms of trade areas.

The EAC customs union[4] protocol was established in 2005with a major goal of creating free trade (or zero duty imposed) on goods and services amongst the EAC partner states. In 2012, regional leaders further signed another major trade protocol that aimed at reducing a range of non-tariff barriers which included the 6 truck scales between Mombasa and Malaba, 13 checkpoints in Kenya and another 7 in Uganda[5]. The commitment of the political leaders to unrestricted trade in the EAC is gauged by their commitment to implement the trade protocols signed between them.

Progress towards multilateral protocols experienced a hitch in 2013 due to diplomatic fall-out when Tanzania and Burundi disagreed with Uganda and Rwanda over the rebel armies that troubled the eastern region of the Democratic Republic of the Congo. In July that year, Tanzania even expelled 35,000 Ugandans, Rwandans and Burundians who were said to be illegal immigrants. The re-assurance of Tanzania to continue as member of EAC made hopes for the survival of the regional bloc.

Political determination and acumen at the highest level is very important, as well as benchmarking best practice around the world on how other political agendas handled issues of single customs territories to facilitate efficiency and effectiveness of goods clearing[6].

Common External Tariff

The establishment of a Common External Tariff (CET) regime facilitates trading of goods across borders in a regional bloc cost effectively. In 2005, CET was set at 0 percent for meritorious goods, raw materials and capital goods, 10 percent for intermediate goods and 25 percent for consumer goods which had to be reduced to zero within five years[7].Before the EAC established a CET, Ugandan imports and exports were often subjected to double-tariff charges by Ugandan and Kenyan customs officials. For land-linked countries like Uganda, Rwanda and Burundi, the clearing of goods was often done at Kampala, Kigali and Bujumbura respectively. The revenue authorities had to escort the importing trucks from the border crossings at Malaba, Katuna, Rusumo, Kobero and Akinyaru-Kinyaru up to the capital cities. Thereafter, the clearing process would be conducted after a thorough check of the documents and the goods described therein.

Furthermore, a CET regime in any regional economic integration leads to both trade creation and trade diversion. Trade diversion occurs when a country switches from a more efficient supplier abroad to a less efficient one within the regional bloc. Consumers benefit when a higher cost domestic producer has to contend with cheaper imports from one or more regional partner countries. Before 2005, for instance, Uganda imported nearly 65 percent of the vegetable fats and palm oils from Indonesia and Malaysia at a tariff rate of 15 percent. With the restoration of the EAC, there was a trade diversion which saw Uganda turning to Kenya for 20 percent of all these imports of fats and oils at a preferential tariff of 8 percent[8]. Trade creation on the other hand occurs when new markets are created for regional producers as a result of a CET that directly or indirectly serves to protect regional producers from foreign competitors.

The goals of some regional integration agreements might conflict with those of the EAC in a number of respects[9]. This is especially true for cases of overlapping memberships in various regional economic integrations which may affect trade in many ways. First of all, this aspect presents a challenge with the CET in the regional bloc. For instance, Uganda imported detergents from COMESA countries on a tariff of 6 percent in 2005 while the EAC preferential tariff for Kenyan detergents was at 8 percent[10]. Thus, importers who were prompted to declare their goods as originating in COMESA partner states and not from within the EAC. This caused delays in investigations by customs officials and even revenue loss for the respective importing countries.

As such, many traders have to deal with regional customs procedures and a common external tariff (CET). This has led to lower clearance costs although the CET, averagely 12 percent by 2013, is higher than tariffs for countries that previously had lower customs duties for certain commodities[11].

Rules of Origin

When signing a free trade agreement between various countries, the rules of origin determine the origin of goods of trade that will have to move between the partner states. They also determine their eligibility for entry into the free trade area as well as the customs duties or tariff concessions that they are to be accorded in the regional economic bloc.

There are two types of ROOs that is preferential and non-preferential. According to the EAC Secretariat, preferential rules of origin are regulations provided for in the regional integration agreement to determine which items of trade are eligible for tariff concessions or preferential treatment. Non-preferential ROOs on the other hand determine the country of origin of items of trade for certain purposes. Non-preferential ROOs are reflected in the quotas, anti-dumping and anti-circumvention laws, statistics, and origin labeling. Non-preferential ROOs are based on the assumption that a product always has only one country of origin[12].

In the 2005 Customs Union Protocol, the various items of trade-in the EAC were categorized into A and B. Category A items of trade were exempted from any tariff charges as they moved across the borders. Most of these goods were expected to have been produced entirely in East Africa right from their very raw materials. Category B involved goods such as building materials, plastics, wood, textiles, iron and steel products and others which other partner states could not expose to competition with superior products from another country before those sectors were mature enough. Kenyan exports of these trade items were subjected to a 10 percent tariff. This was scheduled to reduce by 2 percent per annum until 2010 when all tariffs on these goods would be at0%.

There are still cases of persistent failure or refusal of customs officials in the EAC partner states to recognize each other's trade certificates of origin[13]. Disputes have risen from failure of customs authorities to ascertain the viability of certain products for duty-free passage according to the EAC rules of origin. For example, a case in scenario when Uganda was suspected of being a conduit for damped Asian sugar which was then exported to Kenya, the Kenyan authorities were therefore uncertain as to the real origin, quality and type of certain products. A Kenyan verification committee eventually found out that Uganda indeed had a surplus of 36,000 metric tonnes of sugar and was therefore capable of exporting this product to EAC partner states.

In the Rules of Origin drawn by the EAC Secretariat in 2015, there is greater flexibility in determining which type of goods benefit from a waiver of all customs tariffs. Rule 5 for instance broadly gives inclusion in such a category to items such as minerals, animals and animal products, game and fish products, used articles, scrap and waste that come from within the EAC single customs territory itself. Rule 6 gives permission to all extractions from the high seas that are transported or processed aboard a vessel that belongs to one of the EAC member countries.

But all these do not compare with the frustration that persistent protectionist policies cause the business community. Kenya and Rwanda have often been singled out as the biggest offenders in this regard. Kenya's preference for sugar imports from Asia rather than Uganda is a matter that has made the relevance of EAC economic integration even more questionable.

One Stop Border Post

The One-stop border post (OSBP) is a customs clearance point between two countries characterized by a single inspection on one side of the border that clears a load according to the customs rules of both the country that it is leaving and the one that it is entering[14]. In Africa, the first OSBP to be established was at Chirundu on the border between Zambia and Zimbabwe. It began as a tripartite pilot project between the EAC, COMESA and SADC and it reduced the processing time of cross-border transactions for clearing agents. Launched in December 2009, it was subject to a bilateral agreement between the two countries and established with the assistance of the JICA,DFID and the World Bank.

Today, OSBPs are a crucial element in achieving trade facilitation between various partner states in the Single Customs Territory[15]. Dar es Salaam where the Central Corridor starts and Mombasa which is the origin of the Northern Corridor serve as OSBPs for the external trade of the EAC. From the latter, trade flows from Mombasa through Malaba on the Kenyan border with Uganda to Katuna on Uganda's border with Rwanda. According to a World Bank report, the efforts to transform Malaba into an OSBP has reduced border clearance time by over 30% that is from 6.4 days to 2.8 days.

The EAC partner states are determined to establish OSBPs at all border clearance points and to have joint border committees (JBCs) to help streamline and coordinate the border management processes. Modern electronic data interchange systems as well as technically and knowledgably competent staff are necessities in customs management procedures today[16]. Kenya's Simba system was introduced in 2005 to enable electronic customs clearance while the other EAC countries use ASYCUDA but with a major challenge of unreliable network and inadequate ICT infrastructure.

3. METHODOLOGY

Research Design

This research was a cross sectional study which was done at a point in time which saves time[17]. This kind of study helped the researcher to gather data from a small sample to make inference about the wider population of traders. The study population was an infinite numbers of traders that trade within East African Community. 146 cross border traders participated in this study and they were selected using simple random sampling. The random sampling technique ensured that everyone in the study population had an equal opportunity of selection thereby minimizing sampling bias. This helped to deal with external validity of the study results[18].

Study Population

The study population included cross border traders in Uganda that trade within East African Community. Each of them was capable of competently and reliably answering the questions posed by the questionnaire and interview guide that were used in the collection of the relevant data to inform this study.

Data Collection Methods

A combination of qualitative and quantitative data collection methods were employed in this study.

The study used a mixed methods approach, whereby, both qualitative and quantitative methods were used concurrently[19]. The application of mixed methods of data collection supported the researcher in the cross validation of findings between the different methods used[20]. Further advantage of concurrent mixed methods approach helped the researcher to seek out points of connection, guided by the original research question, at both the data analysis and data interpretation stages, by consciously comparing and contrasting the research findings from both datasets[21].

Data Collection Instruments

Questionnaire

A questionnaire was used to collect quantitative data because it is the best data collection instrument to collect data from a large population of study in a short time and it is cost effective.

Interview Guide

The interview guide was an instrument the researcher used to collect qualitative data with the interview approach because it enables collection of qualitative information which is contextual that the questionnaire might not have captured. The researcher interacted face to face with the interviewee(s). The interviews helped the researcher to draw more information from the respondent and also enabled the full clarification of certain issues. In this study, interviews were conducted to get insightful opinions of clearing goods across Uganda's borders.

Documents Review

The study benefited from many secondary/document sources notably research papers, journals and policy briefs on the issue at hand at minimal cost. This source had a challenge of having out dated information which therefore was supplemented by primary data that was collected at a point in time using questionnaires and face to face interviews to acquire more recent information.

Document review is one of the qualitative research methods that facilitated the analysis of issues to answer key research questions from documents that were already present. Documents that were reviewed included but not limited to published research papers, unpublished research reports, East African Community reports, regional blocs trade agreements in both developed and developing countries, newspaper articles, and magazine pieces among others. The documents review process was guided by the document review framework and the key research questions[22].The document review process provided a systematic procedure for identifying, analyzing and deriving useful information from existing documents.

Data Analysis

After the questionnaires were filled by the respondents, the data was compiled, sorted, edited, classified and coded. The data was captured with aide of a well-designed user friendly interface in epi-data. Thereafter data was exported and analyzed using a computerized data analysis package known as Statistical Package for Social Sciences.

The Pearson Product-Moment Correlation Coefficient was particularly used to compute the relationship between the fundamentals of regional integration that is multilateral trade protocols, common external tariffs, rules of origin and one stop border posts with intra-regional trade. Since correlation does not measure causation, regression analysis was used to explain the relationship between regional integration, independent, and intra regional trade, dependent variable, in this study. The coefficient of determination was used to highlight how intra-regional trade is explained by the key fundamentals of regional integration.

The aforementioned data management process adopted for this study enabled the acquisition of results answering the four research questions of how multilateral trade protocols, common external tariffs, rules of origin and one stop border posts have impacted intra regional trade in EAC.

4. KEY FINDINGS OF THE STUDY

Measurement of Variables

The dependent variable of the study was intra-regional trade and the independent variable was the regional integration. Regional integration was measured using four variables which included multilateral trade protocols, rules of origin, common external tariffs and one stop border post. Further analysis with guidance of literature reviewed, each variable had underlying factors which contribute specifically to it. All variables were normally distributed. The assumptions upheld were that factors contributing to the output variable were independent of each other.

First and foremost, multilateral trade protocols included two inherent factors which were sensitive to influencing the success of this concept. The factors included political differences between the leaders of a regional bloc and commitment of countries for a customs union.

Secondly, sensitive inherent factors that are attributed to common external tariffs (CET) included traders' sentiments towards CET, sensitization of traders on CET, and multiple memberships in regional economic blocs.

Thirdly, sensitive inherent factors that are attributed to rules of origin included recognition of certificate of origin for products in EAC by customs of member states, sensitization of traders and clearing agents on ROOs, and Interpretation of rules of origin.

Finally, strong factors sensitive to one stop border posts included Information and Communication infrastructure/ facilities at border posts, competence of customs officials in ICT technologies.

Findings on Multilateral Trade Protocols And Intra-Regional Trade In EAC

Correlation analysis between multilateral trade protocols and intra-regional trade

A multilateral trade protocol is an independent variable with two underlying factors namely political differences between the leaders of a regional bloc and commitment of countries to a customs union. Table 1 below presents the correlation analysis between intra-regional trade and the underlying factors of multilateral trade protocols.

Table 1: Correlation between multilateral trade protocols and intra-regional trade

		Intra-regional trade	Political differences between the leaders of the EAC countries	Commitment of EAC countries for a customs union
Intra-regional trade	Pearson Correlation	1	.112	.258**
	Sig. (2-tailed)		.188	.002
Political differences between the leaders of the EAC countries	Pearson Correlation	.112	1	.081
	Sig. (2-tailed)	.188		.341
Commitment of EAC countries for a Customs Union	Pearson Correlation	.258**	.081	1
	Sig. (2-tailed)	.002	.341	

Source: Primary Data (2017)

Findings in table above depicts that political differences has a relationship with intra-regional trade (r=0.112) implying that political differences that exist do not negatively affect intra regional trade. The commitment of EAC member states has a relationship with Intra-regional trade (r=0.258) implying that the more the commitment of EAC member states, the more the intra-regional trade.

Regression Analysis of Multilateral trade protocols and intra-regional trade

The regression analysis involved the two underlying factors of multilateral trade protocols and intra-regional trade. The aforementioned underlying factors are political differences of regional bloc leaders, and commitment of regional partner states to a customs union. The regression analysis helped to ascertain a causal relationship between multilateral trade protocols and intra-regional trade. This analysis answered the research question of this study of whether multilateral trade protocols impact intra-regional trade. This analysis is presented below in table 2.

Table 2: Regression Analysis between Multilateral trade protocols and Intra-regional trade

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.284[a]	.081	.067	.64958	.081	5.962	2	136	.003
a. Predictors: (Constant), Commitment of EAC countries on Customs Union, Political differences between leaders of EAC countries									

Source: Primary Data (2017)

The results above reflect a coefficient of determination (R-square) of 0.081 implying that 8.1% of variations in intra-regional trade is explained by EAC multilateral trade protocols.

Finding depicted that majority (76.9%) of the traders who participated in the study agreed that political differences of leaders in the East African countries affect the flow of trade between the partner states, 17.5% disagreed and 5.6% were not sure. These findings reflect the same sentiments with COMESA (2013) report that explained that facilitating intra trade requires political commitment at the highest level and resources to formulate and implement policy and institutional reforms. Political ideologies, commitment, will and environment of countries in the EAC are major drivers of intra-regional trade facilitation.

Findings showed that 5.6% of respondents said that all EAC partner states are committed to implementation of the customs union protocol, 43% said most of the EAC partners states have done so, 50% said a few of EAC partners have tried where as 1.4% said that none of EAC partners have tried.

The East African Community multilateral trade protocols have an eminent relationship with intra-regional trade. The political commitment and will of the EAC member states, healthy diplomatic and trade relations are measures of EAC multilateral trade protocols that cannot be underscored in regional cross border trade or regional trade facilitation in general.

Findings on Common External Tariff and intra-regional trade in EAC

Correlation analysis of common external tariff and intra-regional trade

Common external tariff is an independent variable with two underlying factors namely traders' sentiments on CET, sensitization of traders on CET and multiple memberships in regional blocs of EAC member states. Table 3 below presents the correlation analysis between intra-regional trade and the underlying factors of common external tariffs.

Table 3: Correlation between Common External Tariff and intra-regional trade

		Intra-regional trade	Traders' sentiments on CET regime	Sensitization of traders on CET	Multiple memberships in regional economic blocs
Intra-regional trade	Pearson Correlation	1	.178*	.033	.092
	Sig. (2-tailed)		.040	.705	.295
Traders' sentiments on CET regime	Pearson Correlation	.178*	1	.006	.071
	Sig. (2-tailed)	.040		.946	.409
Sensitization of traders on CET	Pearson Correlation	.033	.006	1	.259**
	Sig. (2-tailed)	.705	.946		.002
multiple memberships in regional economic blocs	Pearson Correlation	.092	.071	.259**	1
	Sig. (2-tailed)	.295	.409	.002	
*.Correlation is significant at the 0.05 level (2-tailed).					
**.Correlation is significant at the 0.01 level (2-tailed).					

Source: Primary Data (2017)

Table 3 above reflects that there is a (r=0.178) relationship between sentiments of traders on CET with intra-regional trade implying that the more traders feel that CET is fairly set then the more they will trade across borders within EAC partner states. The sensitization of traders on CET have a(r=0.033) relationship with intra-regional trade implying that sensitization of traders on CET will lead to more traders in the EAC to trade with partner states. Multiple memberships have a (r=0.092) relationship with intra-regional trade implying that multiple memberships in EAC do not negatively affect intra-regional trade.

Regression Analysis between Common External Tariffs and intra-regional trade

The regression analysis involved the three underlying factors of common external tariffs and intra-regional trade. The aforementioned underlying factors are traders' sentiments on CET, sensitization of traders on CET and multiple memberships in regional blocs of EAC member states. The regression analysis helped to ascertain a causal relationship between common external tariffs and intra-regional trade. This analysis answered the research question of this study of whether common external tariffs impact intra-regional trade. This analysis is presented below in table 4.

Table 4: Regression analysis of Common External Tariff and intra-regional trade

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.097[a]	.009	-.006	.75388	.009	.606	2	128	.547
a. Predictors: (Constant), multiple memberships in other regional economic blocs, sensitization to traders on CET, Traders' sentiments on CET									

Source: Primary Data (2017)

The results in Table 4 above reflected a coefficient of determination of 0.009 which implied that 0.9% of the variations in intra-regional trade is explained by common external tariff.

Findings for this study showed that 9.7% of the traders who participated in the study were indifferent about the common external tariff regime contribution to facilitating intra-regional trade in the EAC, 64.6% reported that traders are complaining, 9% reported that traders are satisfied and 16.7% reported that it was hard to tell. Findings further showed that 35.3% of traders believe EAC's CET has been affected by the multiple memberships in regional trade blocs, 28.8% did not agree, 32.9% were not sure.

There is a relationship between the EAC common external tariff and intra-regional trade. The aspect of overlapping memberships cannot be underestimated in having a leveled ground for all EAC member states on CET. This is because the CET strengthening enhances intra-regional trade where goods from EAC member states are protected from competition within the region.

However, one of the respondents argued that CET would have achieved more in spurring intra-regional trade but there is still distortion of the CET in EAC region due to existence of exemption schemes such as Duty Remission Schemes and exemption lists as well as poorly structured CET (mixing intermediate and final products, or basic raw material and intermediate product in same tariff band).

Rules of Origin in EAC

Correlation Analysis of Rules of Origin and intra-regional trade

Rules of origin an independent variable with two underlying factors namely recognition of certificates of origin of goods produced within member states, sensitization of traders on rules of origin, and misinterpretation of rules of origin. Table 5 below presents the correlation analysis between intra-regional trade and the underlying factors of rules of origin.

Table 5:Correlation between Rules of Origin and Intra-regional trade

		Intra-regional trade	Certificates of origin for products in EAC not easily recognized by customs in EAC states	Sensitization of traders and clearing agents on EAC's ROOs	Misinterpreting Rules of Origin delays goods clearance
Intra-regional trade	Pearson Correlation	1	-.072	.349**	-.069
	Sig. (2-tailed)		.410	.000	.433
Certificates of origin for products from EAC not easily recognized by customs in EAC states	Pearson Correlation	-.072	1	-.185*	.028
	Sig. (2-tailed)	.410		.028	.744
Sensitization of traders on EAC's ROOs	Pearson Correlation	.349**	-.185*	1	.018
	Sig. (2-tailed)	.000	.028		.839
Misinterpreting Rules of Origin delays goods clearance	Pearson Correlation	-.069	.028	.018	1

Source: Primary Data (2017)

The table 5 above shows that there is a (-0.072) relationship between certificates of origin for Ugandan items of trade not easily recognized and respected by customs officials in other EAC partner states with intra-regional trade. This implies that certificates not to be easily recognized leads to low levels of intra-regional trade. There is a (0.349) relationship between sensitization of traders on rules of origin with intra-regional trade implying that sensitization of traders on ROOs can lead to more intra-regional trade. There is a (-0.069) relationship between misinterpretation of rules of origin with intra-regional trade implying that misinterpretation of ROOs results in low levels of intra-regional trade.

Regression Analysis of rules of origin and intra-regional trade

The regression analysis involved the three underlying factors of rules of origin and intra-regional trade. The aforementioned underlying factors are recognition of certificates of origin of goods produced within member states, sensitization of traders on rules of origin, and misinterpretation of rules of origin. The regression analysis helped to ascertain a causal relationship between rules of origin and intra-regional trade. This analysis answered the research question of this study of whether rules of origin impact intra-regional trade. This analysis is presented below in table 6.

Table 6: Regression Analysis between Rules of Origin and Intra-regional trade

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.371[a]	.138	.117	.96863	.138	6.656	3	125	.000
a. Predictors: (Constant), Certificates of origin for products produced in EAC not easily recognized by customs in EAC partner states, misinterpreting Rules of Origin delays goods clearance, sensitization of traders on EAC's ROOs									

Source: Primary Data (2017)

The table 6 reflects a coefficient of determination of 0.138 implying that 13.8% of variations in intra-regional trade is explained by rules of origin.

Findings show that 10.6% of the respondents strongly disagreed that certificates of origin for products produced within EAC are easily recognized and respected by customs officials of other EAC member states, 28.9% disagreed, 25.4% not sure, 19% agreed and 16.2% strongly agreed. Findings further showed that 32.9% of respondents agreed that enough sensitization has been done to help traders and clearing agents understand rules of origin in EAC. 58.9% said that sensitization was insufficient and 8.2% were not sure.

The misunderstandings over the interpretation of the Rules of Origin has actually prevented producers and traders from benefitting fully from the wider regional market. The Rules of Origin (ROOs) were revised in 2015 in order to ensure that they do not exclude so many items of trade. Many products have otherwise been prevented from moving between the EAC partner states as a result of very strict requirements for preferential treatment and by persisting customs duties within the EAC.There is increasing concern in business community that rules of origin are an issue and that customs officers reject clearing goods irrespective of them having brands and marked that they are from an East African Country. These lead to delays of goods to reach the market which reduces trade[23]. These delays increase the cost of doing business. The findings of this study revealed that there is a relationship between the rules of origin and intra-regional trade.

One Stop Border Posts In EAC

Correlation Analysis of One Stop border posts and intra-regional trade

One Stop Border Post an independent variable with two underlying factors namely state or condition of ICT facilities at one stop border post, competence of border officials in use of ICT at one stop border post. Table 7 below presents the correlation analysis between intra-regional trade and the underlying factors of one stop border post.

Table 7: Correlation between One stop border post and intra-regional trade

		Intra-regional trade	ICT facilities at the One Stop Border Post at Malaba	Competence of border officials in ICT technologies
Intra-regional trade	Pearson Correlation	1	.239**	.244**
	Sig. (2-tailed)		.006	.004
ICT facilities at the One Stop Border Post at Malaba	Pearson Correlation	.239**	1	.371**
	Sig. (2-tailed)	.006		.000
Competence of border officials in ICT technologies	Pearson Correlation	.244**	.371**	1
	Sig. (2-tailed)	.004	.000	

Source: Primary Data (2017)

The table above shows that ICT facilities have a (r=0.239) relationship with intra-regional trade implying that reliable ICT infrastructure can lead to more intra-regional trade. There is a (r=0.244) relationship between competence of border officials in ICT with intra-regional trade implying that competence of customs officials in ICT can lead to more intra-regional trade.

Regression Analysis of one stop border post and intra-regional trade

The regression analysis involved two underlying factors of one stop border post and intra-regional trade. The aforementioned underlying factors are the state or condition of ICT facilities at one stop border post, competence of border officials in use of ICT at one stop border post. The regression analysis helped to ascertain a causal relationship between one stop border post and intra-regional trade. This analysis answered the research question of this study of whether one stop border post impact intra-regional trade. This analysis is presented below in table 8.

Table 8: Regression Analysis of OSBP and intra-regional trade

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.289[a]	.084	.069	.45825	.084	5.805	2	127	.004
a. Predictors: (Constant), competent of customs officials in ICT technologies, ICT facilities at the One Stop Border Post (OSBP).									

Source: Primary Data (2017)

The table above shows that the coefficient of determination is 0.084 implying that 8.4% of variations in intra-regional trade is explained by one stop border posts.

Finding depicted that 51.4% of respondents said One Stop Border Post stimulated intra-regional trade in EAC since their establishment, 37% said that their impact is negligible and 11.6% said that it is hard to tell.

The findings concurred with EABC report which stresses that common clearance procedures within which one stop border posts belong enhances transparency in customs clearance procedures, reduce time wastage and simplify export and port procedures[24]. Amoako-Tuffouralso have the same sentiments emphasizing that the one stop border post instated at Busia that is Uganda-Kenya has reduced the time and cost of crossing goods across borders[25]

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

The regional economic bloc enables the consolidation of member states' populations, factors of production and market potential so as to trade among themselves and compete favorably in the global economy. The EAC regional integration presents the opportunity for collaborations among the member states that could enhance intra-regional trade thereby transforming the economies of member states.

The level on commitment among the EAC partner states has been identified as the outstanding factor affecting intra EAC trade in a way that a lot of agreements negotiated at the EAC are left on documents and not fully implemented by some of the partner states.

Traders' sentiments about the poorly structured CET (Mixing intermediate and final products, or basic raw material and intermediate product in same tariff band) and distortion of the CET due to existence of exemption schemes such as Stays of Application, Duty Remission Schemes and exemption lists has greatly reduced level of confidence in the CET as a tool to enhance intra EAC trade.

Lack of sensitization on EAC's rules of origin which would help traders to determine which goods qualify for the preferences as well as which level of processing is required to enable the transformation of imported content into final products that qualify for preferences (wholly obtained products qualify for origin).

Recommendations

There is an urgent need to adopt EAC harmonized standards and introduction of a legislation to deter non implementation of the regional integration among EAC member states. There is need to sensitize all stakeholders including governments about the strong correlation that exists between private sector gains from implementation of Customs Union and economic development (EABC, 2008). There is need to quantify the loss of business opportunity as a result of members working outside the EAC. Strengthen business associations and lobby groups to be proactive and petition governments in event of non-implementation of the EAC integration.

In order for the EAC region to enhance intra-regional trade within EAC, the member states should prioritize reducing non-trade barriers. To achieve this, the EAC member countries should increase their commitment towards the EAC regional integration through aligning their diplomatic, trade and economic policies towards an enabling environment for EAC integration.

Member countries should invest in policy research and development in order to learn and adopt best regional trade bloc's practices of already existing trade blocs in order to learn from mistakes of other trade blocs and counteract likely challenges to the established EAC regional integration. The EAC members states ought to review their protectionism policies, establish dialogue with other member states of best trade policies which may counter barriers to intra-regional trade.

The EAC member states should continue toharmonize the common external tariffs and rules of origin in order to establish a level ground amid discrepancies brought about by overlapping membership in other blocs especially COMESA and SADC.

There is need for the East African member states to strengthen the verification missions in terms of funding, time and capacity of both Customs and the business community so as to be able to carry out the verifications missions effectively. This will reduce the friction with business community, mistrust, and associated frauds and also customs authorities' failure to recognize certificates of origin of goods produced within the member states of the EAC.

It is important to involve the private sector participation in the crafting of a trade policy, including restrictive ROO which are designed to preserve and protect sectors and products. Additionally, there should be an objective to develop inter-regional linkages between upstream and downstream industries.

The EAC member countries should intensify cooperation in coordinating Rules of origin issues by sharing information amongst themselves for easy verification of authenticity of the Certificates of origin and also to reduce acts of ROO abuse which leads to acts of trade deflections among the member states.

Ministries of EAC affairs in partner states should intensify on massive sensitization drives among traders on rules on origin,Common External Tariff,OSBP's and different multilateral protocols greatly enhance intra EAC trade.Thesesensitizations should involve using media campaigns on the aforementioned issues in local languages which easily be understood by both the literate and illiterate.

Turning our attention to the COMESA-EAC-SADC Tripartite, the processes of the tripartite should be expedited to enable the counteracting of some of the inconsistencies and costs in regional integration brought about through overlapping memberships. There are some benefits which accrue from countries being members of more than one Regional Economic Community but these benefits are not in the area of intra-regional trade policy[26].

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6

SECURING AND FACILITATING TRADE IN EAST AND SOUTHERN AFRICA

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ABSTRACT

Customs administrations have a national obligation to secure and also to facilitate trade. From a customs perspective, securing trade refers to the implementation of controls on behalf of other government arms and departments. Trade facilitation has been defined in various ways by different organizations. However, for the purposes of this study the WCO's definition shall be preferred, which refers to trade facilitation as the avoidance of unnecessary trade restrictiveness. The importance of this study stems from the apparent incompatibility of trade security and trade facilitation. Even though the two concepts refer to different processes it is critical for customs administrations to secure and facilitate trade.

International organizations, such as the WTO, WCO, UNCTAD and many others have embarked upon various programmes with an aim to merge trade security and trade facilitation. Various measures have been implemented in an effort to attain an integrated approach, which accommodates the two aspects of global trade. The WTO Trade Facilitation Agreement (WTO TFA) has introduced various measures aimed at promoting the security and facilitation of international trade. Trade security and facilitation have also been highlighted in the Revised Kyoto Convention on the simplification and harmonization of Customs procedures of 2006. The aim of the WCO Mercator Programme is to enable the implementation of the guidelines of the WTO TFA through WCO trade facilitation instruments, which include the SAFE Framework of Standards to Secure and Facilitate Global Trade, and guidelines of the Kyoto Convention of 2006.

This chapter examines trade security and facilitation issues within the context of East and Southern Africa with particular emphasis on the WTO TFA and the efforts under the Mercator Programme. Against this background, the chapter considers the successes and limitations of attaining an approach that integrates trade facilitation and security. It is envisaged that the study will provide the basis for improving the integration of trade security and facilitation.

Key Words: Facilitating Trade, Trade security, Risk Management

1. INTRODUCTION

The World Trade Organisation (WTO) Trade Facilitation Agreement (TFA) offers policy guidelines for streamlining trade while the World Customs Organisation (WCO) is responsible for developing instruments that aid in the implementation of trade facilitation measures. It is equally important to take note of the assertion by Widdowson[1] that the success of trade facilitation is dependent on striking a balance between the facilitation and regulatory control of trade. Traders prefer the most cost effective way of importing and exporting.[2] Customs administrations have an obligation to regulate global trade in conformity with national legislation, which seeks to secure the wellbeing of citizens.

In the face of increased global trade the WCO has highlighted the need to ensure robust controlled trade. It has become imperative for Customs administrations to have a risk management policy that ensures security and expediency in the movement of goods across borders.[3] In developing such a risk management policy Customs administrators have to be clear on their understanding of the concept of risk management.

The WCO points out that in building a framework for managing risk it is important to understand that risk in itself is the effect of uncertainty on organizational goals and a risk management policy refers to the statement of an administrator's overall intentions and direction regarding risk management.[4] Risk assessment, which is the overall process of: risk identification, risk analysis, risk evaluation and prioritization; is also critical in building a framework for managing risk. The Revised Kyoto Convention[5] promotes trade facilitation, enforcement of regulatory controls and outlines 600 standards on harmonization and simplification of trade. One of its key tenets is that of maintaining the balance between trade security and facilitation.

The SAFE Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework)[6] also addresses facilitation and security concerns by prescribing minimum principles and standards necessary for securing global value chains that WCO member states should embrace.

There are several other studies and reports that have focused on trade facilitation and security, most of which have addressed the issues from the context of Europe and South East Asia.[7] However, very little work has focused on the East and Southern Africa region. This paper critically analyses the trade facilitation and security measures in Eastern and Southern Africa. The study analyses instruments of trade security and facilitation with the aim of offering recommendations for improved control of goods that would concurrently promote expedient trade.

In order to integrate trade facilitation and security the author conducted a study within the framework of the Global Value Chains Theory and more specifically the Integrated Value Chain System Theory. With goods crossing borders multiple times trade facilitation has become an important issue in international trade along Global Value Chains.[8] The Global Value Chains theory is based on the premise that there is an increase in world trade global interconnectivity. This has created interdependency throughout the world in terms of preserving security and expediting trade. A security breach in Zimbabwe has the potential to threaten peace even beyond the East and Southern Africa Region. This calls on a global approach to security and trade issues. The Global Value Chains Theory is concerned with attaining free and risk free trade. Global security concerns issues such as corrupt practices by Customs administrations, crossing of illegal immigrants, human trafficking, cross border terrorist activities and smuggling of narcotics and weapons, which magnify the importance of resolving security concerns associated with trade. The Value Chain System Integration Theory is hinged upon the Global Value Chains Theory as put forward by Gereffi.[9] The Value Chains System Integration Theory goes further to emphasize how "…. the chain of activities executed by two or more separate organizations"[10] may bring customer satisfaction. The fundamental attribute is the involvement of multiple stakeholders in the Value Chains System Integration Theory. The theory bodes well with the idea of securing and facilitating trade because the two functions require the efforts of two or more organizations, combining the notion of trade facilitation and security. This brings together organizations geared for trade promotion, clearance of goods and organizations such as police and immigration, which safeguard security and other regulatory matters. This calls for an integrated approach in dealing with value chains. The SAFE Framework is also concerned with both facilitation and security.

The major objective of the study is to critically analyse the policies and instruments that are in place to secure and facilitate trade in Eastern and Southern Africa, with particular focus on identifying the measures implemented, establishing potential challenges and bottlenecks, and further making recommendations on how to enhance trade security within the region.

2. METHODOLOGY, RESEARCH DESIGN AND SCOPE OF THE STUDY

Research Design

The researcher chose a descriptive survey approach, focusing on describing and interpreting the role of Customs administrations in enhancing trade facilitation and security. The descriptive approach was appropriate for the study because it does not influence the behaviour of subjects in any way and is based on the natural setting capturing accounts and experiences of traders (importers and exporters).

Primary data is based on the case study of Zimbabwe. Notwithstanding the primary source of data used for Zimbabwe, documentary (literature) sources of information were used to obtain secondary data pertaining to other countries in Eastern and Southern Africa.

Scope of the Study

The study examined concepts and instruments of ensuring that the citizenry is not negatively affected by illegal activities at border crossings such as smuggling of narcotics, dangerous arms, human trafficking, cross border terrorist activities and import tax evasion . The study also looked at trade facilitation measures and how they relate to trade security issues. The study examined concepts within the context of East and Southern Africa countries.

Research Methodology

The research was based on a mixture of qualitative and quantitative methods with more emphasis on qualitative methods. The qualitative approach was appropriate for the research given that the study dealt in value laden phenomenon such as how to secure and control trade. The research involved an examination of attitudes, feelings, experiences and accounts pertaining to trade and security. The researcher sought to understand the relevance of legislation, and also the extent of cooperation between Customs administrations and cooperation with stakeholders at border points. Such phenomenon can best be described in words and in the context of lived experiences and accounts by traders responding to the questionnaire. The inquiry requires a largely interpretive approach. Ravitch & Carl[11] underscore the need to use the most appropriate methodology taking into consideration the nature of the study. Although qualitative data was helpful in constructing ideas and knowledge based on descriptive words used by subjects in responding to questions, in order to neutralize the subjectivity and bias associated with the qualitative approach the researcher introduced quantitative methods. Some of the data was amenable to quantitative analysis such as Customs clearance turnaround times. Data was displayed in tables and charts making it independent from the interpretations and opinions of the researcher and also allowing objective numerical analysis.

Qualitative and quantitative data was collected using a hand delivered questionnaire. Some questions required interpretations and opinions while some required precise facts and figures. The questionnaire containing open ended and closed questions was distributed to the different categories of traders to collect primary data at four border posts in Zimbabwe. Open ended questions addressed the qualitative aspects of the research while the closed questions required precise factual answers, addressing the quantitative dimensions. It was envisaged that this would be time saving as opposed to face to face interviews. The data was analysed using the Statistical Package for Social Sciences (SPSS)[12] which presented the data in tables and figures.

Research Sampling

The researcher used convenience sampling in identifying Zimbabwe as the case study from which primary information was sourced out of the countries in East and Southern Africa. Zimbabwe is a convenient sample for primary data given that the researcher is based in Zimbabwe and had easier access to the respondents. While the research is concerned with analysing trade security and facilitation across East and Southern

Africa, given the expansive area to be covered the study had to contend with a conveniently accessible sample within Zimbabwe. Considering the number of countries involved, the limited time, coupled with resource constraints it was not feasible to physically visit all the East and Southern African countries.

The universe population of the research consisted of traders in East and Southern Africa. In light of the fact that the research was cross-sectional, as it was conducted within only 3 months, from September 2016 to November 2016, it was expedient that the researcher had to identify a workable sample within the limited time. The researcher used stratified sampling to ensure that each of the three categories of traders was captured, namely: large companies, Small to Medium sized Enterprises (SMEs) and informal traders. The population of large companies and medium to small companies importing and exporting through Beitbridge, Chirundu, Harare and Mutare ports was 2500 in 2015 according to ZIMSTATS.[13] The interval sampling technique was used where every tenth trader in each category was selected. A sample of 250 large and medium sized companies representing 10% of the population was identified. The sample was stratified as follows: 175 SMEs and 75 large companies, hence the SMEs accounted for 70% of the population while 30% was large companies. It was further established that there was a combined average of 1000 informal traders using Beitbridge and Chirundu on a daily basis from the ZIMRA passenger manifests and the researcher settled for a sample of 100 informal traders representing 10% of the population. The researcher attained the 10% sample by using interval sampling, periodically selecting every tenth subject from the informal traders importing and exporting.

The researcher however felt that it was imperative to reflect on trade security and facilitation in other countries within the region. This prompted the researcher to resort to secondary data contained in literature, which included journals, texts on conference proceedings and technical reports of organizations such as EAC, SADC, WTO, UNECE, UNESCAP WTO and WCO. The major advantage of secondary data is that it is usually reviewed and tested, thus affirming its validity and reliability. Moreover, secondary data is less expensive to gather.

3. LIMITATIONS OF THE STUDY

The research was cross-sectional since it was conducted over a limited period of three months. Trading and travelling is seasonal with an increase in traded goods and tourists during and towards the festive seasons. Such fluctuations in volumes of traders and travellers could affect reliability of results.

4. EXISTING MEASURES FOR SECURING AND FACILITATING TRADE

4.1 The Role of Customs in Trade Security and Facilitation

There has been an increase in volumes of goods traded across borders due to globalization of trade. The high volumes and increasing varieties of goods being traded across borders has made the work of monitoring cross border trade overwhelming for Customs administrators. Zimbabwe acceded to the Revised Kyoto Convention[14] with the intention of implementing the WCO's new Framework. The complexity of Customs administration lies in effecting controls on behalf of all government departments and agencies that deal with trade issues. Areas covered by Customs include health, immigration, police, agriculture, environment, trade statistics, wildlife, museums and national monuments among others. This cocktail of responsibilities may be perplexing and requires a systematic and structured approach of managing risks.[15] Besides the wide ranging responsibilities thrust upon Customs administrators, they are expected to maximize efficiency while safeguarding legitimate regulatory objectives.[16] In order to strike the balance between the regulatory and trade facilitation function, Widdowson, proposes a risk managed approach.[17] A risk managed approach is contrary to the traditional "gate keeper" style of administering 100% checks. The "village policeman" approach is more appropriate where information or intelligence is used as a basis for carrying out targeted searches. Targeted searches enable Customs administrations to concentrate financial and human resources on areas perceived to be posing high risk.

In an effort to achieve trade security Harrison and Holloway identify three fundamental themes that need to be addressed by Customs administration: risk management, relationship between Customs and industry and also information management.[18] Using the three themes as a framework the research will proceed to identify measures that have been applied by the Zimbabwe Revenue Authority[19] (hereafter referred to as ZIMRA). The three themes were addressed in the attached questionnaire.

4.2 Ensuring Trade Security and Facilitation through Risk Committees

Zimbabwe Customs administration has a number of Risk Management measures that specifically support a targeted approach, assisting officers to concentrate on high risk areas. Customs administration, according to the WCO, entails having an organizational framework for managing risk.[20]

In Zimbabwe as a means of securing trade while simultaneously facilitating trade, Risk Committees have been set up at port level or station level. Risk committees also exist at Regional level under the Technical Services section. Risk Committees are some of the instruments set up to oversee efforts directed at determining risk in importations and exports with a view to assess and manage risk or uncertainty on organizational goals.[21] At station level risks identified are reviewed and consolidated for onward transmission to the Regional Technical services section where there are units specializing in risk management. Ultimately information pertaining to risk management is reported to the National Risk Management Unit.

4.3 Securing and Facilitating Trade: From ASYCUDA++ to ASYCUDA WORLD (E-Customs)

According to its mandate and vision Zimbabwe Customs is geared to optimise revenue collection and ensure a secure supply chain. Zimbabwe Customs administration migrated from ASYCUDA ++ to ASYCUDA World,[22] which is a web-based system with the following functionalities:

- Enhanced system controls using electronic control as opposed to paper based controls
- Intelligent electronics Risk Management System that is updated periodically
- Easy compilation of trade statistics
- Interfacing with other government and international organizations
- Automation of all Customs processes
- Non- intrusive search and transit monitoring methods
- Easy navigation of the system on the web page.[23]

ASYCUDA World has been instrumental in risk profiling, allowing systematic targeting of areas regarded as high risk. Forty seven countries in Africa are either using ASYCUDA World or ASYCUDA++.[24]

4.4 Non-Intrusive Inspections

The use of scanners has enhanced Zimbabwe Customs risk management capacity. The mobile scanners received in 2013 have the potential to scan 20 truckloads per hour.[25] Non-Intrusive searches have the advantage of being less time consuming, require less labour and are more effective. All the major borders in Zimbabwe now have scanners for baggage and commercial searches.

4.5 Managing Risk and Facilitating Transit Cargo

Transit fraud poses a great threat to trade security within Southern Africa. Many of the principles and good practices for transit facilitation are set out in GATT/WTO Article V (Freedom of Transit).[26] Transit fraud will be effectively curbed by the introduction of the cargo tracking system by ZIMRA.[27] There is need to establish an effective Customs guarantee system for goods in transit to secure duties at stake. To this end the Zimbabwe Customs managed, in December 2016, to roll out the Electronic Cargo Tracking System (ECTS)[28] uses the Geographical Positioning System (GPS). Transit cargo is monitored by arming conveyances transporting cargo with electronic seals. The tracking system is integrated into the existing ASYCUDA World system and allows real time tracking of the cargo up to the point of exit.

4.6 Managing and Facilitating Trade through Post Clearance Audits

The East African Community (EAC) has managed to assume a regional approach to risk management through its Customs post clearance audit approach. A post clearance audit manual was developed for use among EAC member states, based on the rationale that increase in international trade, coupled with declining resources available for customs administrations and the need for trade facilitation has necessitated the adoption of risk management and audit based controls[29]. The existence of a regional audit manual ensures uniformity in the application of post clearance procedures and risk management.

4.7 Building Trust and Cooperation between Customs and Industry for Safe Trade

The second theme of trade security is hinged upon the relationship between Customs and industry. Generally, honest traders seek recognition for their good track record of compliance. ZIMRA rewards low risk traders with Authorized Economic Operator (AEO)[30] status. The advantage of the status is that, low risk trusted traders are not subjected to rigorous inspections. The salient features about the AEO status are fewer physical and document based controls, priority treatment of consignments selected for control and also recognition as a safe and secure business partners.[31] When the AEO status is extended to other traders who fall within other Customs administrations it is referred to as the Mutual Recognition Arrangement (MRA).[32] The criteria used to place traders on the authorized traders scheme is based on risk management techniques. The MRA status confers favourable treatment to a trader within a number of countries especially within a trading block. MRA status is however not provided for by ZIMRA.

Through its corporate plan, the Kenyan Government made strides towards improving the relationship between Customs and industry. The Kenya Revenue Authority's Sixth Corporate Plan,[33] running for three years, ending on 30 June 2018 explicitly declares its commitment to enhancing Customs focus on border security and trade facilitation.[34] Under the Corporate Plan trade security is based on "*Building Trust*" between Customs and industry. This is consistent with the WCO Risk Management Compendium,[35] which highlights the importance of treating risk management and building a relationship with clients as an organizational culture.

4.8 Enhancing Trade Security and Facilitation through Management of Information

The third theme under trade security and facilitation may be analysed within the context of information management. Intelligence or information is central to provision of trade security. The Coordinated Border Management (CBM)[36] concept is instrumental in consolidating information that is necessary for provision of security. Coordinated Border Management (CBM) operates on the basis of sharing information. Apart from Coordinated Border Management (CBM), the advance cargo and advance passenger name record are also useful in the provision of vital information for trade security. Regional integration provides an enabling environment for the free movement of useful information within a bloc.

SADC has laid down guidelines for Coordinated Border Management (CBM) refers to national and international coordination and cooperation among all relevant authorities and agencies involved in the protection of the interests of the state at the border to establish effective, efficient and coordinated border management, in order to reach the objective of open, but well controlled and secure borders.[37] The basic tenets of Coordinated Border Management (CBM) are the One Stop Border Post (OSBP)[38] and Single

Window Concept (SW)[39] concept. It is also proposed in the SADC guidelines that there is need for a Border Agency.

Zimbabwe and Zambia have made strides in implementing the guidelines by opening their first One Stop Border Post (OSBP) at Chirundu, giving rise to increased international coordination. Article 9 of the COMESA Treaty (1994),[40] encourages member states to take up trade facilitation programmes. A collaborative approach is encouraged among member states. The OSBP concept was an outcome of a COMESA Council of Ministers meeting held in Kigali, Rwanda in 2005 as a trade facilitation vehicle to enhance trade in the North South Corridor.[41] In Zimbabwe the OSBP concept was introduced at Chirundu Border post on 5 December 2009. The project was financed by the United Kingdom's Department for International Development (DFID) and the Japanese International Cooperation Agency (JICA).

The advance cargo and passenger manifest was introduced by the Zimbabwe government in January 2012 to enhance trade security and facilitation. Under the arrangement transporters, cross border bus operators and airlines are required to submit a list of cargo and passengers on board not later than three hours before arrival, the rationale being to allow adequate time in advance for Customs to risk profile goods and passengers. The arrangement was introduced on the back of supporting legislation in the Zimbabwe Customs and Excise Act Chapter 23:02 following the 2012 Zimbabwe National Budget Statement.[42]

In its endeavour to secure and facilitate trade, ZIMRA has allowed importers to pre-clear their shipments even when they are still at the point of loading. The logic being to reduce the delay caused when trucks have to await document processing at the border points. Where shipments are pre-cleared, the release documents are only issued upon arrival of the truck at the border. This facility has been embraced by the importing community as it saves on time and demurrages.

Under the SW concept data is entered into one electronic system and all stakeholders involved in clearances can make use of the data. All data from the agencies involved is captured on one document. The SW concept was incorporated into legislation at the beginning of 2006. Legislation in place (Customs and Excise (General) Regulations. Statutory Instrument 154 of 2001)[43] has created an enabling environment for the SW concept by allowing for the lodging of standardized information and documents by traders, single submission of information, coordinated controls, sharing of information between traders and government and also amongst government agencies, and recognises the SW system as a source of trade related government information. The process of implementation remains an on-going process in Zimbabwe with ZIMRA- having managed to roll out a single collection point of all border fees collected at entry points by the various stakeholders situated at the border.

5. CHALLENGES AND BOTTLENECKS IN SECURING AND FACILITATING TRADE

5.1 The Importance of Risk Management

The aim of this chapter is to establish the extent to which countries in East and Southern Africa have embraced the idea of securing and facilitating trade, mainly through the concept of risk management. Technical reports from regional groupings and related literature were used to understand the situation for other countries within ESA besides Zimbabwe.

Firstly, the researchers identified efforts and measures towards risk management in Zimbabwe. The research covered four ports of entry. Traders who included informal traders, SMEs and large companies responded to a questionnaire (self-administered).

5.2 Impact of Risk Committees on Trade Security and Facilitation

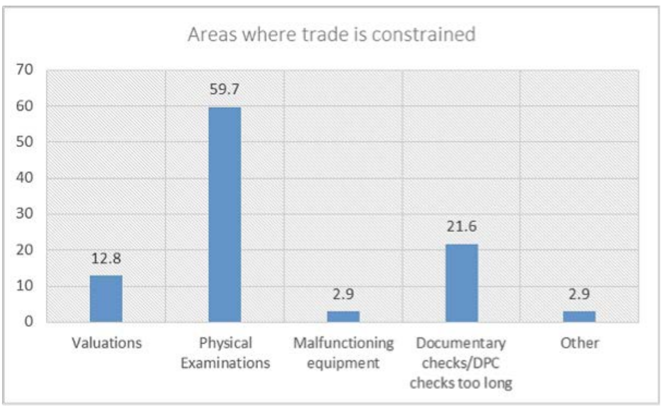
Article VIII of GATT 1994[44] (fees and formalities) deals with risk management in Customs administration and how a Customs administration is obligated to set up structures for managing risk. Risk assessment involves identifying high-risk consignments and those that are less risky, with the ultimate aim of categorizing the consignments according to the risk that they pose to the administration.

The existence of Risk Committees in ZIMRA is an opportunity for facilitating trade and a demonstration of international best practice.[45] Risk Committees manage risk. The Risk Committees exist at three levels: national, regional and station level. The Committees deliberate on issues pertaining to risk management and have come up with a national risk register and commercial risk register, the purpose being to use the intelligence gathered to feed into the Automated System for Customs Data (ASYCUDA) selectivity profiling platform. It is not clear if information gleaned from the Committees is used in the operations at station level. Respondents to the self-administered questionnaire in all three categories of traders concurred that some stations were carrying out 100% searches. This may be attributed to the risk associated with the products being traded.

However in response to the open-ended question, which sought to establish challenges of importers, some respondents indicated that they were needlessly and repeatedly being subjected to physical examinations, even though they had clean records. Low risk traders should not be continuously subjected to 100% physical examinations if there is effective risk profiling. Respondents felt that if risk profiling was done, effectively there would be no need for 100% physical examinations. It was further suggested that risk profiling should look into many aspects of businesses, which include ownership, debts, track record and associated companies. Such information is related to the risk posed by a company. If all these aspects were looked into there might be no need to carry out 100% physical examinations.

Respondents raised concern over the fact that most of the information deliberated on by Risk Committees is biased towards commercial importations due to the belief that there is more revenue at stake when dealing with commercial importations. This may constitute a security breach because risk assessment is overlooked in non-formal trade.

Djankov, Freund and Pham [46] observe that 75% of the delays in the movement of products are caused by Customs procedures, clearances and physical examinations. Traders interviewed were mainly irked by the 100% physical examinations, with some observing that over the years they were repeatedly subjected to searches for similar goods, even though they complied with regulations. The following table captures responses on the extent to which individual factors contribute to constraining trade.



Own Research 2016

Traders also indicated that risk committees ought to be reviewed periodically to address operational shortcomings. Traders in all three categories, large companies, SMEs and informal traders were asked to complete a self-administered questionnaire. One of the questions, a closed ended question, provided five aspects that constrain trade. Respondents were asked to identify the aspect that greatly constrained their cross-border transactions. Information captured in the above table reflects responses to the question on which aspect contributes most to constraining trade. 59.7 % of the respondents indicated that physical examinations inhibited free flow of trade the most, against 40.3% contributed by the other four factors. Risk committees are a risk management technique with the potential to reduce turnaround times and effective allocation of human resources. Effective risk committees ought to engage in risk profiling thereby avoiding time-consuming 100% physical examinations. Less physical examinations require less human resources.

Risk Management should ensure that more resources are directed to high-risk products. If the Customs administration cannot direct more resources to high-risk consignments, efforts will be thinly spread allowing some consignments that pose a security threat to escape scrutiny. The trend of smuggling identified by UNECE & OSCE includes commercial fraud, counterfeiting, tax evasion in highly taxed goods such as cigarettes, drug trafficking, stolen motor vehicles, money laundering, electronic crime, theft of intellectual or cultural property, trafficking of endangered species, arms, toxic waste or weapons of mass destruction.[47] In order to curb the sophisticated type of smuggling Customs officials need to be furnished with information. While physical inspection was formerly the main method of control at Border Crossing Points (BCPs), it is not always the most effective when faced with the above threats.[48]

5.3 Effectiveness of Non-Intrusive Inspection Measures

Non-intrusive searches are provided for, under Standard 3 of the WCO SAFE Framework of Standards to Facilitate and Secure Global Trade. A total of 326 respondents representing 93.1% of the responses indicated that when fully functional, scanners are an effective form of automation. This gives credence to the argument that automation of Customs procedures is vital for improving inspections that lead to detection of fraud and prosecution, making borders safer. Scanning is a tool to address government concerns of revenue protection, safety and trade facilitation.[49] Although scanners are rated as effective in managing risk, traders responding to the self-administered questionnaire highlighted challenges or constraints to trade facilitation. Some respondents reported that at times the scanners on both, the Zimbabwean and Zambian side are not fully functional due to technical problems. Traders, especially those clearing commercial consignments, indicated that the positioning of the scanners on the Zambian side at times created congestion. The scanners are the first port of call on the Zambian side thus any functional glitches on their part could result in queues stretching for about 2km outside the Customs Control Zone. According to UNECE & OSCE, their overreliance on operator skills, lack of training, lack of experience, fatigue of the operator, inconclusive images and a high number of resultant physical examinations compromise the effectiveness of scanners.[50] It however has to be appreciated that the scanning equipment is expensive to acquire. Customs Authorities may have to purchase the equipment gradually or seek external funding. The scanners still rely on the physical operation and monitoring of Customs officials, thus, their efficiency would be dependent on the integrity and skills of officials.

5.4 Efficacy in Managing Transit Cargo

ZIMRA secures transit cargo using bonds to cover duty at stake for consignments and grants them 3 days to exit the country. The web-based system ASYCUDA World has a module for managing transit cargo, which administers the bonds to secure duties that are outstanding. Information gleaned from the open-ended questions on the questionnaire revealed that the movement of goods under a bond or surety has shortcomings. The cover of the bond or surety is susceptible to manipulation through misclassification or undervaluation of goods. A number of respondents interviewed highlighted that unscrupulous traders were capable of colluding with corrupt officers to process misleading paperwork that indicates that their goods would have exited the country when in fact they have been consumed locally.

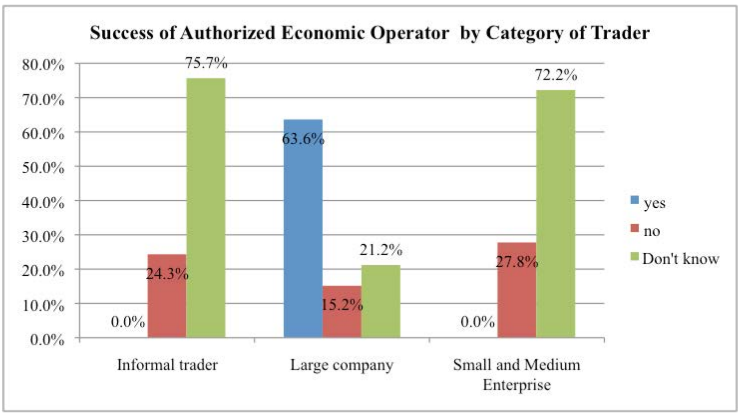
Respondents to the open ended question indicated that ZIMRA has not been able to roll out the Electronic Tracking Cargo System (ETCS) to all ports of entry within the scheduled timelines because of the high cost associated with acquiring, installing and implementing the system. The respondents indicated that the Zimbabwe government embraced the ETCS technology to curb transit fraud, however, due to the high cost of the equipment it is being acquired in stages and its full implementation may take longer than desired. The ETCS was referred to as "one of the best under the World Customs Organization".[51] The system depends on reliable internet connectivity and calls on further investment in Information Computer Technologies.

5.5 An Evaluation of the Relationship between Customs and Industry

ZIMRA enjoys a cordial relationship with industry, which may be further enriched to allow healthier free exchange of information for the purpose of trade security and facilitation. Using a self-administered questionnaire, the researcher sought the opinion and perception of traders in their various categories on the use and effectiveness of the AEOs concept and a number of revelations emerged. The Zimbabwe Customs administration introduced the AEOs Concept in 2014. However, only a few companies have been granted the AEO status. Among the reasons given for the low uptake of the status were that the steps towards attaining the AEO status were not sufficiently publicised. Some traders, mainly in the SMEs professed ignorance about the existence of the status.

Traders in various categories were asked if the AEO facility was successfully implemented. It turned out that 75.7% of the informal traders were not aware of the existence of the facility while 72.2% of the 175 traders in the SME category were unaware of the AEO facility. More than 20% of traders in the informal and SMEs felt that the implementation of the AEO scheme was unsuccessful citing the low uptake.

Conferring AEO status on a trader has the effect of encouraging compliance. The rationale is that there are certain advantages that accrue as a result of conferment of the status. Responses indicated that the AEO facility was mainly understood and embraced by large companies. The low uptake of AEO status by SMEs and informal enterprises signifies low cooperation and trust between them and ZIMRA.

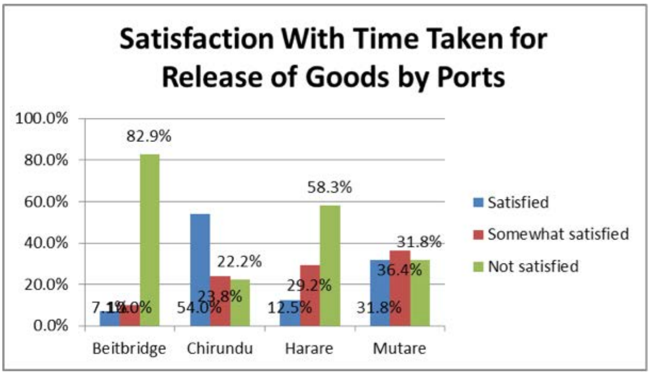


Own Research 2016

5.6 Capacity to Utilize Information for Trade Security and Facilitation

Various efforts have been made towards management of information with a view to enhance security. The CBM approach has been implemented in line with the World Trade Organization Trade Facilitation Agreement. The SW facility is central to the CBM approach, since it brings all information together on a single document. The process towards full implementation of the SW facility is still in the roll out stage. It is envisaged that with full implementation, all information pertaining to imports and exports will be captured on a single document. The Zimbabwe Customs and Excise Act {Chapter 23:04}[52] was amended in 2016 to provide for new definitions relating to the SW concept, however the process of implementation involves harmonizing procedures and regulations among all agencies operating at the border. Traders mainly in the large companies' category indicated that harmonizing procedures takes time and is likely to delay full implementation of the SW concept. The majority of traders in all categories gave complications associated with coordination amongst all relevant agencies as the reason for the delays in full implementation of the SW concept.

The OSBP concept has been embraced by EAC, SADC and COMESA. The OSBP concept has enabled more effective border control between Zambia and Zimbabwe, with joint controls and sharing of facilities. Generally, clearance procedures are shorter at the One at the Chirundu OSBP as demonstrated in the figure below, where the bulk of traders at Chirundu expressed satisfaction. The following are results showing satisfaction with time taken to clear consignments at four different borders.



Own Research 2016

Respondents at the Chirundu border registered the highest rate of success in clearance turnaround times, which averaged one and a half hours in the commercial office according to traders' responses. At Beitbridge border post turnaround times averaged eighteen hours in the commercial office. If turnaround times are shorter it allows brisk movement of consignments, allowing the Customs administration to focus on high-risk areas. The OSBP at Chirundu was financed externally because it involved costly infrastructural improvements. It may take time to implement the OSBP concept at other borders due to prohibitive costs associated with its setting up.

The advance cargo or passenger manifest is an approach recommended by the WCO under the SAFE Framework. The idea is to ensure that passengers and consignments stop for a minimal time at the border. Respondents indicated that the system relies on Internet connectivity and may be compromised by erratic connectivity. However, it is effective in allowing Customs additional time for risk analysis and it should accelerate release of goods.

5.7 Corruption as a Deterrent to Trade Facilitation and Security

Despite the multiple measures in place to ensure trade security and facilitation corrupt tendencies will compromise the effectiveness of the measures. Grainger contends that government corruption should be removed in order to ensure trade security and facilitation.[53] Customs administrations that are bureaucratic with complex, restrictive controls promote corruption, as the urge to evade regulations increases. There is need to simplify procedures so as to ensure that human contact is kept to a minimum.

6. RECOMMENDATIONS FOR SECURING AND FACILITATING TRADE IN EASTERN AND SOUTHERN AFRICA

Section 5 of the questionnaire gives all the categories of traders the opportunity to "*provide solutions and recommendations for promoting trade facilitation*". The following recommendations are based on responses by all three categories of traders and also from literature reviewed.

It was suggested, mostly by traders in the formal sector that there should be a Business Process engineering exercise as a way of finding out the procedures and processes that are responsible for the delays. This will ultimately lead to the streamlining of trade procedures and cumbersome processes to do with physical examinations. It was suggested that although physical examinations mostly contributed to delays, a Business Process Engineering exercise would address the effect of all procedures that delay clearance.

The researcher contends that although the study is mostly based on the Zimbabwean context, the experiences may be generalized to fellow developing countries in East and Southern Africa, whose economies share the same challenges and opportunities of being former colonies whose economic activities are mainly primary industries largely hinged on extraction of minerals and production of basic commodities.

Literature reviewed suggests that strategic decisions taken by Customs administrations should take trade security and facilitation into consideration. The revenue collecting mandate of ZIMRA appears to take precedence over trade facilitation and security as is amply demonstrated by the quarterly financial reports.[54] Customs administrations appear to be influenced by the line of thought of (Capaldo),[55] in whose view trade facilitation is hallucination. It is not an easy task to convince some administrators of the importance of trade security and facilitation through risk management. The Kenya Revenue Authority's Sixth Corporate Plan clearly emphasises the importance of risk management and includes it in every strategic decision. This should be instructive for all Customs administrations.

Traders recommended that risk profiling should extend to all aspects of a business, looking at ownership, business partners and level of compliance with other government departments. All Customs administrators are urged to share information with other government departments including private businesses. Risk management should conform to a consolidated approach. It would appear that efforts at station level are not well coordinated with efforts at regional and national levels.

While there have been efforts to curb transit fraud, it may be important to adopt the Transport Internationaux Routiers (TIR)[56] Convention which facilitates movement of transit goods under Customs control from the country of export through transit countries to the country of destination. The TIR system ensures that the goods are not consumed in the transit countries without payment of duty. The measure may also be complemented with vibrant mobile anti-smuggling units. These measures should be combined with the establishment of Smart Corridors so as to improve infrastructure at border posts, use of the single manifest and full implementation of the Electronic Cargo Tracking System (ECTS) throughout the region.

Traders, mostly in the large companies' category had positive comments about the AEO facility. In the opinion of the researcher, to reap more benefits the AEO facility may be complemented with an arrangement such as the Mutual Recognition Arrangement. This is important because trade across borders is international and the MRA gives insight in dealing with consignments from other Customs administrations. Issues to do with security are international and therefore measures should be international.

CBM requires a border agency that has the overall role of bringing all the stakeholders together. It is difficult to bring all the stakeholders together because each organization has its own line of command and autonomy. Other countries are placing emphasis on the establishment of a National Ports Authority, a lead agency running the affairs of all ports of entry. The Zimbabwean government has made strides in coming up with MOU with South Africa for establishing the National Ports Authority, which when operational will be run under the Ministry of Transport and Infrastructure Development. The introduction of One Stop Border posts, particularly along the North South corridor will improve information exchange and enhance CBM since under the OSBP Customs administration work closely.

The idea of advance cargo and passenger manifests needs to be complemented with preclearance processing of documents. Having noted positive comments on the use of the advance cargo manifest by all traders, the researcher proposes that the advance cargo manifests facility be combined with separation of payment of duty and release of goods facility. Data should be submitted prior to arrival and consignments should be released immediately. This would also entail a process whereby consignments are released before payment of duty, based on the provision of a financial surety or insurance. This will also serve as an incentive for submitting an advance cargo manifest.

7. CONCLUSION

From the literature reviewed and responses by clearing agents a variety of trade facilitation and security measures were identified and assessed demonstrating that tremendous work has been done to secure and facilitate trade in the ESA region. There is, however, need to synchronise the experiences of individual countries to come up with a holistic package for the region. Whilst Mozambique and Kenya have fully embraced the Single Window concept, other ESA countries are still lagging behind or have not started at all. The One Stop Border Post is one concept that countries in the region can take a cue from the successes registered at Chirundu OSBP. Transit fraud has been a menace in many African countries and the region can benefit from implementing the Electronic Cargo Tracking System. Uganda has made significant strides in this regard whilst Zambia and Zimbabwe have followed suit. All the countries within the region may benefit from sharing experiences.

This paper concludes that the region has made significant progress in securing and facilitating trade. Many countries have made an effort in facilitating trade without compromising the security of the trade in terms of revenue collections and protection of the citizens from external threats. Whilst many countries in the region have not made significant progress in the ease of doing business index, there is hope that by facilitating and securing trade through a risk managed approach such kind of negativity can be eliminated.

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Appendix 1: Self-administered Questionnaire for traders

Data is for academic Purposes only and shall remain confidential

Importers/Exporters Questionnaire

Guidelines: *The Research Assistant should interview 250 x Importers and Exporters (Private and Commercial). This will involve seventy five (75) large companies, one hundred and seventy five (175) small to medium sized enterprises and one hundred (100) Informal traders.*

Identifier	
1.1 Survey ID number	
1.2 Date of field data collection: dd/mm/yyyy	
1.3 Research Assistant name:	
1.4 Border post:	1. Beitbridge? 2. Mutare Port (Inland)? 3. Harare Port (Inland)? 4. Chirundu?
1.5 Age of respondent	Age in years................................
1.6 Gender of respondent	1. Male 2. Female
1.7 Level of education	1. No Education 2. Primary level 3. ZJC level 4. O level 5. A level 6. Diploma/Certificate after primary 7. Diploma/Certificate after secondary 8. Graduate/Post-Graduate 9.Tertiary education
1.7 Size of company	1. Large company 2. Small and Medium Enterprise (SME) 3. Informal Trader

Trade Facilitation Practices	
2.1 Is information related to the requirements and procedures for clearing goods for import or export available in any form for your use?	1. Yes 2. No
2.2 If yes, where can you access this information?	1. Notice boards 2. Pamphlets/brochures 3. Newspapers/newsletters 4. Internet 5. Radios/Television 6. Other (Specify)............................ ....
2.3 Are there any regular consultations between border agencies, traders and importers/ exporters?	1. Yes 2. No
2.4Are importers/exporters (traders) and other interested parties consulted prior to introducing new or amended laws or regulations related to the movement, release and clearance of goods?	1. Yes 2. No
2.5 State the laws that traders/exporters have been consulted on	1)... 2)... 3)... 4)... 5)...
2.6 Have you made use of advance rulings for tariff classification and or, valuation and or origin of commodities at this border post?	1. Yes 2. No 3. Don’t know
2.7 Are there any provisions made for appeal/ review procedures?	1. Yes 2. No 3. Don’t know
2.8 Do you know any traders/importers/ exporters who have appealed for a review on their goods in the **past 3months**?	1. Yes 2. No 3. Don’t know

2.9 **Has the Authorized Economic Operator (AEO) concept been successfully implemented**	1. Yes 2. No 3. Don't Know
2.10 Have you ever appealed for a review in the **past 3 months**?	1.Yes 2.No Comment………………………………
2.11 Is there coordinationof border activities to facilitate trade between ZIMRA authorities and other agencies (Stakeholders) (Police, Immigration, Agriculture, Health, VID)/ members with whom they share the border with, with regards to:	**Read out (a) to (e) and record answers**
Alignment of working days and hours and border opening hours between stakeholders at the Port of Entry	1. Yes 2. No Comment.. ....
Alignment of procedures and formalities (Data harmonization and document alignment between borders)	1. Yes 2. No Comment.. ....
Development and sharing of common facilities (sharing of common facilities, such as buildings and verification sheds between borders)	1. Yes 2. No Comment.. ....
Joint controls (e.g. do joint inspections occur when necessary)	1. Yes 2. No Comment.. ....
Establishment of one stop border post control	1. Yes 2. No Comment.. ....
2.12Are procedures simplified and mainstreamed to ensure that information that has already been supplied via the single window should not be asked for again by another border agency participating in the single window?	1. Yes 2. No Comment…………………………………..

2.13Are processes sufficiently automated/ electronic (i.e. Computerised?)	1. Yes 2. No Comment…………………………………..
2.14 Are pre-shipment inspections carried out by private companies to check on quality, quantity and values before export?	1. Yes 2. No Comment... ....
2.15Are there any consular transactions or any related fee or charges, on importations?	1. Yes 2. No
2.16How long does it normally take for your goods to be cleared and released? ***Please record in hours. Convert days into hours (e.g. 3 days would be 3X24=72)***	Number of hours ………………………………..
2.17 Explain the causes of the delays with regards to the release and clearance of goods.	1).. 2).. 3).. 4).. 5)..
2.18Are you charged the same amount to clear similar goods each time you import/export goods at the border?	1.Yes ***(skip to 2.19)*** 2.No ***(proceed to 2.18.1)***
2.18.1 ***(If no to 2.18)*** what are the reasons for the differences in duties charged on similar goods? ***If the reasons are not known, record 'Do not know'***	1)... 2).. 3).. 4) *Do Not Know*
2.19At what points were you charged for your consignment?	1).. 2).. 3).. 4).. 5)..
2.20 Did you receive a receipt for all payments that you made at all the points?	1. Yes 2. No

2.21 Are there any borders or entry ports that you prefer to use	1. Yes 2. No If yes state the reason(s) ……………………… ………………………………………………… …………
2.22 Besides ZIMRA, are there any other organisations/ministries/departments that you had to visit before your goods had to be cleared?	1. Yes 2. No If so, state the number..........................
2.23 List the organisations/ministries/ departments	1)... 2)... 3)... 4)... 5)...
2.24 Are all these organisations/ministries/ departments at this border post?	1. Yes 2. No
2.25 If not what is the distance for the furthest organisations/ministries/departments	Distance in kilometres.........................
2.26 Are customs clearance documents and procedures simple enough to be understood by clients?	1. Yes 2. No If no, please identify any complicated documents and procedures/process 1)... 2)... 3)... 4)...
2.27Have you ever used the preclearance procedures	1.Yes 2.No
2.28 If yes was the preclearance process completed before the arrival of the goods	1. Yes 2. No
2.29 If yes did the preclearance procedure shorten your clearance time	1.Yes 2. No
2.30 Is the infrastructure at the border posts and other ports of entry adequate (i.e waiting areas, rest rooms, holding areas for goods, room for free movement/passageway for traffic….etc…)	1.Yes 2.No If no explain the constraints …………………… ………………………………………………… ……………

2.31Inspections are too physical at ports of entry there should be more non-intrusive methods of inspection (scanners, risk profiling through gathering information etc..)	1. Yes 2. No
Satisfaction	
3.1 Indicate your level of satisfaction with regards to:	
Time taken for the release of goods	1. Very satisfied 2. Satisfied 3. Somewhat satisfied 4. Not satisfied ***If somewhat or not satisfied explain*** ………………………………………………………… …………………………………
Costing structure (charges) for goods imported/ exported(in relation to taxes and duties)	1. Very satisfied 2. Satisfied 3. Somewhat satisfied 4. Not satisfied ***If somewhat or not satisfied explain*** ………………………………………… …………………………………………
Attitude and service delivery of custom officials	1. Very satisfied 2. Satisfied 3. Somewhat satisfied 4. Not satisfied ***If somewhat or not satisfied explain*** ……………………………………….. ……………………………………….
Challenges and Opportunities	
4.1 Are there any challenges that you have faced at this border post?	1. Yes 2. No

4.2 List at most 5 challenges	1).. 2).. 3).. 4).. 5)..
4.3 **What are the areas where free flow of trade is constrained at ports of entry? (physical examinations, payments, valuations, documentary checks etc**	1).. 2).. 3).. 4).. 5)..
4.4 What are the existing contradictions, inconsistencies and complexities in trade facilitation policies that may lead to extra costs and delays for traders?	1).. 2).. 3).. 4).. 5)..
4.5 List at most 5 opportunities/best practices that you can identify at this border post	1).. 2).. 3).. 4).. 5)..
Solution/Recommendation to promote trade facilitation practices	
5.1 Based on the challenges that you mentioned, what do you think can be done to improve trade facilitation practices?	1).. 2).. 3).. 4).. 5)..
5.2 Which short term recommendations can be used to enable implementation of trade facilitation policies at Zimbabwe's ports of entry?	1).. 2).. 3).. 4).. 5)..

5.3 Which long term recommendations can be used to enable implementation of trade facilitation policies at Zimbabwe's ports of entry?	1).. 2).. 3).. 4).. 5)...
Benefits realized from trade facilitation practices	
6.1 What are the benefits that you have realised from the existing trade facilitation practices?	1)... 2)... 3)... 4)... 5)...
Any other comments	

NOTES

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IMPACT OF AUTHORIZED ECONOMIC OPERATOR ACCREDITATION ON TRADE FACILITATION: A CASE OF UGANDA

Geofrey Okoboi* and Michael Kyanzi**

ABSTRACT

This study examined the likely impact of Authorized Economic Operator (AEO) accreditation on trade facilitation, taking Uganda as a case study. The study assessed the impact of AEO accreditation status on the firms' clearance time of goods at Customs, trade volume, and the Customs revenue paid to government. The study used import and export (Customs) data extracted from Uganda Revenue Authority (URA) Asycuda database and the analysis involved matched difference-in-differences regression.

The results show that firms in Uganda that voluntarily sought and achieved AEO accreditation from URA experienced much reduced clearance time compared to peer firms that are not AEO accredited. The results further indicate that AEO accredited firms in Uganda were experiencing exponential growth in trade compared to peer firms that are not AEO accredited. Finally, the results show that the quantum of tax paid to government by AEO accredited firms was significantly higher than that paid by non-AEO accredited firms.

Based on the results, we conclude that the AEO program in Uganda has led to significant reduction in clearance time and increased trade of accredited firms and government tax revenue.

The study recommends that the government of Uganda through URA should continue promoting and encouraging the international trade community in Uganda to take up AEO accreditation.

1. INTRODUCTION

Authorised Economic Operator is a concept that originates from the World Customs Organization (WCO) 'SAFE' Framework of Standards to Secure and Facilitate Global Trade, which was adopted in 2005 by the WCO Council member countries –including Uganda.[1] SAFE stands for Security and Facilitation in a global Environment. By March 2016, 69 countries including Uganda were implementing the AEO program and 16 other countries were due to join implementation.[2]

The AEO is a party or entity involved in the international movement of goods in whatever function that has been approved by or on behalf of a national Customs administration as complying to WCO or equivalent supply chain standards.[3]

Participation in the AEO program is voluntary and at the national level the international trade community (manufacturers, Customs clearing agents, bonded warehouse operators, importers, exporters, transporters and freight forwarders) can only be granted AEO status if they meet the AEO eligibility criteria. Some of the key eligibility requirements include, among others sound, management of commercial records, good financial standing, good cargo and personnel security, and good compliance history with Customs and other government regulatory bodies.[4]

Participants (international trade community) in the AEO program are said to gain from host of short-term and long-term trade facilitation benefits that far exceed the normal procedures provided to the non-AEO.[5]

Short-term trade facilitation benefits include, among others, paperless processing of commercial shipments, remote Customs clearance procedures, expedited cargo release, prioritization in cargo clearance during period of elevated threat conditions, priority response to requests for rulings from Customs authorities. Long-term trade facilitation benefits on the other hand include: reduced cost of doing business, enhanced internal controls, increased turnover, trustworthy and compliant business.

1.1 AEO Implementation in Uganda

The URA launched the AEO accreditation program in 2012. The program was one of the four components of the Customs Business Systems Enhancement Project [CBSEP][6] that was implemented from July 2011 to June 2015. The other components of the CBSEP were: upgrade of Customs web-based management system from Asycuda++ to Asycuda World, Electronic Cargo Tracking System [ECTS], and training of Customs officials to implement the three project components. Besides donor financial support, the WCO provided technical support to URA the implementation process in the form of training and provision of relevant technical materials such as the implementation guide, AEO templates, SAFE framework standards and model appeal procedures.[7]

The implementation of the program started with sensitization of individuals, business entities and government departments, involved in international trade, on the benefits of being an AEO and the requirements for accreditation. Some 28 firms involved in Uganda's international trade were accredited between 2012 and 2016. Ten (10) firms were granted AEO status in May 2013, 12 firms in 2014 and 6 in 2016 (Table 1A in Appendix).

The process of AEO accreditation is voluntary, free, and takes a minimum of two months.[8] It involves the following six steps: submission of a written expression of interest to URA Commissioner of Customs, preliminary consultation with Customs AEO team, filling-in forms – with supporting documents (on sound management of commercial records, good financial standing and good compliance history with Customs and other government regulatory bodies), vetting of eligibility of the applicant, on-site inspection of applicant premises to confirm information provided in the application, and authorization/approval of the entity as AEO by Commissioner of Customs.

Accounts from firms that have received AEO accreditation suggest that the accreditation process of in Uganda is cumbersome, laden with indirect costs that adversely affect small and medium scale businesses, and lengthy - taking not less than six months.[9] Conformity to security standards is considered the most costly eligibility criteria, as it requires the firms' premises to abide by the minimum business partnership management procedures, conveyance and container security, physical access controls, procedural security, information technology (IT) security, and personnel security.

1.2 Problem Statement

Delays in Customs clearance of goods lead to significant costs to firms involved in international trade and loss of tax revenue to governments'.[10] There are over 400 firms involved in international trade based in Uganda, however only 28 firms were AEO accredited by end of 2016 suggesting a low uptake of the AEO accreditation program in Uganda, despite its benefits. The low uptake implies that the cost of Customs clearance remains high, which negatively impacts the government's tax revenue.

1.3 Objective of the Study

- The overall objective of the study was to assess the impact of AEO accreditation on trade facilitation in Uganda. The specific objectives of the study were to examine:
- The impact of AEO accreditation on clearance time as a measure of trade facilitation.

- The impact of AEO accreditation on firm's trade volume.
- The impact of AEO accreditation on the amount of Customs taxes paid by firms.

2. REVIEW OF LITERATURE

According to article 7.7 of the World Trade Agreement (WTO) Trade Facilitation Agreement (TFA),[11] eligible authorized operators are required to have in place trade facilitation measures that include: appropriate record of compliance with Customs and related regulations, financial solvency including the provision of sufficient security such as guarantee bonds where necessary, supply chain security management systems, and IT system for safe keeping of data and documentation to allow for internal controls.[12]

Studies conducted by the Organization for Economic Cooperation and Development[13] and the World Bank[14] have argued that clearance delays have an impact on clearance costs. This includes compliance costs related to information requirements, and other costs arising from procedural delays and lost business opportunities. The studies further estimate that border-related costs and expenses arising from clearance delays range between 2% to 15 % of the total value of goods traded goods. On the other hand, inefficient border procedures in some African countries account for lost government revenue in excess of 5% of gross domestic product.[15]

Hummels and Schaur studied the impact of time delays as a cost on the value of goods in transit.[16] The results of their study indicate that each day in transit is worth 0.6% to 2% of the value of the good, and that long transit delays significantly lower the likelihood of a country exporting the good in question.

According to the Compendium of Authorized Economic Operator Programs, in 2014, a total of 26 countries were implementing AEO programs.[17] That included 9 countries in the Americas and Caribbean Region, one country (Jordan) in Middle East and Northern Africa Region, two countries (Uganda and Kenya) in East and Southern Africa Region, 9 countries in Asia Pacific Region, and 5 countries in Europe Region. However, by March 2016, 69 countries were implementing the AEO program and 16 countries were slated to start implementation.[18]

The first group of countries to implement the AEO program on a full-scale or pilot basis included Canada, Japan and the European Union.[19] In East Africa, Kenya was the first country to implement the AEO program in 2010 followed by Uganda in 2012 and Burundi in 2013.[20]

The implementation of the AEO program around the world has been associated with mixed experiences and benefits. There's mixed perceptions with respect to the benefits of AEO accreditation compared to the time, effort and costs associated accreditation process. According to the WCO, certification as an AEO is an arduous task in which firms invest heavily, yet Customs administrators often fail to offer substantial benefits in the form of trade facilitation.[21] The WCO has credited this challenge to the slow uptake of AEO programs worldwide.

The Australian Customs and Border Protection Service commissioned a survey on industry attitudes toward an AEO just two years after the implementation of its pilot AEO program first in in 2006/7 and later in 2009/10. The results of the two surveys consistently showed that none of the industry executives surveyed considered that an Australian AEO scheme would offer net benefits.[22] Instead, the executives believed that the scheme's costs would outweigh potential benefits.

Djankov, Freund and Pham[23] estimated the effect of time delays on the volume and value of exports in 126 countries (including Uganda) using the difference gravity equation – a variant of the gravity model. The results of their study found that a 1% increase in export time in a landlocked country reduced trade by 1%; and generally that time delays hurt trade.

Fernandes, Hillberry and Alcántara[24] used a two-stage least squares regression method to estimate the impact of reduction in physical inspection rates on Customs clearance and volume of trade in Albania. The results of their study show that conditional reductions in physical inspection rates lead to significantly lower delays in Customs for Albanian imports. Further, the results show that reduced delays in Customs increased imports through increased number of firms involved in shipping and the number of shipments.

Tegneman and Tryggvason[25] conducted a qualitative survey among 10 executives of Swedish AEO certified firms to understand their perceptions regarding the costs and benefits of the firms being AEO accredited. The authors' report indicates that Swedish industry executives were generally satisfied with benefits that come with being AEO accredited. For example, it is reported that AEO certification provided the firms with some form of quality approval/stamp. That AEO certified firms trading patterns considered them to be safe and secure –which in turn increased the volume of trade. On the issue of costs, the executives of AEO firms considered the effort and time expended in the accreditation process to be substantial compared financial outlay.

Improving trade facilitation through AEO accreditation mechanisms plays a critical role improving the income of accredited firms as well national revenue. According to Hoekman and Shepherd[26] the national income effects of improved trade facilitation can be up to two or three times as great as those that would result from removing all tariffs on manufactured goods globally.

The foregoing literature highlights the mixed reviews of AEO benefits. To push the agenda of AEO accreditation forward, it is therefore critical that further reviews of the benefits of the AEO program are undertaken and shared.

3. METHODOLOGY

This section presents the theoretical foundation of the model used in the analysis, and the source of data. Furthermore, the section also provides an explanation on what was involved in data processing.

3.1 Theoretical Model

This study used the matched difference-in-differences (matched DD) method to estimate the trade facilitation benefits that accrue to AEO accredited firms compared to peer non-AEO accredited firms in Uganda that are involved international trade. The matched DD method is a robust method that is highly recommended Khandker, Koolwal & Samad.[27] Gertler, Martinez, Premand, Rawlings & Vermeersch[28] and widely used Bergemann, Fitzenberger & Speckesser, Cattaneo, Galiani, Gertler, Martinez & Titiunik.[29]

2009; Okoboi, Kuteesa & Barungi;[30] Okoboi and Mawejje[31] in non-experimental longitudinal (panel data) impact studies.

Matched DD method involves two steps. The first step involves use of the propensity score matching (PSM) data analysis technique to generate a comparison group of sample observations –that prior to implementation of a program, have similar characteristics as sample observations that is exposed to the program (treatment group). The second step in the matched DD method is the actual determination of impact of a program – through the difference in difference (DD) regression analysis of matched data, on the group that was exposed to the program (treatment group) in comparison to the other group that was not exposed to the program. The advantage of the matched DID method is that the likely observable heterogeneity in the initial conditions is done away with to ensure that the comparison group is similar to the treatment group Khandker et al.[32]

The impact analysis approach assesses the double effect of with-without and before-after scenario of the intervention. The intervention in this case being AEO accreditation program. AEO accreditation program was launched in 2012. Therefore rolling out AEO accreditation program represents the treatment and in our case, the treatment group (with treatment) are firms enlisted in the AEO scheme and the comparison group (without treatment) are firms not enlisted in the scheme. The period before 2012 represents the before treatment scenario and 2012 onwards represents the after treatment scenario.

In order to identify the comparison group that have similar characteristics as the treatment group, the first step of our analysis involved using the propensity score algorithm to extract from our data, a batch of firms (comparison group) with similar baseline or pre-treatment characteristics as those enrolled in AEO (treatment group). The PSM algorithm as adapted from Rosenbaum and Rubin[33] is presented in equation (1).

$$PX=PrT=1|X=Et|X \qquad (1)$$

Where is the propensity score, Pr is the probability, T = {0, 1} is an indicator of exposure to treatment (i.e. enrolment in AEO: T = 1 if firm accredited AEO, 0 otherwise, and X is a vector of background characteristics before exposure to treatment. E is the mathematical expectation symbol. Equation 1 states that the probability (Pr) of a firm participating in AEO, given its pretreatment background characteristics (X) is the conditional mean of the treatment (T).

Having obtained two groups of firms with similar characteristics except their status of enrolment in AEO, the second step of our analysis involved estimating a Ravallion[34]DD regression equation (equation 2) to assess the beneficial trade facilitation, trade growth and Customs revenue increase prospects associated with URA rollout of AEO accreditation program.

$$Yim=\alpha+\phi Timtim+\beta Tim+\delta tim+\varepsilon im \qquad (2)$$

Where, Y is the outcome variable, T is the variable representing exposure to treatment (i.e. whether or not firm enrolled in AEO), t is the time dummy variable representing the period before (t=0) enrolment and after (t=1) enrolment in AEO, and the coefficient of the interaction of T and t (Φ) is the estimate of the impact of treatment on outcome Y.

The subscripts *i* and *m* on the variables in equation (2) are panel data notations, where *t* stands for the number of individual observations (individual dimension) and *m* the number of time periods (time dimension). As indicated in section (2.3), this study involved analysis of a panel data of 26,800 to 33,800 firms whose data had been collected over a period of 108 months (January 2008 to December 2016).

3.2 Empirical Models

Based on the general formulation in equation (1) and available data, the specific PSM model estimated was a probit model stated in equation 3:

$$PrTim=\beta 0+\beta 1TVim+\beta 2taxim+\varepsilon im \qquad (3)$$

Where, is the dependent variable – denoting the probability (Pr) of T; T is a dummy representing the treatment that is; the rollout of AEO accreditation program. Specifically *T=1* if the firm is AEO accredited and *T=0* if not AEO accredited; *TV* is the value of goods declared at Customs by the firm in a month and *tax* is total tax paid on goods declared. In this case, we assume that firms are similar based on their commercial characteristics – similar value of and tax on goods traded. ε is the error term representing any other factors not included in equation (3) but may have impact on the dependent variable. *i* is the panel data notation for number observations and *m* number of months.

For the DID regression model in equation 2, the specific models we estimated are presented in equation 4a to 4c. That is:

$$TFim=\alpha 0+\alpha 1Tim*tim+\alpha 2Tim+\alpha 3tim+\omega im \qquad (4a)$$

$$TVim=\phi 0+\phi 1Tim*tim+\phi 2Tim+\phi 3tim+\vartheta im \qquad (4b)$$

$$CTim=\gamma 0+\gamma 1Tim*tim+\gamma 2Tim+\gamma 3tim+\mu im \qquad (4c)$$

Where, the dependent variable (*TF*) in Eq. (4a) measures trade facilitation and is represented by clearance time in days. That is the time taken by a firm to clear goods at any of the 37 Customs collecting stations/

borders out of which, 6 are OSBPS (One Stop Border Posts). The clearance time is determined from the time the firm lodges the tax assessment/clearance documents with URA to the time the goods exit URA Customs jurisdiction.

T, as explained above is a dummy representing the treatment: $T=1$ if the firm is AEO registered and $T=0$ if not AEO registered;

t is a dummy representing the before and after implementation of the AEO accreditation program: $t=1$ if year is January 2012 to December 2016 (the time after rollout of AEO accreditation program) and $t=0$ if the year January 2008 to December 2011 (the time before rollout of AEO accreditation program).

T^*t represents an interaction term between T (whether or not a firm is AEO) and t (period when or not firm operates as AEO)

ω, ϑ and μ are error terms representing any other factors not included in the respective specified equations above; , and are parameters to be estimated; and i = 1, 2, . . . , n is number of observations from first to the last (n) and m = 1, 2, …., m is the time in months from January 2008 to December 2016.

The coefficients of the interaction term (that is) represent the estimate of the impact of the firm's accreditation as an AEO on trade facilitation, trade volume and Customs revenue paid.

Equation (3) was estimated using the probit propensity score matching (PSM) model while Equations (4a) to (4c) were estimated using the bootstrapped ordinary least squares (OLS) regression.

3.3 Data and Source

The study used import and export (Customs) data for the period January 2008 to December 2016 (108 months). The data was generated from the URA Asycuda[35] databases. Over 10 million individual trade flow records were extracted from Asycuda databases, exported into STATA SE 14 for further management before analysis. Data management involved conversion of string variables into numerical data (floats), conversion of daily records (aggregation or averaging) into monthly records. For example, clearance time variables that appear in Customs database as non-numerical characters were de-stringed (converting into numerical variables); daily transaction records for each firm were collapsed into monthly records through aggregation of records by firm and by month; clearance time per transaction was converted into a monthly average for each firm.

After the data management processes, our final tally of observations ranged between 26,800 to 33,800 with about six key variables as indicated in Table 2A of summary statistics in the appendix.

4. RESULTS AND DISCUSSION

The DID regression results of the impact of AEO accreditation on firm's clearance time, trade volume and tax revenue paid by firms involved in Uganda's international trade is presented in Table 1. In the table, the impact of AEO accreditation on firm's clearance time is shown in Part A, trade volume in Part B, and tax revenue in Part C. Based on the Wald-chi statistics in all the panels that were statistically significant, it can be concluded that the overall model estimates were robust.

Estimated coefficients of the impact variable (interaction term) in all the equations (in all the panels) had the expected signs and were statistically significant at less than 1% level of significance. This clearly suggests that there are significantly higher trade facilitation benefits that accrue to firms on one hand and government on the other when firms involved in international trade are AEO accredited. However, to fully appreciate the quantitative impact of AEO accreditation program on trade facilitation, we used the fractional polynomial analysis (graphical) method to compare and contrast the trade facilitation outcomes of AEO and non-AEO accredited firms. This analysis and explanation is presented below.

Table 1: Impact of Rollout ASYCUDA World and AEO Accreditation On Trade Facilitation, Trade Volume And Customs Taxes Paid.

	Dependent variables								
Explanatory variable	**Part A: Clearance time (days)**			**Part B: Ln (trade value)**			**Part C: Ln (total tax paid)**		
	Coef.	Bootstrap Std. Err.	Z	Coef.	Bootstrap Std. Err.	Z	Coef.	Bootstrap Std. Err.	Z
AEO	-5.10***	1.50	-3.4	0.15**	0.07	2.27	0.29***	0.11	2.73
Time	-17.61***	1.14	-15.4	0.83***	0.02	34.33	0.15***	0.03	4.7
AEO*Time	-11.67***	1.63	-7.15	0.79***	0.09	9.08	1.20***	0.11	10.5
Constant	22.91	1.15	20.01	7.33	0.02	436.04	19.74	0.02	803.47
Number of obs.	29,608			33,309			25,692		
Replications	50			50			50		
Wald chi^2 (3)	362.22***			2623.08***			1097.54***		
Prob > chi2	0			0			0		
R-squared	0.021			0.056			0.025		
Adj R-squared	0.021			0.056			0.025		

*Note: **, *** implies statistically significant at 5% and 1% respectively*

4.1 Impact of AEO Accreditation on Clearance Time

Figure 1 compares the average time taken by AEO accredited and non-AEO accredited firms to clear goods at URA Customs through green and red channels. The results in Figure 1B, show that before introduction of the AEO accreditation program, firms that eventually became AEO accredited on average took more time (about 20 days) to clear goods compared to peer firms (18 days). However, after accreditation, the same firms took much lower time (about 3 days) to clear goods compared to 5 days clearance time for peer non-AEO accredited firms. This result suggests that AEO accredited firms enjoyed lower clearance time, which as suggested by the AEO implementation guideline,[36] could be beneficial in increasing the flow of trade.

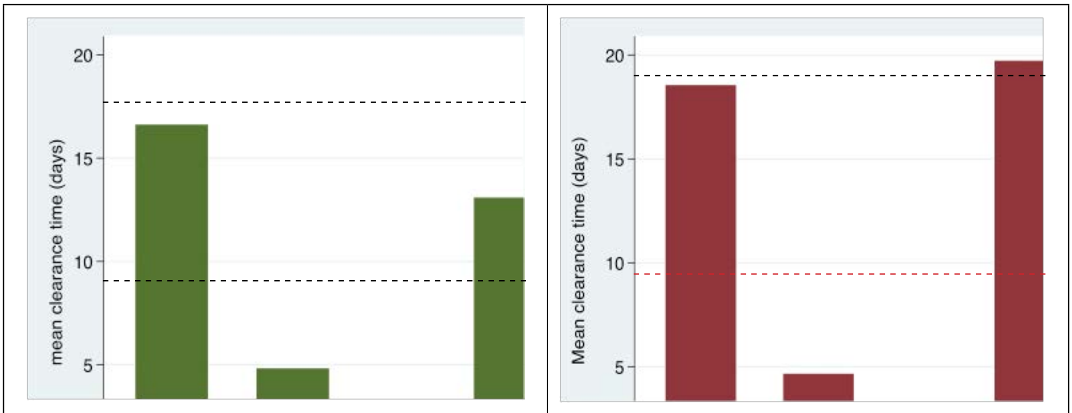

Fig 1A: Clearance time through Green channel	*Fig 1B: Clearance time through Red channel*

Figure 1: Impact of AEO accreditation on clearance time

4.2 Impact of AEO Accreditation on Firm's Trade Volume and Tax Paid

Figure 2A shows the trend (value) of Customs bound goods of AEO accredited and non-AEO accredited firms and Figure 2B shows total tax paid on Customs bound goods by AEO accredited and non-AEO accredited firms; before and after URA implementation of AEO accreditation program in 2012. The results suggest that before AEO program implementation, both AEO and non-AEO accredited firms had comparable monthly trade turnover and taxes paid with respect to Customs bound goods. After URA rollout of AEO accreditation, however, firms that became AEO accredited were associated with increasingly higher monthly trade volumes (turnover) and taxes paid on Customs bound goods compared to non-AEO accredited firms.

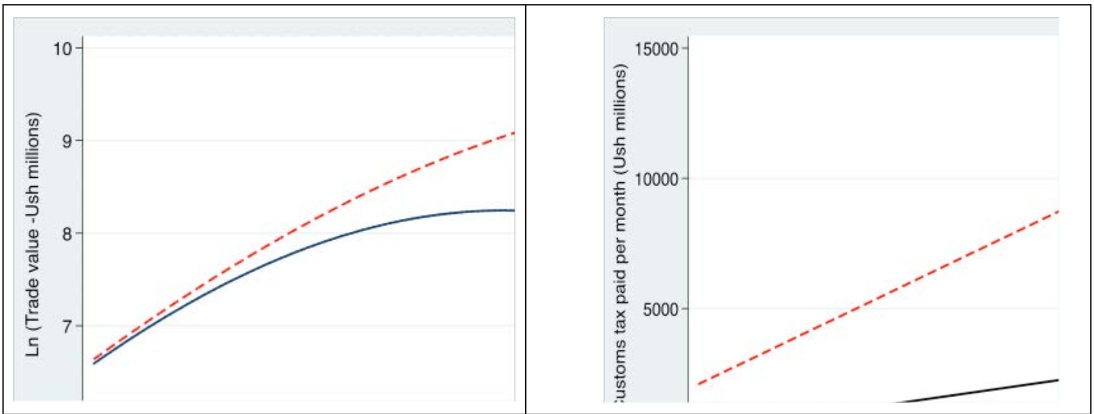

Fig. 2A: AEO accreditation on firm's trade volume	Fig. 2B: AEO accreditation on firm's taxes paid

Figure 2: Impact of AEO accreditation on firm's trade volume and taxes paid

CONCLUSION AND POLICY IMPLICATIONS

The results of this study show that firms that voluntarily sought and achieved AEO accreditation from URA are reaping benefits that come with expedited cargo release and exponential growth in trade volumes that they have registered compared to peer firms that are not AEO accredited. Besides, the results show that the quantum of tax paid to government by AEO accredited firms was significantly higher compared to peer firms that are not AEO accredited.

In conclusion, we find that the AEO accreditation program in Uganda has been a success. The study recommends that the government of Uganda through URA should continue promoting and encouraging the international trade community in Uganda to take up AEO accreditation.

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APPENDIX

Table 1A: List of AEO Accredited Firms

S/No.	Company Name	Date of accreditation
1	British America Tobacco	9th May 2013
2	Nice House of Plastics	9th May 2013
3	Uganda Batteries Limited	9th May 2013
4	Jesa Farm Diary	9th May 2013
5	Roofings Uganda Limited	9th May 2013
6	DHL Global Forwarders	9th May 2013
7	Unifreight Cargo Handling	9th May 2013
8	Steel and Tube Industries Limited	9th May 2013
9	Toyota Uganda Limited	9th May 2013
10	Bollore Africa Logistics	9th May 2013
11	Spedag interfreight Uganda Ltd	22nd September 2014
12	General Machinery Ltd	22nd September 2014
13	Victoria Pumps Ltd	22nd September 2014
14	Victoria Motors Ltd	22nd September 2014
15	Victoria Engineering Ltd	22nd September 2014
16	Victoria Equipment Ltd	22nd September 2014
17	Rapid Kate Services Uganda Ltd	22nd September 2014
18	Multilines International Ltd	22nd September 2014
19	Daks Couriers Ltd	22nd September 2014
20	Union Logistics Uganda Ltd	22nd September 2014
21	Bemuga Forwarders Ltd	22nd September 2014
22	DHL International Ltd	22nd September 2014
23	Huawei Technologies Uganda Company Limited	15th April 2016
24	Umeme Ltd	15th April 2016
25	ThreeWays Shipping Services Limited	15th April 2016
26	Kenfreight Uganda Limited	15th April 2016
27	Mitchell Cotts Uganda Limited	15th April 2016
28	Roofings Rollings Mills Limited	15th April 2016

Table 2A: Summary Statistics of Data Used In Analysis

Variable	Unit of measure / description	Obs	Mean	Std. Dev.	Min	Max
AEO (T)	T=1 if firm AEO and T= 0 if firm non-AEO	33,811	0.074	0.261	0	1
Trade facilitation (TF)	Clearance time in days	29,608	11.561	62.842	0.00	1855.46
Time (t)	t=1 if year Jan 2012 -Dec 2016 and t= 0 if year Jan 2008 -Dec 2011	33,811	0.603	0.489	0	1
Channel	Green=1, blue=2, yellow=3, red=4	27,602	3.21	1.09	1.00	4.00
av_val_usd	Uganda shillings, millions	33,198	0.74	7.98	0.00	826.00
av_tot_tax	Uganda shillings, millions	26,844	13.20	62.30	0.00	6180.00
Trade volume (TV)	Uganda shillings, millions	33,582	10700.00	69900.00	0.00	6790000.00
val_usd	Uganda shillings, millions	33,582	213.00	1370.00	0.00	146000.00
Total tax paid (TR)	Uganda shillings, millions	33,582	2150.00	12300.00	0.00	716000.00

NOTES

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BEST PRACTICES IN DIGITAL CUSTOMS IN EAST AND SOUTHERN AFRICA: A CASE STUDY OF THE MAURITIUS REVENUE AUTHORITY (MRA) CUSTOMS

Ms Nassika. A. Sonnagee and Ms Késhika. G. Quédou

ABSTRACT

Digitalization plays an important role in Customs. When put in its true perspective it provides the basis for the changing role of Customs and opens up unparalleled new opportunities for connectivity and interaction. This paper examines some of the major milestones that MRA Customs met/ achieved in its quest of digitalization. The milestones were put under scrutiny in light of the World Customs Organization's blueprints related to digital Customs, namely the Revised Kyoto Convention (RKC) and the World Trade Organization's Trade Facilitation Agreement (WTO TFA), the Mercator programme, the IMF among others.

This paper reveals that in its aim of digitalization, the MRA Customs Department has successfully overcome certain landmark challenges such as Paperless Customs, trade facilitation, optimum collection of customs duties and taxes, to name a few.

In the same vein, this research paper also points out some shortcomings which MRA Customs must tackle to increase its efficiency and these include, inter alia, the challenge of striking the right balance between trade facilitation and border protection, the training of its staff and the simultaneous education of its stakeholders. Last but not least, research carried out in the context of this paper conclusively confirms that the MRA Customs Department has made significant progress in terms of digitalization and is looked-up to as a model in the ESA region. However, the hybridity of digitalization makes reform a sine qua non criterion that Custom Administrations must continually pursue.

1. INTRODUCTION

Customs administrations play a significant role in achieving national development objectives and implementing the government's Customs and trade policy. Today, reforms and modernization has become important for Customs administrations because it is widely accepted that the efficiency and effectiveness of Customs procedures can significantly influence the economic competitiveness worldwide[1].

The world is turning digital, faster than we could have imagined, and public administrations are also moving online just as fast. In this context, the World Customs Organization (WCO) has dedicated 2016 the "Year of Digital Customs" and by providing an extensive portfolio of instruments and tools, and is encouraging Customs administrations in their efforts to further adopt Digital Customs.

Thus, Digital Customs has become an imperative and integral part of the fast changing environment, strengthening operational effectiveness, improving transparency and globally reducing administrative burdens. The aim is to use electronic data instead of paper documents and to connect different computer systems of government agencies and business to create a robust international supply chain. This has brought many benefits to Customs administrations.

Moreover, the World Trade Organisation Trade Facilitation Agreement (WTO TFA) and the framework of the WCO Mercator Programme has been a catalyst for the process of Customs modernization across the globe and especially in the WCO East and Southern Africa (ESA) regions whereby various best practices have been shared.

The WCO ESA Region consists of twenty four (24) member countries as shown below and Mauritius has been targeted for this research paper.

Figure 1: WCO ESA Members

2. THE PROBLEM STATEMENT

In the past, Customs clearance of all consignments was carried out manually on documents and papers which resulted in many flaws and inefficiencies. The most obvious problem was the amount of time it took to process the Customs declarations. Every stage of the process went on manually where Customs agents would carry Bill of Entries (BOEs) documents physically getting the documents processed through the MRA Customs. Due to a lot of bureaucratic procedures and paperwork, more staffs were required for the clearance of those BOEs, including filing of same.

As a result, the process was excruciatingly slow. Delays of several weeks and often months, resulted in high overheads for both Customs administrations and traders, and were inevitably reflected in the prices of both imports and exports. This combination of high tariffs and slow movement of goods also had a harmful effect on exports and foreign investments, the main source of hard currency in many countries. By repeatedly failing to meet delivery deadlines with international buyers, local businesses were not able to build up or maintain their clientele and lose out to faster, more reliable suppliers.

Furthermore, the face-to-face interaction that characterized manual and paper-based systems coupled with excessive paper handling created opportunities for Customs officers to obtain gifts and favours which also resulted to corruption.

In the era of globalization and digitalization, Customs Administrations worldwide face the daunting challenge of ‘modernization’, to the extent that technology has emerged as the platform whereby services are converging. To keep abreast with 'modernization', Customs administrations are expected to digitalize their services to improve access, to better the service quality offered to its stakeholders and to contribute to an ecosystem which is conducive to national economic progress. Therefore, digitalization was the only answer to convert manual processing into automated systems.

In light of the above, this paper will objectively evaluate the existing practices in terms of 'Digital Customs' in MRA Customs. The evaluation will be conducted in line with the best practices proposed by WCO and with respect to conventions and agreements that aim to facilitate trade. This paper will also assess how far the Mauritius Revenue Authority (MRA) Customs Department has been able to implement its Digital Customs programme and how far this can be used in other ESA countries.

3. RESEARCH OBJECTIVES

1. Based on the above, the following research objectives have been identified:-
2. To identify the international conventions and standards towards digitalization.
3. To examine and analyse the digital Customs initiatives and best practices that have been implemented at MRA Customs.
4. To identify the potential benefits to the current practice of digitalization to MRA Customs.
5. To propose a model Digital Customs in broad lines for the ESA region.

4. LITERATURE REVIEW

The rationale of this section is to give an understanding of the different avenues of digitalization. This chapter comprises of an overview of digitalization, the international conventions, standards, benefits and challenges of digital Customs. It also reviews the literature of best practices in Mauritius that are under the spot-light in order to emulate the best model.

4.1 The Digital Customs – The Information Age

In the era of cloud computing, Big Data, artificial intelligence and smartphones, Information and Communication Technology (ICT) is redefining the trading landscape and business processes of the public sector, as well as of Customs and other border agencies. With the Internet economy now accounting for 6 % of global GDP, businesses are fast adopting ICT for their operations. An increasing number of businesses worldwide are digitalizing their procedures to take advantage of economies of speed and efficiency, or to bring their production processes into line with the products and services of the future. In order to better respond to the fast-evolving digital economy and to enhance facilitation measures in general, Customs and other border agencies are leveraging ICT in their day-to-day operations, based on their national priorities, technological developments and resource availability.

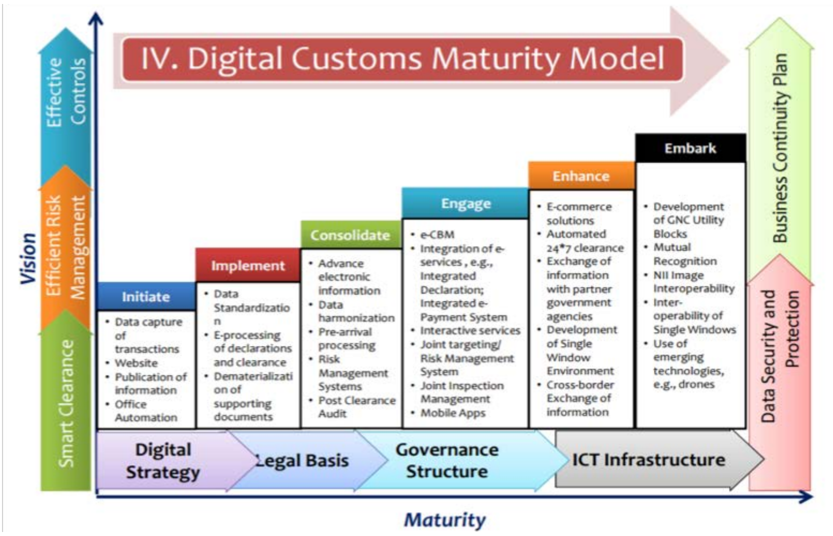
Digitalization has been a key factor in the reform and modernization process in Customs. The Digital Customs initiative aims to replace paper-based Customs procedures with electronic operations, thus creating a more efficient and modern Customs environment in tune with global developments.

By focusing on Digitalization, Customs community are aspired to further develop digital solutions and services, making life easier for the trading community, other border agencies and Customs officers, and to further adopt enabling technologies, such as the use of big data, the Cloud among others, to help increase operational performance, and to facilitate the reinvention of the way of doing business.

Moreover, for the implementation of new developments, a Digital Customs Maturity Model (DCMM) is used which comprises of the vision, digital strategy, legal basis, governance structure, ICT infrastructure, data security and protection and business continuity plan as shown below.

With the DCMM, the MRA Customs has been able to implementing digitalization projects successfully.

Figure 2: The Digital Customs Maturity Model



4.2 Drivers Towards Digital Customs

Customs management worldwide are persistently reforming and modernizing their processes, procedures and operations to attain effectiveness and efficiency. The implementation of international conventions, standards, and best practices ensures that reforms and modernization measures applied by ESA countries have a common internationally agreed basis.

Various organizations have played a vital role in plunging Customs towards digitalization. These key bodies have acted powerfully with regards to the digitalization of Customs; in making requisite connection between developments in ICT and trade facilitation.

The key international organizations include:-

- The World Customs Organisation (WCO)
- The World Trade Organisation (WTO)
- The World Bank (WB)
- The United Nations and Conference on Trade and Development (UNCTAD) among others
- International Monetary Fund (IMF)

4.2.1 World customs organization (WCO)

The WCO, being internationally acknowledged as the global centre of Customs expertise, plays a prominent role in the digitalization of Customs by delivering tailor-made technical assistance and capacity building to support Customs digitalization for an improved trade environment.

Secondly, it helps in providing latest advances, recommendations, guidelines and conventions to its members to further encourage the use of ICT at Customs.

In this view, the WCO has particularly helped MRA Customs in areas like the simplification and harmonization of Customs procedures, trade supply chain security, and trade facilitation, the enhancement of Customs enforcement and compliance activities and digitalization among others.

i. Revised kyoto convention (RKC)[2]

The RKC, being the main trade facilitation Customs convention, was developed by the WCO and entered into force on 03 February 2006. It is the foundation for simple and efficient Customs procedures for the 21st century and is therefore vital to Customs modernisation and reform.

The convention provides standards and recommended practices for modern Customs procedures and techniques. The table below shows the chapters of General Annex of the Convention with regards to the application of Information Technology.

Mauritius has thus acceded to the RKC on 24 September 2008. As recommended in the Revised Kyoto Convention (RKC), use of latest technology and tools has been introduced to enhance the efficiency and effectiveness of border control; example Non-intrusive tools, such as X-ray scanners and K-9 units have been implemented in order to reduce physical examination by officers. Since its accession, several benefits have been realised to MRA Customs which are as follows:-

- Expedited transaction processing resulting in considerable gain in time.
- Reduced human intervention.
- The automated system validates a Customs declaration within minutes and clearance of non-risky consignments are obtained within 4 hours at Port and within 15-30 minutes at the airport for non-litigious consignments compared to 3 days and 1 day prior to the reforms and electronic processing.
- Reduced contact between traders and staff thus considerably eliminating the possibility for corruption.
- It provides a secure technological environment for doing business as the reliance of people on technology keeps on growing.
- Increased efficiency and effectiveness of the Customs administration and more transparency in its procedures while dealing with its customers
- Overall improved compliance level from the trading community. Transparency in procedures and the way of doing business enhanced confidence level of operators.

Table 1: General Annex- application of Information and Communication Technology

Customs Procedures & Practices	Standards/ Transitional Standard	Application of Information Technology
Chapter 3 Clearance and Other Customs Formalities	3.11. Standard	International standards for electronic Goods declaration
	3.18. Transitional Standard	Lodging of supporting documents by electronic means
	3.21. Transitional Standard	Lodging of Goods declaration by electronic means
Chapter 6 Customs Control	6.9. Transitional Standard	Use information technology and electronic commerce to enhance Customs control
Chapter 7 Application of Information Technology	7.1. Standard	Application of information technology to support Customs operations

Customs Procedures & Practices	Standards/ Transitional Standard	Application of Information Technology
	7.2. Standard	Internationally accepted standards for computer applications
	7.3. Standard	Introduction of information technology to be carried out in consultation with all relevant parties
	7.4. Standard	New or revised national legislation for the application of information technology
Chapter 9 Information, Decisions and rulings supplied by the Customs	9.3. Transitional Standard	Use information technology to enhance the provision of information

ii. Safe framework of standards

The SAFE Framework of Standards adopted by the WCO Council at its 2005 Session was designed to secure, facilitate the ever-growing flow of goods in international commerce and promote the use of ICT in Customs operations. Table below shows the application of Information Technology.

Table 2: SAFE Framework of Standards and application of information Technology

Pillar of SAFE	Standard	Application of Information Technology
Customs-to-Customs	Standard 3-Modern Technology in Inspection Equipment	Non-intrusive inspection (NII) equipment and radiation detection equipment to be used for conducting inspections
	Standard 4-Risk Management Systems	The use of automated systems for risk management
	Standard 6 -Advance Electronic Information	Advance electronic information on cargo and container shipments for adequate risk assessment
	Standard 7- Targeting and Communication	Information exchange mechanisms
Customs-to-Business	Standard 4 – Technology	Maintain cargo and container integrity by facilitating the use of modern technology

In compliance with the WCO Safe Framework of Standards, the MRA Customs started the process of implementation of the Authorised Economic Operators (AEO) programme and already thirty two (32) operators have applied for the certification. Additionally, the MRA Customs has adopted the concept of trade facilitation by implementing several risk management tools to strike a balance between security/Customs control and trade facilitation by allowing low risk cargo and passengers to flow freely and target the high risk ones. With the globalisation of trade, the flow of cargo and passengers across borders has increased considerably and so have the risks included therein. The AEO concept is used along other non-intrusive risk management tools for trade facilitation and at the same time minimise risks against terrorists attack and enhance security measures right from the time the cargo is exported till it reaches the country of destination through an established supply chain.

iii. World customs organization information communication and technology guidelines (WCO ICT)

The WCO ICT Guidelines was done with a view to help Customs administrations on the use of digitalization to develop and improve program delivery and services to trading partners. These guidelines illustrate the impact of emerging technologies such as internet and advanced international trade arrays (e.g. e-Commerce). It also highpoints the benefits of using ICT to Customs and assists them in identifying areas where the application of ICT can be more helpful and significant.

The MRA is considered as one of the public institutions with the most advanced online services. Almost all transactions with the MRA and Customs can be done on the net and filing of documents online, as well as payment of various fees. The MRA even holds online auction of seized, abandoned and unclaimed goods, in a fully transparent way. Another example is Cargo Community Systems in ports or airports, whereby all parties involved in the transport chain have established an electronic system by which they exchange all relevant cargo and transport-related data.

iv. Revised arusha declaration

The MRA Customs has adopted the Revised Arusha Declaration which is a comprehensive integrity and anticorruption approach of the WCO to tackle corruption at Customs.[3] The declaration consists of ten (10) strategic factors of integrity programme, where automation is considered important as it increases the level of accountability and provides audit trails.

In this context, the introduction of computerized solutions have been put in place for processing Customs documents—and the general automation of Customs clearance—leave little to the discretion of Customs officials, thereby reducing opportunities for corruption.

v. The mercator programme

In June 2014, the WCO launched the Mercator Programme to support Customs administrations in ensuring uniform implementation of the WTO TFA, using the WCO instruments and tools.

In the context of technical assistance under the WCO Mercator Programme, the WCO assisted the MRA Customs in 2016 for the setting up of an Enquiry Point in accordance with Article 1.3 of the WTO TFA, which is one of the six provisions of the agreement that Mauritius has categorized under Category “C”[4].

Additionally, in the same year, the WCO assisted the department in conducting a TRS workshop under the Mercator Programme to build capacity. As a result, a dedicated team was set up to work on the project.

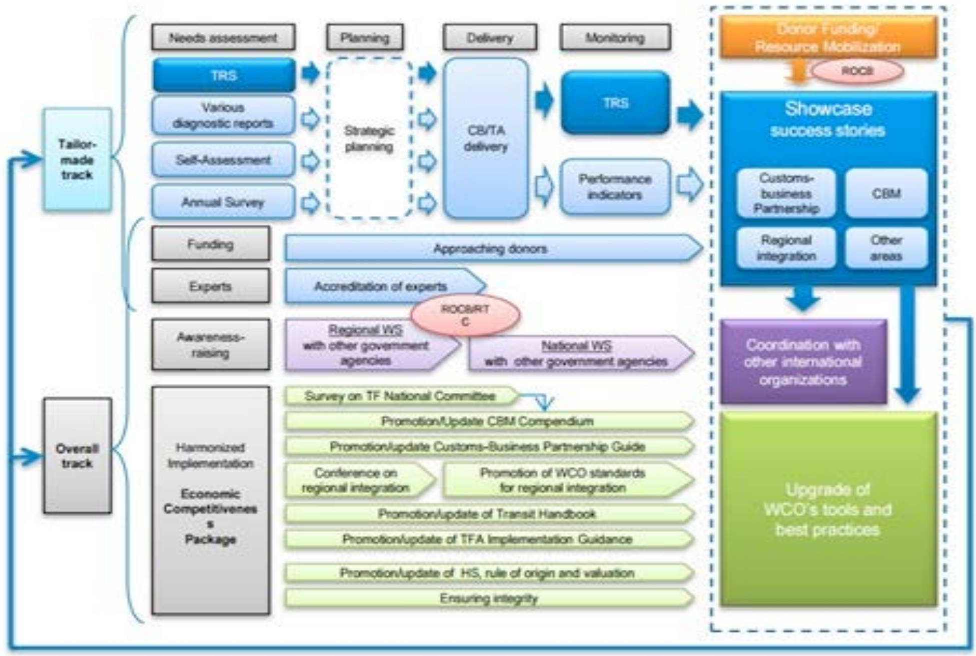


Figure 3: The Mercator Programme

The WCO moves on to this tailor-made assistance for countries that need strategic advice in the following manner.

(i) Provide analysis of all previous needs assessments by various organizations to consolidate a comprehensive plan and roadmap for implementing the TFA;

(ii) Conduct TRS to set baseline data for the future improvement, involving Customs, other government agencies (OGA) and the private sector;

(iii) Support the establishment of NCTF as a platform for coordination, including the planning, analysis and developing a reform plan for implementing TFA involving a range of stakeholders;

(iv) Monitor and evaluate the progress of the recipient countries in implementing TFA. Performance measurement, including TRS, is employed to ensure result-oriented assistance;

(v) Use the WCO forum to collect and share practices of TFA implementation in cooperation with the WTO;

(vi) Organize regional/national donor conferences to match the needs of recipient countries and donor funding. .

4.2.2 World trade organization (WTO)

The WTO oversees the policies of international trade and aims to "help trade flow smoothly, freely, fairly and predictably". To facilitate the movement of goods across borders, WTO Members have concluded discussions on the TFA at the 2013 Bali Ministerial Conference. The TFA contains provisions for expediting the movement, release and clearance of goods, including goods in transit. It also contains many procedures to improve assistance between Customs and other authorities on trade facilitation and Customs compliance issues.

The TFA contains some provisions related to Customs digitalization and other border control agencies; some of which comprise of:

- Article 1.2: Information Available Through the Internet
- Article 7.2: Electronic Payment
- Article 10.4: Single Window

Under current border procedures, the average transaction can involve numerous steps. The TFA sets forth a series of measures for expeditiously moving goods across borders inspired by the best practices from around the world. The Agreement is ground-breaking in that, for the first time in WTO history, the commitments of developing and least-developing countries are linked to their capacity to implement the TFA. In addition, the Agreement states that assistance and support should be provided to help countries achieve that capacity.

The TFA may be used in this study to evaluate the existing framework in Mauritius whereby Digital Customs has been implemented. The Agreement specifically evaluates the processes through which goods move across borders and it is therefore an important benchmark to firstly assess how far Customs Administrations have gone in implementing Digital Customs and secondly if same is functioning. It is worthwhile to also note that the WCO does provide the necessary assistance to developing countries to implement the TFA, be it in terms of training, financial aid or evaluation measures.

Mauritius has been a WTO member since 1 January 1995 and a member of GATT since 2 September 1970. For record, Mauritius was the first country to ratify the WTO TFA and has implemented a series of trade facilitation initiatives namely the Cargo Community System, the Electronic Certificate of Origin, the Single Window and Paperless Customs, to name a few for the release and clearance of goods in an expedite manner.

4.2.3 World bank (WB)

The contribution of the World Bank in Customs reform and modernization as well as digitalization around the world is colossal and important. The World Bank sets up considerable financial and technical support to developing countries to facilitate them to practice the reform and modernization programmes of their Customs administrations. The World Bank supports Customs reform programmes through investment and Technical Assistance Loans (TALs) as well as in Structural Adjustment Loans and credits (SALs).

4.2.4 United nations conference on trade and development (UNCTAD)[5]

Established in 1964, UNCTAD promotes the development-friendly integration of developing countries into the world economy. Electronic Data Interchange (EDI) of trade data came about when technological developments enabled new ways of handling and transmitting information. When using automatic data processing and transmission, a common-language-must be used.

UNCTAD provides assistance in the technical modernization of Customs, including the automation and clearance of goods. The objective is to facilitate trade by speeding up the clearance process through the use of information technology and the reduction and simplification of Customs documentation and procedures. This also has the effect of (i) increasing revenue through the computerization of the Customs tariff, and (ii) providing reliable and timely trade and fiscal statistics.

In this regard, UNCTAD has developed the Automated System for Customs Data (ASYCUDA), which is set up in more than 70 countries. Additionally, it has contributed largely to digitalization at MRA Customs in the implementation of a computerised Customs Management System (CMS).

4.2.5 International monetary fund (IMF)

The IMF works to foster global growth and economic stability. As a leading source of Technical Assistance

(TA) in revenue administration, it has helped MRA Customs in providing policy advice and funds to realize projects with regards to the reforms and modernization. Thus, with its fundamental mission, the IMF has also helped the organization to ensure stability in the international system.

In 2014, a workshop was organized on 'Implementing a Revenue Authority' which focused to increase autonomy and in turn promote effective and efficient management while maintaining appropriate accountability and transparency. Drawing on the Mauritian experience, the IMF chose MRA as a model in terms of revenue collection and administration in the Eastern and Southern African region.

5. RESEARCH METHODOLOGY

This chapter highlights how the research has been undertaken. The research methodology was used in this study to obtain an intensive and comprehensive understanding of the current practices involved in the real-life context, experiences and perspectives of Customs administrations. The case study of Customs digitalization in Mauritius was chosen as the single case study. Multiple methods of data collection: documentation, interviews and internet, were used to obtain a holistic view of the current practice of digital Customs in MRA.

5.1 Research Approach

5.1.1 Collection of data

For this research, both quantitative and qualitative methods have been used. In broad terms, qualitative research methodology has been helpful to capture data relating to digital Customs, since the latter implied existing information on the selected platforms. Quantitative methods such as surveys and screen captures helped to evaluate how far the Digital Customs is a reality in MRA Customs.

Primary sources of information were obtained from in-depth interviews. The interviews were conducted with interviewees mainly from the Customs Department. Interviews involved both management and operational levels of Customs officers. The aim of the interviews was to develop a full understanding of the implementation of practices in regard to digital Customs as well as the best practices.

Moreover, a variety of methods were used to obtain relevant information that led to a better understanding of the digital Customs. Several sources have been used to obtain secondary data, such as, MRA Magazines, books, journals, internet, international guidelines and practices, academic literature, as well as reports or records from Customs administrations, international organizations and the trading community. The study examined digitalization in MRA Customs at various levels.

6. LIMITATIONS OF THE STUDY

During the study the following limitations were noted:-

- MRA Customs is a vast organization with a lot of composite operations, procedures and work practices. This research does not consider technical or operational matters but rather focuses on issues that have a strategic dimension.
- Due to time constraint, study has been restricted to only one ESA country that is the Mauritius.

7. DIGITALIZATION IN MRA CUSTOMS

Digitalization plays a key role in operating a modern Customs administration. MRA Customs has been drastically changed from a paper based organization to a modern, efficient and effective organization that has adopted automation and ICT at all levels of operations, processes and procedures. The use of ICT allows Customs to effectively manage with the sophisticated global logistics systems used by international trade and transport operators. "To meet its mission, a Customs administration must effectively integrate modern practices and processes with ICT-driven Customs management systems". *(Luc De Wulf and Gerard McLinden, World Bank, 2005*)

This section describes some of the initiatives and projects related to digitalization that have been implemented by MRA Customs. To achieve excellence in MRA Customs, the three categories were targeted:

(i) Trade Facilitation and Security

(ii) Fair and Effective Revenue Collection

(iii) Protection of Society

7.1. Trade Facilitation

Based on observation, information technology, automation and advanced techniques are important in the support of Customs procedures and operations in the current international trading environment. This is particularly so in the case of MRA Customs, which rely heavily on automated systems for advance and electronic submission of cargo information and Customs entry in regard to Customs formalities.

7.1.1 Electronic data interchange (EDI)[6]

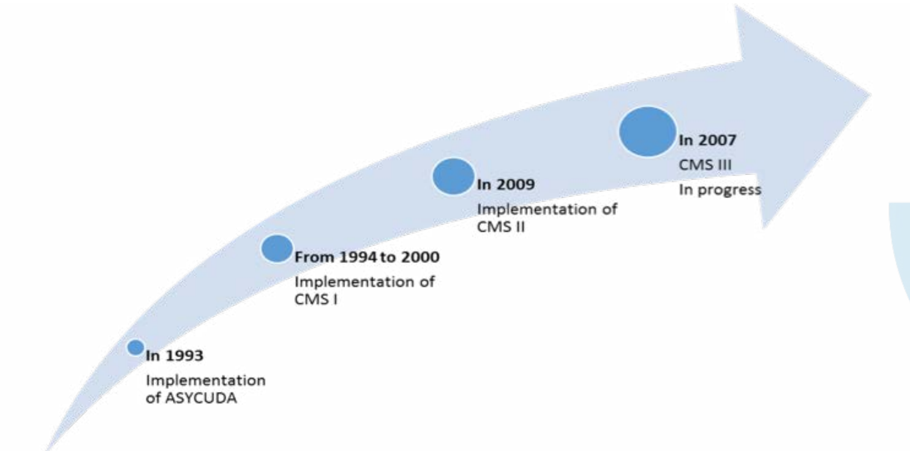


Figure 4: Electronic Data Interchange (EDI)

Introduction of ASYCUDA

The rapid expansion of international trade and industrial development greatly increased the challenges of the department. Efficient management based on old organisational system was difficult. In 1993 Mauritius Customs implemented the Automated System for Customs Data (ASYCUDA) developed by UNCTAD which provided functions for the management of a declaration process (import and export), direct trader input, accounting, warehousing, temporary admission/importation and statistics

Customs management system I (CMS I)

During the 1990's Mauritius Customs began to develop a data system for electronic submission of Customs declarations, which brought large benefits both to Customs and the private sector. Following the recommendations of the World Trade Organisation (WTO) that Customs should act more as a facilitator than as a barrier to trade, the Mauritius Customs embarked, in 1994, on a Customs Reform and Modernization Programme undertaken by the Ministry of Finance. With the creation of the Mauritius Network services, it was decided to make optimum use of Information Technology to computerise the key commercial operations in an EDI environment.

ASYCUDA, for its lack of interoperability between trade operators, was found inadequate for the TradeNet Project.

Customs management system II (CMS II)

The CMS II has been upgraded and is operated on an Oracle 11g platform enabling the reception of attached documents and graphical user interface which allow the shift to paperless in the near future. This new version of the CMS has space for further enhancement. CMS II which was operational since 20 July 2009 provides better reports and interface with Cargo Community System (CCS).

The benefits of the Customs Management System to MRA Customs are illustrated in *table 3*.

Table 3: Benefits of Customs Management System to MRA Customs

	MANAGEMENT	ORGANISATION	INFORMATION SYSTEM
BENEFITS	A tool for management to trade facilitation through the use of risk management to assess the compliance and the non-compliance level.	A flatter organizational structure and a fewer level of hierarchies	System available on a 24/7 basis and reducing clearance time from days to fifteen (15) minutes for non-litigious declarations
	Streamline paper-based procedures and reduction in paperwork	Lower risk of corruption with lesser face to face contact between officers and stakeholders	Goods cleared faster and in a more transparent mode thus benefiting in terms of cost and time
	Change in the Customs legislations with the introduction of the 'Use of Computer Act'	A better communication process through the use of the intranet and e-mails	A better control on the collection of duty, excise duty and taxes with the introduction of e-payment through commercial banks
	Harmonisation and better control on deadlines and information framework	Conclusive public/private sector collaboration	Reduction of errors through the use of standard software
	Enhancement of transparency, accountability and productivity	One-stop shop through the use of a single window for the clearance of goods	Selling of secured serially numbered digitalized forms to traders
	A better post control through the auditing system and risk management	Better coordination among automated Customs offices	Improvement in the quality of record keeping
	Improved management information on finance and accounting, human resource and trade statistics		Download Customs forms and guides instantly over the internet thus saving cost and time
	More effective enforcement through faster processing of data and matching of information		

Source: Customs Management System, MRA Customs

7.1.2 Setting up of a cargo community system (CCS)

The Cargo Community System (CCS) came into legislation in Mauritius as per the regulations made by the Minister of Finance under Section 163 of the Customs Act in 2008 and is known by the Customs (Cargo Community System) Regulations 2008. This system is being implemented with the technical expertise of a French firm, SOGET[7], will enable timely exchange of manifest data between various stakeholders and simplify, streamline and rationalise cargo logistic processes.

The CCS has been described as the 'electronic network system for the submission of advance information relating to cargo before the cargo is either imported into, or exported from, Mauritius by any mode of commercial transportation'.

The general principle of the CCS is to register any real or forecasted data concerning a shipment with its features like description of cargoes, means of transport, documents, statuses etc. The CCS shall manage the notification of arrival and departure of shipments as early as possible to allow professionals to anticipate as much as possible. The CCS shall also allow users to react quickly in order to provide any a data to the next stakeholder in the logistic chain.

This system promotes the WCO's SAFE Framework of Standards to secure international Supply Chain. The CCS will considerably help in cutting down delays and improve cargo dwell-time. The implementation of the CCS is being carried out phase-wise. At present, the manifest and the transhipment module have already been implemented and the import and export modules will follow.

Maritime E-manifest has been implemented in October 2009. Shipping agents can send their manifest directly after receipt in their system to MRA Customs through CCS. Also amendment of manifest is being done electronically.

With the setting up of the CCS, Mauritius benefits the following:-

- Elimination of inefficient manual processes with significant productivity gains to logistics service providers.
- Streamlined Customs procedures in compliance with the World Customs Organization SAFE framework of standards for trade facilitation.
- Implementation of the Authorized Economic Operator concept to allow improved US and EU market access by providing advanced electronic cargo information to Foreign Customs services.
- Increased competitiveness for manufacturers and exporters.
- Facilitation of transhipment cargo.

The implementation of this community information system allows to:

- Optimize the processes of the logistic chain
- Comply with the WCO SAFE Framework of Standard
- Manage cargo in just and real time
- Track and trace cargo
- Link all the different parties involved in the logistic chain

7.1.3 Single window system (SWS)[8]

MRA, in collaboration with the Ministry of Finance and Economic Development (MoFED), is implementing a Single Window OGA (Other Government Agency) for the electronic submission and approval of agency import/export permits, required for Customs clearance. Its participants are the government departments, businesses, and other agencies involved in international trade. The core part of the TradeNet Project is the Customs Management System (CMS), which allows the submission, processing and approval of Customs declarations within 15 minutes, and processing and approval of import (and export) permits and payment of duties by electronic means. This system has been designed to regroup various agencies in terms of clearing of permits to facilitate trade. The project has further reduced cargo dwell-times for the benefit of all stakeholders and has a positive impact on ease of doing business index. Presently, four government agencies have already integrated in the Single Window and two are in the development phase. (See table 4 below)

Table 4: List of OGAs – Single Window

	List of OGAs	Fully Operational/Testing Phase
1	MICCP- Import	Oct-16
2	Mauritius Standard Bureau	Oct-16
3	MICCP- Export	Apr-17
4	Film Classification Board	Aug-17
5	Radiation Protection Authority	In Progress- Testing phase
6	Ministry of Fisheries	In Progress- Testing phase

7.1.4 Automatic clearance for green channel declarations

In order to provide maximum facilities to importers, the CMS has been enhanced in such a way that it provides speedy delivery of goods (low level risks) through green channel whereby goods are delivered upon documentary control at compliance level. In this context, if no Customs action has been initiated, all Green channel declarations are automatically cleared after validation for delivery in 30 minutes.

Following the successful implementation of automatic clearance for sea green channel consignments and in line with the trade facilitation measures, MRA Customs has stretched this measure to expedite clearance of air import declarations with green channel status in December 2015. Nevertheless, to prevent misuse of this facility by dishonest traders, same is made active only during official working hours excluding lunch time.

Table 5: Automatic Clearance for Green Channel

Automatic Clearance	Prior to 2012	2012 Onwards
Green Channel	2 hrs- 4hrs	30 Mins

Source: MRA Annual Report, 2015

7.1.5 Electronic submission of EUR1, SADC and IOC certificate of origin

Following an investigation into the fraudulent printing and issuance of fake EUR1 movement certificates by unscrupulous exporters of tuna to the EU market, MRA Customs designed and implemented an innovative electronic-EUR1 system on August 1, 2006. This e-EUR1 system allows Mauritian exporters to apply on-line for their EUR1. Once the goods are ready for export, with the export declaration filed electronically and all supporting documents made available to Customs, MRA Customs can determine the eligibility of the goods for an EUR1 certificate, and if satisfied will print the EUR1 data on a pre-printed EUR1 form containing a number of high security features. Once the EUR1 data is printed, the exporter is informed he may pick-up the completed EUR1 form at Customs.

Vital data printed on the EUR1 form is then automatically uploaded onto the Mauritius Customs website thereby allowing any EU Customs administration or other authorities wishing to immediately check the authenticity of the Mauritius EUR1 certificate presented to them by the importer in the EU to support the claim for a duty/tax preference. The new e-EUR1 has proven to extremely efficient for exporters and effective in preventing fraud. Being the first administration to implement such a system, it is being hailed as an international benchmark/best practice in trader facilitation. With its implementation, queries by EU countries regarding Mauritius EUR1 certificates have been reduced to a minimum. This has also impacted positively on the overall processing time for issuance of EUR1 certificates. To date, over 25,000 EUR1 certificates have been issued to exporters using the new e-EUR1 system. The application of electronic system has been extended to SADC and IOC certificates of origin, effective as from 1st April 2010.

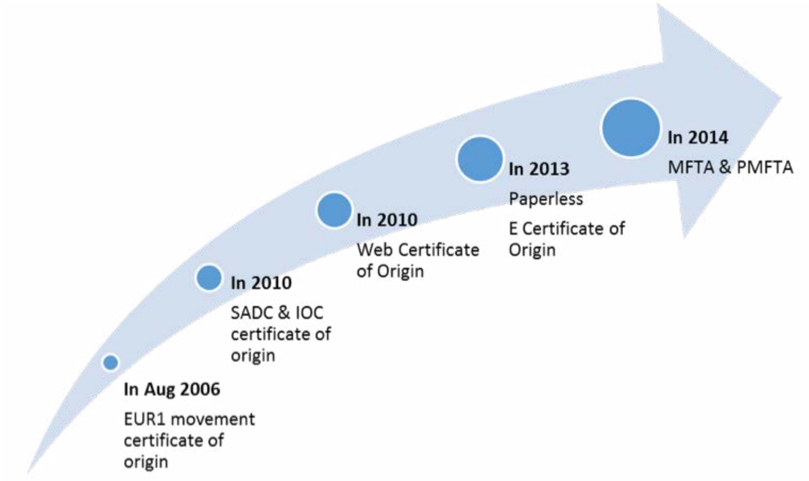


Figure 5: Electronic Submission of Certificate of Origin

7.1.6 Fast-track cargo initiative (blue channel)

In the year 2007, MRA Customs launched this initiative to encourage voluntary compliance by rewarding compliant traders with new, expedited cargo clearance processes and no physical inspection of their consignments. At present, 32 operators are granted the Blue channel for submitting their Customs Declarations.

Figure 6: Fast-Track Cargo Initiative (Blue Channel)

7.1.7 On-line tracking system in freeport

Greater autonomy has been enunciated to Freeport Developers to manage their respective zones.

In this context, the MRA Customs together with the BOI, MOFED, Freeport Developers and MNS, agreed to develop an Online Tracking System (OTS) aiming at removal of Customs Officers at the Free Port Gates and proceeding with post audit controls which provide a new dynamism by enhancing trade facilitation measures and reducing cumbersome control at the Freeport sector. This will allow for the proper tracking of containers to and from Freeport Developer zones.

7.1.8 E-payment

As per the RKC, MRA Customs has introduced the e-payment and as from 15 January 2017, this facility is required for all amounts payable per bill of entry exceeding Rs. 50,000.

The E-Payment platform has helped in achieving MRA Customs goal of paperless transaction. This facility has improved convenience of paying taxes on time and without the burden of carrying hard cash and cheques around. It has also saved enormous costs in printing paper money which is usually withdrawn from circulation and destroyed with time.

Since its implementation, it has been observed that there has been an increase in the number of E-payment and therefore a growth in the number of traders using this facility.

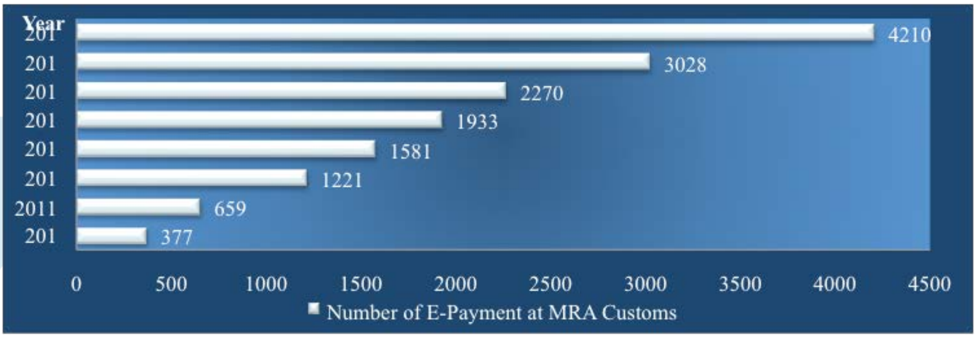


Figure 7: E-Payment at MRA Customs

7.1.9 Warehouse management system (WMS)

The WMS is running on a secure web portal, offering the possibilities for legitimate warehouse operators to register, log into and upload or enter their stock movement and balances on the system.

In February 2016, WMS-a web based application has replaced the manual ledger to record goods entering and leaving the warehouse operated by private operators under the suspended duty regime (Bonded Warehouses). Additionally, in February 2017, this system has been prolonged to Duty Free Shops and shops under Deferred Duty and Tax Scheme and to Part I Licenses of Excisable goods.

Table 6: Warehouse Management System (WMS) – Bond Operators

	Bond Operators	Total
1	Own System	4
2	System set up by Customs	27
3	Number of Operators	31

7.1.10 *Reduction in the number of customs inspections*

The level of physical inspection for goods has been lowered to around 5% with the use of NII technology. In addition, approximately 30% of import cargo is cleared automatically within 30 minutes.

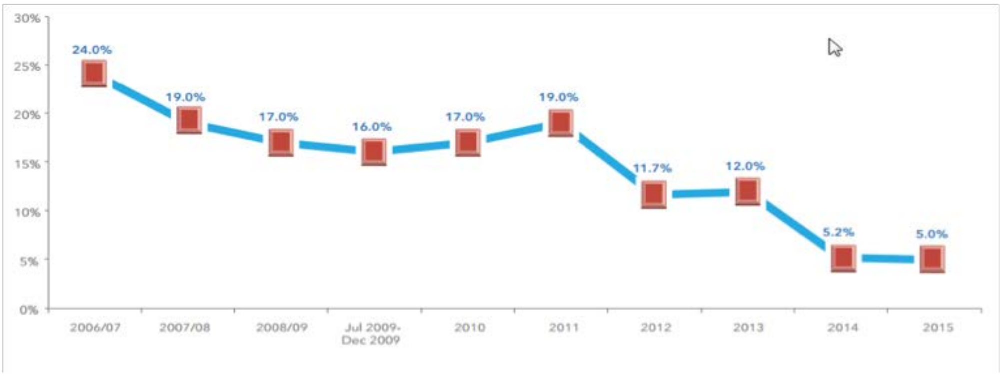


Figure 8: Percentage of import declarations selected for physical inspection

7.2 Fair And Effective Revenue Collection

7.2.1 Passenger assessment and clearance system (PACS)[9]

The PACS has been introduced in CMS and is operational at Arrival Hall, SSR International Airport as from 11 November 2014. PACS caters for the assessment, calculation and collection of appropriate duty, excise duty and taxes on goods attracting duty and taxes found in excess of the normal allowances granted to bona fide passengers. The system also enables officers to issue Detain Receipts in the most efficient and timely manner to passengers.

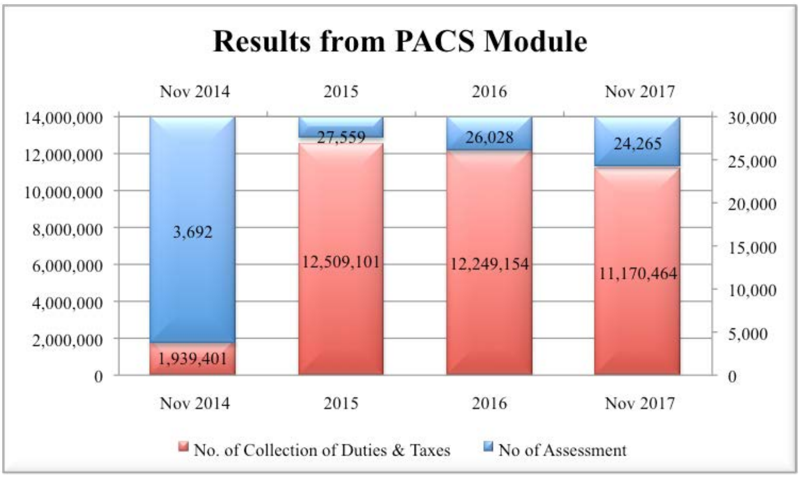


Figure 9: Results from PACS Module

7.2.2 Customs debt management system (CDMS)

The CDMS came into operation as a module in the CMS in May 2012 with the objective to register, compute and monitor all claims raised by MRA Customs including the recording of cheques dishonoured and outstanding electronic payments by the Finance and Administration Department. This application is also used by the Legal Services Department of MRA for the recording of court proceedings and rulings in respect of all claims cases referred to them.

The CDMS is monitored by the Debt Monitoring Unit which was set up in November 2010. Some statistics relating to claims are shown in the table below.

Table 7: Customs Debt Management – Claims and revenue raised

CLAIMS	2014	2015	2016	2017 (Jan to Aug)
Total number of claims raised	65	292	762	790
Amount of Revenue collected from claims raised (MUR)	26,589,308	48,570,528	79,522,310	74,810,698

7.2.3 Revenue collection[10]

The MRA has evolved over the past decade. In this respect, the evolution of some parameters is given below.

Table 8: Evolution of Revenue Collection at MRA Customs from 2006 to 2015

	2006/07	2007/08	2008/09	Jul-Dec 2009	2010	2011	2012	2013	2014	2015
Revenue collected (Rs Million)	27,250	32,607	32,664	16,865	35,669	38,474	42,338	42,626	42,431	44,487

7.3 Protection Of Society

7.3.1 National customs enforcement network (NCEN)

The nCEN is a Customs enforcement tool developed by the WCO to allow proper capture of timely nominal information relating to Customs offences namely drugs, IPR, tobacco, tax and duty evasion.

Mauritius has been the pioneer country in the ESA region for the establishment of the nCEN and has been selected since as the nCEN Regional Leader and the Chairperson of the Customs Enforcement Management Team (CENMAT) for the year 2016. The pilot phase started in August 2010 and nCEN was successfully implemented in Mauritius in December 2012.[11]

Table 9: National Customs Enforcement Network (NCEN)

Cases	2013	2014	2015	2016	2017
Beverages	30	19	1	0	2
CITES	0	0	0	1	1
Currency	0	1	0	0	0
Drug precursor chemicals	0	0	0	0	0
Drugs	9	1	0	12	29
Hazardous materials	0	0	0	0	0
IPR	2	6	0	0	0
Medicine & Pharmaceutical Products	0	1	0	0	0
Other prohibitions and restrictions	50	48	7	0	0
Pornography/Paedophilia	0	0	0	0	0
Radioactive and nuclear materials	0	0	0	0	0
Strategic goods	0	0	0	0	0
Tax and duty evasion	125	25	0	0	0
Tobacco	40	31	3	0	3
Weapons and explosives	0	1	0	0	0
Number of cases for 2012 : 307					

7.3.2 Use of non-intrusive inspection equipment

Complying with the security requirements dictated by the WCO Framework of Standards, MRA Customs has employed cargo x-ray scanners to efficiently and effectively detect smuggled and prohibited goods in a non-intrusive manner. The scanners have enabled the organisation to inspect an increasing number of containers and to detect drugs and contraband.

In 2015, the MRA procured a new container scanner from NucTech Ltd to replace the scanner currently being used at the port. The new scanner became fully operational in March 2016.

Figure 10: Mobile X-ray Container Scanner

Table 10: X-Ray Scanning of Containers/Consignments (Number)

X-Ray Scanning Details	2006/07	2007/08	2008/09	Jul 2009 - Dec 2009	2010	2011	2012	2013	2014	2015
Container / Consignment Scanned	**24,383**	**51,724**	**52,021**	**28,733**	**61,821**	**55,385**	**53,040**	**54,565**	**60,439**	**148,866**
Port	*19,176*	*38,330*	*38,849*	*22,361*	*47,856*	*40,841*	*35,813*	*35,816*	*38,277*	*30,033*
Airport	*5,207*	*13,394*	*13,172*	*6,372*	*13,965*	*14,544*	*17,227*	*18,749*	*22,162*	*118,833**
Suspected Container / Consignment	**1,021**	**1,499**	**1,896**	**988**	**1,914**	**1,499**	**1,377**	**791**	**1,216**	**2,288**
Port	*474*	*507*	*505*	*184*	*324*	*232*	*269*	*297*	*393*	*172*
Airport	*547*	*992*	*1,391*	*804*	*1,590*	*1,267*	*1,108*	*494*	*823*	*2,116*
Offences detected	**108**	**266**	**396**	**208**	**411**	**157**	**135**	**99**	**266**	**574**
Port	*80*	*146*	*190*	*73*	*155*	*97*	*40*	*68*	*73*	*30*
Airport	*28*	*120*	*206*	*135*	*256*	*60*	*95*	*31*	*193*	*544*

** The data includes scanning from the DHL Courier Service and PATS Courier Hub for the period July-December 2015*

7.3.3 CCTV monitoring of inspection of goods

Advanced CCTV camera systems have become operational at SSR Airport Arrivals Hall, PATS Air Cargo Warehouse and other strategic locations. On-line camera images are viewed and monitored on a 24/7 basis. CCTV technology reduces the need to station Customs preventive officers at fixed locations. To safeguard those strategic locations, more CCTV cameras are being installed.

Table 11: CCTV Camera Systems

Number of CCTV Cameras			Number of Interventions			Number of additional CCTV Cameras
MRA	MPA	CHCL	2015	2016	2017	Approximately 200
8	14	14	72	28	112	

7.3.4 Risk management[12]

Risk Management in the field of Customs emanates from the convention International Convention on the Simplification and Harmonization of Customs Procedures which was established under the auspices of the Customs Co-operation Council (CCC), at Kyoto, on 18 May 1973. The Risk management capacity has been enhanced with the creation of a Risk Management Section since January 2010. This Section enables MRA Customs to strike the right balance between the aspect of trade facilitation and enforcement.

A common characteristic of Customs work is the high volume of transactions and the impossibility of checking all of them. Customs administrations therefore face the challenge of facilitating the movement of legitimate passengers and cargo while applying controls to detect Customs fraud and other offences. Customs services find themselves increasingly under pressure from national governments and international organisations to facilitate the clearance of legitimate passengers and cargo while also responding to increase in transactional crime and terrorism. These competing interests mean that it is necessary to find a balance between facilitation and control within the framework of laws, regulations and procedures.

Given the high number of export, import and transit transactions, MRA Customs administration use risk analysis to determine which persons and goods should be examined and to what extent (WCO RKC, Standard 6.4).

Inspection selectivity programmes make use of risk profiles, which have been established in a process of risk analysis and assessment. Risk profiles encompass various indicators, such as; type of good, compliance records of traders, value of goods and applicable duties, destination and origin countries, mode of transport and routes. These are built based on characteristics displayed by unlawful consignments.

These profiles then drive inspection selectivity programmes, through which data declared will be analysed on the basis of the identified risk parameters and consignments, and depending on the selected risk level, goods and persons are routed through different channels of Customs control.

The three (3) tools provided by the Customs Management System/Selectivity Module are Entry Selection (ESEL), Sensitivity and Random Physical Check. Depending on levels of risks, goods are routed through channels (see figure 11):-

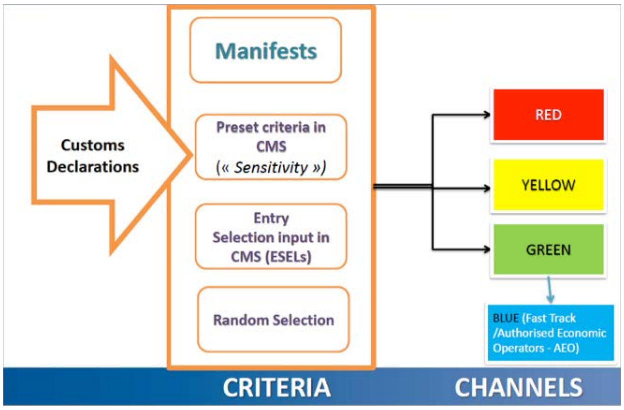


Figure 11: Risk Management in the CMS

Table 12: Import Declarations selected for Physical Examination

Dwell Time	2013	2014	2015
% of import declarations selected for physical examination (RED)	12%	5.2%	5%

8. BENEFITS OF DIGITAL CUSTOMS TO MRA CUSTOMS

The new era of Digital Customs has transformed the way Customs operates. Eventually, it ensures progression – the enhanced ability of Customs administrations to communicate process goods, receive and exchange information, coordinate border activities, collaborate on law enforcement actions, and promotes transparency and brings out numerous benefits that help Customs administrations reach their contemporary objectives.

A. To the economy

According to the World Bank's 2017 Doing business reports, nine of the ESA Members made the top 10 positions and 15 took honors in the top 20. Mauritius led the pack by 49 among the Sub-Saharan countries for the Ease of Doing business. This is shown in Figure 12.

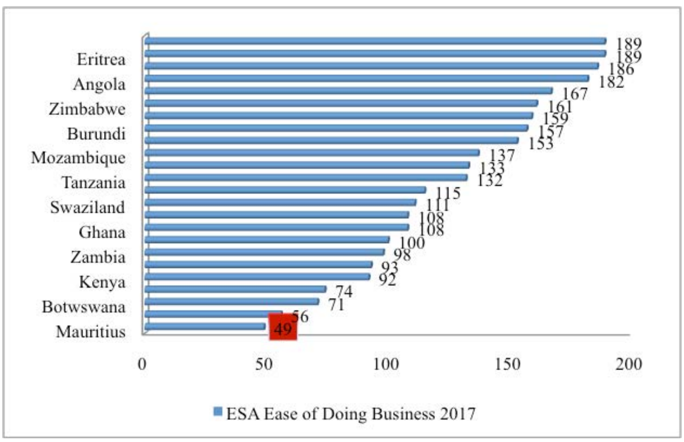


Figure 12: ESA Ease of Doing Business 2017

The cost of doing business is reduced through faster clearance times for legitimate trade and increased transparency in regulatory processes and decision-making. Automated Customs procedures lead to reduced congestion at ports and airports, expedited release of goods and reduction in costs to Customs as well as its trading partners.

Recently, Mauritius has been ranked 25th out of 190 countries by the World Bank's Doing Business Report 2018 and confirms its leading position in the African continent.

B. The organization (MRA)

(i) Enhanced detection of irregularities and illicit consignments through the collection and analysis of data. Since Manifest is submitted prior to arrival of vessel at destination, Customs with use of risk management criteria can target more efficiently the consignments and proceed with verifications. Also, with the introduction of Scanner for container in the port, many anomalies were detected and cases opened.

(ii) Digitalization helps in achieving the "green" concept by replacing paper-based Customs procedures with electronic operations. In terms of processing of BOE it is quicker than before since upon validation BOEs are directly assigned to the compliance officer in a from a working pool and after payment of Duties & Taxes, if any, the latter can process the BOEs. Also, there is no need to keep any document related to each BOE since all the documents are attached in with the BOEs in the system and same can be viewed in PDF format.

(iii) With the introduction of WMS, Customs is able to view and monitor movement of stock pertaining to a particular warehouse 24/7. This also facilitates Customs when performing random check in warehouses for an audit on the stock of goods.

(iv) PACS module has helped Customs to process the assessment of goods effectively and efficiently at airport thus, allowing quicker clearance. Also, the system has catered for report that will indicate the total revenue collected for a given period and for analysis purposes.

(v) With reference to MRA's determination to maintain integrity and solid positive corporate image within the organization, MRA was awarded the 2010 best anti-corruption award by the Independent Commission against Corruption (ICAC) and is moving towards zero tolerance as regards to corruption. In addition, it is promoting transparency and reducing discretionary powers of Customs.

C. To the declarants/ stakeholders

(i) With the Web based declaration, declarants are given the facility to create a declaration anytime and anywhere with only an internet connection. They can work anywhere apart from office to create their declarations whereby before the where using a front end system which was given access to create a declaration only at one location.

(ii) Faster clearance times for legitimate trade: automated risk management, intelligence systems and Non-Intrusive Inspection of cargo and other technologies allow Customs to more effectively and efficiently discharge its control function.The introduction of automatic clearance on Green Channel declarations within 30 minutes from validation/payment has benefitted greatly on importers for obtaining their consignments. Also, Importers can be granted BLUE Channel based on the degree of compliance to customs procedures. With this facility, BOEs are cleared automatically at time of validation or payment of Duties & Taxes as the case may be.

(iii) Provision of deferred payment scheme has allowed stakeholders to get clearance of their consignments prior to payment of Duties and Taxes. Thus, an importer is granted one moth and seven days for payment of his dues to customs implying that the latter can trade and use the money received from the sales of that consignment to payback the amount due. There is the elimination of shortcomings like bounced/dishonored cheques for ease of operation and convenience.

(iv) The National Single Window allows single electronic sign-on and submission by traders/applicants for licenses/permits applications, Customs declarations and trade documents as well as the processing of same by Customs and the relevant agencies. This has reduced costs for stakeholders dealing with Customs in terms of time and transports.

Various facilities have been provided to stakeholders in terms of payment of duties and taxes such as:

- On-line payment where no more queues and waiting are required
- Confidentiality and transparency of the transfer of funds.
- One can pay on behalf of the firm, company and others.
- Instant Cyber receipt with banks transaction number becomes available.
- Improved security of transactions.

9. CHALLENGES FACED

With the on-going digital Customs initiatives and despite the positive development of trade facilitation, MRA Customs faced several challenges which are as follows:-

(i) Facilitate trade without weakening Customs Control. To support the concept of facilitating trade, a Risk Management Section has become fully operational in 2009 which focuses on the departmental risks and share intelligence across the organization where informed decisions are taken thus substantially reducing clearance time and expediting legitimate consignments. Moreover, study is being carried out to monitor the trend in trade and coordinate their inclusion within the system.

(ii) Several initiatives run concurrently. Inevitably officers get over stretched resulting in officers in other units being called up to participate in projects. Cases are common where an officer is found handling several projects at a time. Therefore, the effectiveness in achieving the organization’s objectives and its continued success depend largely on the people that comprise it. An organization may have the most sophisticated and the latest-of-the-art technology, updated system and processes but ultimately it is the human resources which provide the hands and brains to do the work of the organization. To alleviate this problem, the MRA proceeded with the recruitment of more skilled officers.

(iii) Inadequate awareness and education to stakeholders regarding the use of the implemented system. To solve this issue, continuous training program in all areas of customs was held by local trainers in Custom House.

(iv) Resistance to reforms by some staffs and stakeholders due to lack of IT knowledge. In order to resolve this concern, conferences and workshops were prepared for Customs staffs and stakeholders. Staff representatives and trade union members were invited to provide their inputs. A dedicated training school has been set up to monitor each activity performed.

10. RECOMMENDATIONS

Digitalization has been carried out to smooth the progress of trade and coordinated border management, enhance Customs enforcement and build internal capacity. To enhance the concept of paperless Customs, it is recommended to keep abreast the changes with regards to digital Customs. In this context some recommendations have been identified:-

- ***Digital Signature***

With the very growing number of electronic transactions and document s, the use of digital Customs will make it possible to trust and act upon transactions as if they were printed on paper and signed by a trusted source, Digital signatures will be used as a proof of authenticity of the originator as such Customs will be able to electronically identify the sender and the originator cannot deny the creation of the document, data integrity and non-reputed of communications conducted over the internet. It will also include an automatic date and time stamp which is very critical for Customs and business transactions. With this new concept in place, Customs clearance will be more convenient and speedy. Consequently, the cost of importers and exporters will be reduced considerably as there will be no need to send original documents through postal or courier services. So there will be a twofold advantage both for Customs and its stakeholders.

- ***Detecting errors***

One of the main responsibilities of the Customs authorities is the collection of duties and other taxes. Data Analytics can assist Customs in identifying errors such as valuation errors, incorrect classification, incorrect quantity and incorrect country of origin which could lead to different preferential rates thus determining the duty amount to be paid. Where MRA Customs will detect false declarations, errors or omissions, they make the necessary adjustments and communicate these errors to the debtors. In detecting such errors MRA Customs can protect Mauritius revenue by enforcing fines and/or penalties.

- ***Intelligent Enterprise: Huge data, smarter software— better outcomes (Big Data)[13]***

To get smarter, it is imperatively for MRA Customs to master their data, which will be able to provide actionable insights to pre-emptively tackle fraud and risk, promote legitimate trade, and also create more personalized experiences for users. It is recommended to put big data at the heart of the intelligence transformation. They aim to better connect IT systems to share more classified information with trusted partners, while customs officers will use mobile technology to feedback real-time data that will help identify and defeat terrorists and organized crime networks, and defend against the illicit importation of drugs and firearms.

- ***Blockchain[14]***

Presently, Customs declarations appear on a system somewhere to be accessed later by authorized stakeholders. But with Blockchain, the moment the declaration is submitted it is visible in a non-reputable form to all the associated parties on the import side. The importer can trust the information about what is in the consignment, while also being able to check whether the related finance is legitimate, and thanks to the Internet of Things—track and trace it along the supply chain and determine if it is interfered with. In addition, finance fraud is a huge challenge for Customs agencies worldwide. For example, the fraudsters say they are shipping the same consignment to three or four places at once, and use the same documents to get finance from different parties. With Blockchain, the consignment details can already see the link to finance. So the opportunity for fraud disappears that is the criminals will have to slink off and look for someone else to rip off.

And aside from Customs, there are equally profound impacts elsewhere at the border. For example, individual travellers will be able to use Blockchain to store all their relevant travel documentation and records—passport, visas, ticketing, payment cards, personal travel history—in one secure yet easily accessible place.

This not only makes things much easier for the traveller, both in transit and going through immigration. It is also very powerful from a security perspective, enabling authorized agencies to have lawful visibility into people's documentation and travel history, including which jurisdictions they have visited and when.

- ***Setting up of a Data Warehouse***

In spite of being a fully-integrated organisation, it appears aberrant that the tax operations and Customs are operating two different IT systems. In fact, tax operations use the Integrated Tax Administration Solution (ITAS) whereas Customs operates through the Customs CMS II. However, both these systems have two different IT platforms: ITAS uses the System Application and Products (SAP) Integrated Tax Revenue Management Solution whereas CMS II uses the Oracle's latest Oracle 10g. (Purmah; 2011:16). Hence, it seems that, due to incompatibility issues, both these systems could not be fully integrated thereby potentially undermining continuous flow of crucial information on taxpayers and traders. However, to circumvent this problem the MRA may recourse to a "Data Warehouse" concept through which the extraction, transportation, transformation and loading of relevant data could be done from both the ITAS and CMS II, thus providing to the MRA staff with an On-Line Analytical Processing (OLAP) engine to better assist and improve their workloads and quality of auditing.

11. MODEL FOR DIGITAL CUSTOMS FOR ESA REGION

With regards to the analysis, findings and best practices in MRA Customs, a model for Digital Customs has been proposed in broad lines for the ESA region.

There is a very old saying which goes as follows "Rome was not built in a day". So patience, perseverance and hard work are keys to success in digitalization of Customs. There is no "One Size fits all ", but from lessons learned and by sharing of experiences, the process can be expedited and unnecessary steps avoided. At the same there can be cost savings and implementation time considerably reduced.

Similarly, digitalization as stated previously is an ongoing process and after each reform cycle we are thrusted to constant external turbulences to embark onto a new a cycle. Various factors which force Customs administrations to take reforms is the advent of new technology, the serious risks posed by emerging threats such as radiation, unscrupulous criminals involved in production of fake and counterfeit products and the global economic shocks, the piracy problem in the region as well as environmental issues related to climate change.

In addition to the above, other key aspects are the policy decisions taken by governments and changes in the legal framework.

Mauritius being a small vulnerable economy had to be fully armed to face all the above pressures and maintain its trade level to ensure that the economy is not seriously affected. Measures taken have strengthened the country to resist to the shocks and maintain a positive growth. The outstanding results are in fact the additional revenue yield through duty and VAT at imports despite tariff elimination in a majority of articles and drastic reductions in others. Additionally looking at taxes with a holistic approach to adjust any evasion or avoidance over the whole supply chain has contributed to increase in revenue.

There is global pressure for governments to reduce Customs duties and it is important to rethink how national budgets will be financed. Secondly, there is utmost importance that if corruption is not eradicated, we cannot guarantee security of the global supply chain, a must for trade facilitation. Hence integrity in Customs is a very critical issue and has to be enhanced. We would encourage Customs administrations to consider these very seriously in reform and modernization program.

However, every ESA country operates in its own unique environment and it is vital to identify the key factors so that ideal digitalization is implemented and hence the objective of this study and research are met.

12. LESSON LEARNED

Based on the above discussions, some key lessons have been identified for making faster progress on digital initiatives which are as follows:-

(i) Stakeholders Involvement

Stakeholders play a big role for the success. Thus, there is a need to fully involve them from the beginning, encourage the dialogue and enhance the communication among the all stakeholders to ensure that they have the same level of understanding of the problem and the solution.

(ii) Financial, Human and Material Resources

Another recurring success factor is the importance of envisaging and preparing a realistic and sustainable funding mechanism to implement the trade facilitation initiative. A good funding strategy is needed to ensure the success of digitalization. Donor support as well as domestic funding is critical for implementing the projects. Adequate human resources and organizational management, is also a critical element in enhancing the quality and integrity of staff with respect to the trade facilitation initiative.

(iii) Strong Political Will and Support

During the digitalization processes, it is imperative for Customs to benefit from strong political will and support for digital projects.

(iv) Transparency and Monitoring

It is vital to keep policy-makers and relevant stakeholders, including the private and public sectors, informed on the elaboration of a trade facilitation initiative, progress achieved, difficulties encountered and surmounted, and measures proposed to address delays and changed conditions.

13. CONCLUSION

The MRA Customs Department has embarked on major modernisation programmes, in line with the mission of the MRA "to continually reform and modernise Revenue Administration in order to manage and operate an effective and efficient Revenue organisation comprising of highly motivated and skilled staff". As evidenced in this paper, the MRA Customs Department has achieved much progress in terms of digitalisation. These were outlined in the second Chapter of this paper and the achievements were evaluated with respect to WCO instruments and tools listed in Chapter 1.

The literature review (Chapter 3) recorded existing literature regarding digitalisation and how far this has been implemented by Customs Administrations in Africa and around the world. The remaining chapter of this paper proposes recommendations with respect to research objectives outlined earlier.

Like most Customs administrations around the world, the MRA Customs faces challenges of providing increased trade facilitation, enhanced revenue collection by eradicating fraud and corruption and enhanced control to safeguard the society and secure supply chain. The key formula to achieve these objectives effectively and efficiently is the digitalization of Customs administrations so as to cope with the changing environment and conform to standards and best practices recommended by international institutions and conventions.

This paper has demonstrated that MRA Customs has effectively achieved considerable progress in the field of digitalisation and it is one of the Customs Administration that is looked-up to the in the ESA region and beyond. But such progress may quickly be obsolete, keeping in mind the ever-evolving nature of digitalisation. It is therefore imperative that MRA Customs leaves no stone unturned in its quest of being a digital department.

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5 For Further details, please read: http://unctad.org/en/Docs/c3em27d2_en.pdf

6 EDI is the direct computer to computer data exchange between two organizations of standard business transactions documents without human interventions. It uses the network system and follows standards and procedures that allow output from one system to be processed as input to other systems. This is the central concept of e-commerce and changing the way business is done.

7 This system has been implemented in Le Havre Port by SOGET. A delegation of Mauritian stakeholders including two Customs officers travelled to Le Havre Port in May 2007 to take cognizance of the first hand operations of the CCS.

8 Mauritius Revenue Corporate Plan 2014-2016: http://www.mra.mu/download/MRACorporatePlan2014-2016.pdf

9 Source: Mauritius Revenue Authority, Annual report 2014: http://www.mra.mu/download/AnnualMRAReport2014.pdf

10 Please read: Mauritius Revenue Authority, digest of Revenue Statistics, 2006-2015: http://www.mra.mu/download/DigestofRevenueStatistics.pdf

11 Mauritius Revenue Authority E-Newsletter October 2011: http://www.mra.mu/index.php/media-centre/publications/mra-e-newsletter/29-home/media-centre/243-october-2011#wco

12 Case Study: Mauritius Valuation Control Programme, June 2012: http://www.wcoesarocb.org/wp-content/uploads/2017/03/Phase-I-Case-Study-Mauritius-EN.pdf

13 Accenture, Vision 2015, Delivering Public Service for the Future: https://www.accenture.com/t20170228T002449Z__w__/nl-en/_acnmedia/Accenture/Conversion Assets/DotCom/Documents/Global/PDF/Technology_9/Accenture-Custom-Agencies-TechVision-5-5-2015-2-Web.pdf

14 World Customs Organization Blockchains, 28 August 2017: http://ifcba.org/sites/ifcba/files/WCO_Blockchains_IFCBA_Special_Event_28_August_2017.pdf

BEST PRACTICES IN DIGITAL CUSTOMS IN EAST AND SOUTHERN AFRICA: A CRITICAL ASSESSMENT OF THE SUCCESS STORY OF THE MAURITIUS REVENUE AUTHORITY

Sudhir Dey Ancharaz and Mauritius Revenue Authority

ABSTRACT

Digitalization or the use of Information and Communication Technology in core Customs functions is a sine qua non for the implementation of reforms and modernization programmes and to achieve efficiency and effectiveness. Digitalization has been the locomotive for modernization at the Customs Department of the Mauritius Revenue Authority (MRA Customs). It has transformed the department into an efficient and effective organization recognized for its professionalism and high standards of service offered to its stakeholders.

Several factors have combined to contribute to this success. Some of these include strong political will, top management commitment at MRA, external support (in terms of financial and technical assistance) for key projects from donor countries and institutions, close collaboration from our stakeholders, core internal competencies at MRA, as well as the strong willingness of Customs staff and stakeholders to adapt to change. Moreover, digitalization at MRA Customs has been driven by international blueprints and best practices. International institutions such as the World Bank, World Trade Organization and UNCTAD have played a major role in propelling MRA Customs in the successful path of digitalization.

Digitalization has benefitted MRA in terms of the efficiency and effectiveness in the processing of customs declarations. It has expedited clearance of goods and passengers and facilitated facilitation. Digitalization has also enhanced customs control and resulted in optimized collection of revenue and better management of claims and debts. Moreover, digitalization has enabled the provision of more accurate and timely trade statistics for policy decision making. Today, MRA Customs is considered as a "success story" as concerns digitalization and acts as a benchmark for many Customs administrations in the Sub Saharan Africa region as well as other Customs administrations around the world.

1. INTRODUCTION

Customs plays a critical role in its mandates of achieving the Government's budgetary agenda, fostering the competiveness of the country, protection of society, facilitation of trade, collection of trade statistics for policy decision making and protection of the international supply chain efficiently and effectively. To achieve these vital objectives, it is imperative for Customs administrations to reform and modernize. In fact, ICT is of paramount importance for Customs administrations - *"To meet its mission, a customs administration must effectively integrate modern practices and processes with ICT-driven customs management systems*"[1]. Moreover, academics in Customs research and experienced practitioners strongly believe that the future of Customs lies in an e-Customs strategy - automated systems, risk management and intelligence to facilitate the movement of legitimate goods and to focus resources on high-risk areas.

Today, Digital Customs has transformed the way that Customs operates. The theme dedicated for ICD 2016 illustrates the importance WCO attaches to digitalization. According to the WCO, Digital Customs refers to "*any automated or electronic activity that contributes to the effectiveness, efficiency, and coordination of customs activities, such as automated customs clearance systems, the single window concept, the use of "Big Data", electronic exchange of information, websites to communicate information and promote transparency, and the use of smart phones*"[1]. It also means *"using digital systems to collect and safeguard Customs duties, to control the flow of goods, people, conveyances and money, and to secure cross-border trade from non-compliance, crime and terrorism.*"[2]

2. RESEARCH PROBLEM

Digitalization can be considered as the most powerful tool to increase productivity at the workplace in the 21st century. Without computerization or the use of ICT in diverse processes, enterprises will not be able to survive cut-throat competition. Today, Customs administrations are called upon to play an important role in fostering trade by expediting clearance of raw materials at import and finished products at exports; facilitating the movement of people across borders and meeting the exigencies of all its stakeholders. Customs has to fulfill its twin objectives of facilitating trade but at the same time not losing focus on control which is vital to protect government revenue and the society from the entry of illicit goods such as drugs and narcotics, arms and ammunitions as well as the financing of terrorism. Modern Customs cannot achieve its mission without reforming and modernizing its processes, procedures, practices and control measures. According to the WCO, (2005): "*Without an efficient and effective national Customs administration, governments will not be able to meet their policy objectives in respect of revenue collection, trade facilitation, trade statistics, and the protection of society from a range of threats to national security*"[3]. Customs administrations have to automate and adopt technology in the different areas of operations such as the processing of customs declarations, inspection of goods and people, the management of risks, and compilation of trade statistics for policy decision making.

3. RESEARCH OBJECTIVES

Digitalization is regarded as *the* "solution"; it is a key catalyst for implementing reforms and modernization programs at Customs. The objectives of this research are:

(i) To describe the "driving forces" or "locomotives" behind the digitalization process of Customs, i.e. what are the conventions, guidelines or institutions that are guiding Customs in its digitalization process?

(ii) To describe the different areas of Customs where digitalization can be effectively and efficiently applied;

(iii) Discuss the outcomes and benefits of digitalization to Customs;

(iv) Identify the key success factors that enable digitalization of Customs.

(v) The above objectives set out a basis for analyzing the digitalization process of MRA Customs4; retracing the landmarks in the history of digitalization at MRA Customs and describing all the measures, initiatives and projects related to digitalization that have been implemented over time. The paper also describes the rationale, benefits and outcomes of digitalization, the key success factors behind the digitalization process at MRA Customs.

4. RESEARCH METHODOLOGY

The methodology used for the purpose of this research is based on a study of available publications/information on issues related to ICT and automation in Customs from internal and external sources. It is also based on interviews of people having experience in digitalization of MRA Customs.

1. **Internal sources:** include Customs magazines and journals, MRA Annual Reports and Corporate Plans.
2. **External Sources:** Books, journals and articles on the internet; Guidelines, Conventions, Agreements and other publications of the WCO and other institutions.

The Research methodology seeks to provide explanations on the objectives set out for this research. The Literature Review part provides details of digitalization at Customs from internal and external sources while the practical experiences of MRA Customs have been included in the "Findings of this Research". Recommendations to maximize the benefits of digitalization have also been made based on a study of the Literature Review and the findings. It is worth noting that the Research Methodology is limited in the sense that it is based on mostly qualitative rather than quantitative data. More research in this area would have been very beneficial for increasing the effectiveness and efficiency of digital measures at Customs.

5. LITERATURE REVIEW

The Literature Review provides a theoretical base for digitalization of Customs from various published sources. It makes an assessment of the 'how', 'when', 'where' 'why' and 'for whom' of digitalization in Customs. The driving forces or locomotives behind digitalization of Customs, i.e. the main institutions pushing Customs towards digitalization and the key benefits of digitalization will be discussed in the Literature Review.

5.1 Driving Forces In Digitalization Of Customs

Given the critical importance of Customs, the WCO and other international organizations which have a keen interest in the development of trade have played an important role in 'pushing' Customs towards digitalization. These key partners of Customs have acted as locomotives behind the digitalization of Customs by developing conventions, guidelines, standards and recommendations. They have assured the vital link between developments in ICT and trade with solutions for effective and efficient customs operations.

5.1.1 World Customs Organization

As the centre of excellence in Customs matters, the WCO stands out as one of the key partners that has been at the forefront in the digitalization of Customs by informing its members of the latest trends and developments and coming up with appropriate recommendations, guidelines and conventions to promote the use of ICT at Customs. It is to be noted that the WCO currently has 182 members who are divided into six regions and account for 98% of world trade. Mauritius is a member of the WCO since 29th March 1973 and falls under the East and Southern Africa region comprising of 24 member countries.

(i) Revised Kyoto Convention (RKC)

The RKC entered into force on 03 February 2006 and has 112 contracting parties. Mauritius acceded to the RKC on 24 September 2008 and has accepted 19 specific Annexes/Chapters of the convention. At the WCO ESA level, 7 out of 24 member countries (Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Somalia and South Sudan) are yet to accede to the RKC. The RKC is widely regarded as the blueprint for modern and efficient Customs procedures in the 21st century. It provides a comprehensive set of uniform principles for simple, effective and predictable Customs procedures with effective Customs control. General Annex of the Convention promotes the application of ICT. Besides Chapter 7, which is wholly devoted to digitalization, the use of ICT in Customs is also promoted in three other chapters of the General Annex encompassing a total of nine Standards/Transitional Standards as summarized in the table below.

Table 1: General Annex- application of Information and Communication Technology

CUSTOMS PROCEDURES & PRACTICES	STANDARDS/ TRANSITIONAL STANDARD	APPLICATION OF INFORMATION TECHNOLOGY
Chapter 3- Clearance and Other Customs Formalities	3.11. Standard	International standards for electronic Goods declaration
	3.18. Transitional Standard	Lodging of supporting documents by electronic means
	3.21. Transitional Standard	Lodging of Goods declaration by electronic means
Chapter 6- Customs Control	6.9. Transitional Standard	Use information technology and electronic commerce to enhance Customs control
Chapter 7 – Application of Information Technology	7.1. Standard	Application of information technology to support Customs operations
	7.2. Standard	Internationally accepted standards for computer applications
	7.3. Standard	Introduction of information technology to be carried out in consultation with all relevant parties
	7.4. Standard	New or revised national legislation for the application of information technology
Chapter 9 – Information, Decisions and rulings supplied by the Customs	9.3. Transitional Standard	Use information technology to enhance the provision of information

SAFE Framework of standards

The SAFE Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework), adopted by the WCO Council in June 2005, aims to "act as a deterrent to international terrorism, secure revenue collections and promote trade facilitation worldwide". It is to be noted that, in June 2005, Mauritius signified its intention to implement the SAFE Framework of Standards and is among the 23 ESA member countries that have done so. This WCO instrument has also guided MRA Customs in the path of digitalization. The four core elements and seventeen security standards of the SAFE are intended to improving security in the supply chain. Most of these provisions advocate the extensive use of ICT in Customs operations, procedures, risk management and the exchange of information as summarized in the table below.

Table 2: SAFE Framework of Standards and application of information Technology

PILLAR OF SAFE	STANDARD	APPLICATION OF INFORMATION TECHNOLOGY
Customs-to-Customs	Standard 3 – Modern Technology in Inspection Equipment	Non-intrusive inspection (NII) equipment and radiation detection equipment to be used for conducting inspections
	Standard 4 – Risk-Management Systems	The use of automated systems for risk management
	Standard 6 – Advance Electronic Information	Advance electronic information on cargo and container shipments for adequate risk assessment
	Standard 7 – Targeting and Communication	Information exchange mechanisms
Customs-to-Business	Standard 4 – Technology	Maintain cargo and container integrity by facilitating the use of modern technology.

(ii) Revised Arusha Declaration (RAD)

Digitalization at MRA Customs has also been inspired by The Revised Arusha Declaration which is sets out WCO's integrity and anticorruption strategy to tackle corruption at Customs. The RAD is based on ten (10) key elements one of which is automation so vital to "*increase the level of accountability and provide an audit trail for later monitoring and review of administrative decisions and the exercise of official discretion"*.

(iii) WCO ICT Guidelines

The WCO Guidelines on the Application of Information and Communication Technology (also Known as the Kyoto ICT Guidelines) aims to guide Customs administrations on the use of ICT to "enhance program delivery and plan improvements in their services to clients and trading partners". These guidelines show the impact of emerging technologies such as internet and innovative international trade patterns (e.g. e-Commerce) based on ICT. It highlights the benefits that Customs administrations can derive from using ICT to support core customs functions and assists them in identifying areas where the application of ICT can be more relevant and beneficial. Moreover, the WCO has always been at the forefront to update its members on developments in ICT/computer solutions through various "Recommendations" for them to adopt these innovative solutions.

(iv) WCO Strategic Building Block[5]

The WCO Strategy and Action Plan to implement the Customs in the 21st Century policy document (2008) has identified 10 strategic building blocks that recommend Customs administrations to use ICT solutions to support core customs functions and development in the customs environment. The WCO Strategic Plan 2013/2014 to 2015/2016 also reinforces this focus on ICT.

5.1.2 World Bank

The World Bank deploys substantial financial and technical support to developing countries to enable them to pursue the reform and modernization programmes of their customs administrations. *"World Bank customs modernization activities have generally been part of broader reform programs to facilitate trade, support general revenue mobilization, enhance public finance management, strengthen public sector human* *resources management, support infrastructure development, or enhance competitiveness"*[6]. The World Bank supports Customs reform programmes through investment and technical assistance loans (TALs) as well as in structural adjustment loans and credits (SALs). The close collaboration of the WCO and World Bank has also been an important blessing for automation in Customs administration around the world.

The recommendation to increase the use of IT by the World Bank in 1992 was a major milestone in the history of digitalization of the Customs administration in Mauritius. This led to studies in 1993 to examine the feasibility of implementing an electronic network to facilitate existing trade documentation process- the CMS. Moreover, it is based on the Aide Memoire from the World Bank in 2012 that Mauritius started working on the Single Window OGA portal. The World Bank and Finnish Government also provided valuable financial and technical support for the project. The World Bank supported the Single Window OGA portal through a development loan policy and provided consultancy services as well.

5.1.3 World Trade Organization (WTO)

WTO Members have concluded negotiations on the Trade Facilitation Agreement (TFA)[7] which has entered into force on 22 February 2017 following its ratification by two-thirds of the WTO membership. The TFA, concluded at the 2013 Bali Ministerial Conference, aims to facilitate the movement of goods across borders. It contains provisions for expediting the movement, release and clearance of goods, including goods in transit. It also contains many measures to enhance cooperation between customs and other relevant authorities on trade facilitation and customs compliance issues. The TFA contains several provisions related to digitalization of Customs and other border control agencies. It is to be noted that the WTO has created the Trade Facilitation Agreement Facility (TFAF) to support Developing and LDC Members (in terms of financial, technical and capacity building assistance by Donor Members, International and regional organizations, and other stakeholders) for the implementation of Category C[8] provisions.

5.1.4 WTO and WCO Mercator Programme

The WCO launched the Mercator Programme in June 2014 with the objective to assist governments worldwide to implement the WTO Trade Facilitation Agreement (TFA) expeditiously using core WCO instruments and tools in a harmonized manner. The WCO has already delivered around 180 technical assistance missions related to category B and C commitments to more than 70 countries in different areas in the past 2 years. It is worth noting that Mauritius has requested assistance and support for capacity building for the implementation of the following provisions: Enquiry Points (Article 1.3); Test procedures (Article 5.3); Risk management (Article 7.4); Establishment and Publication of Average Release Times (Article 7.6); Single Window (Article 10.4); and Inward and Outward Processing (Article 10.9.2). In 2016, a Time Release Study Workshop was conducted with assistance of WCO under the Mercator Programme to build internal capacity. Subsequently a TRS was conducted by an MRA Customs team and a report highlighting bottlenecks in the logistics supply chain was released in January 2017.

5.1.5 United Nations Conference on Trade and Development (UNCTAD)

UNCTAD plays an important role in helping countries improve their customs administration and trade and logistics. It provides technical assistance and capacity building support in these areas in order to enable developing countries participate more actively in global trade. UNCTAD's contribution for the digitalization of Customs has been enormous. It has developed the ASYCUDA, which is installed in more than 70 countries and which is UNCTAD's largest technical cooperation programme. UNCTAD has made a very important contribution to the early days of digitalization at MRA Customs as well as mentioned earlier.

5.2 Key Benefits Of Digitalization To Customs

Digitalization enhances the "ability of Customs administrations to communicate, process goods, receive and exchange information, coordinate border activities, collaborate on law enforcement actions, and promote transparency" and brings a host of benefits that help Customs administrations achieve their contemporary objectives.

Digitalization positively impacts on Customs in the following ways:

(i) ***There is improved compliance levels*** as stakeholders engaged in international trade have increased and easier access to regulatory information and functions as well as services. Customs laws are applied uniformly through well designed and automated systems which ensure that transactions are processed in a consistent manner.

(ii) ***Customs control is more effective***; automated risk management, intelligence systems and Non-Intrusive Inspection of cargo and other technologies allow Customs to more effectively and efficiently discharge its control function.

(iii) ***The cost of doing business is reduced*** through faster clearance times for legitimate trade and increased transparency in regulatory processes and decision-making. Automated Customs procedures lead to reduced congestion at ports and airports, expedited release of goods and reduction in costs to the trading community;

(iv) ***There is improved Customs enforcement*** through enhanced coordination and sharing of information between Customs units, as well as between Customs and other border regulatory agencies at the national and international level. This leads to enhanced detection of irregularities and illicit consignments through effective collection and analysis of data.

(v) ***Integrity is enhanced*** as automation increases the level of accountability and provides an audit trail for monitoring and review of administrative decisions and the exercise of official discretion.

(vi) ***Digitalization helps achieve the "green" concept*** by dematerializing the submission of documents with Customs declarations and replacing paper-based Customs procedures with electronic operations.

(vii) ***Digitalization facilitates the sharing of vital information*** to other Customs administrations and institutions using the nCEN. Vital data are easily retrieved for sharing with IMF, OECD, World Bank and other international institutions.

6. FINDINGS OF THE RESEARCH

In 2010, the Customs Department in Mauritius celebrated its 200 years of existence. During these two centuries, the department has known massive transformation in its structure, functioning, processes and procedures, and undoubtedly, digitalization has been one of the key elements in this transformation process. This section describes the digitalization process at MRA Customs, i.e. the measures, initiatives and practices relating to digitalization. Moreover, digitalization is not an end in itself; it is rather a means to achieve certain objectives. This section will analyze the main outcomes achieved at MRA Customs through digitalization. Finally, it is also interesting to study the key success factors that have made this digitalization happen at MRA Customs.

6.1 Digitalization At MRA Customs

Digitalization has been a key element of the reform and modernization process at MRA Customs. Over the last three decades, MRA Customs has been transformed radically from a heavily paper based organization to a modern, efficient and effective organization that has adopted automation and ICT at all levels of operations, processes and procedures. MRA Customs is also compliant with the provisions of Customs blueprints such the RKC, SAFE Framework of Standards and other international best practices. This section describes all the initiatives and projects related to digitalization that have been implemented by MRA Customs and the former Mauritius Customs over time in different areas of Customs.

6.1.1 Electronic data interchange[9]

(i) ASYCUDA

Initially, during the late 1980's, Mauritius started using the ASYCUDA for the processing of customs declarations and the clearance of goods. The ASYCUDA is a very efficient system; it has been significantly enhanced and is currently used in more than 70 countries. For instance, the Zimbabwe Revenue Authority has replaced the ASYCUDA ++ by ASYCUDA World in October 2011. "ASYCUDA World has a higher processing efficiency and electronic data interchange as compared to the earlier versions of ASYCUDA."[10] It is also internet based and as such brings a host of associated advantages. It fosters a paperless environment by enabling online lodgment of bills of entry and attached documents from anywhere in the world provided there is internet connection. There is also reduced physical interaction between customs officers and agents/ traders thus impacting positively on good governance and integrity.

However, the ASYCUDA did not fully meet the requirements of all customs administrations worldwide as it was believed to be limited in terms of its functionalities and interoperability between operators. It is for this reason that, in 1994, Mauritius tried a new venture by shifting from ASYCUDA to a tailor made TradeNet system based on the successful Singaporean model. This system is operated by the Mauritius Network Services (MNS) Ltd[11] and known as the Customs Management System (CMS) which is the backbone of the data processing system at MRA today. It is interesting to note that, after the resounding success in Mauritius, the expertise of Mauritius Customs was solicited for implementing CMS in Ghana in 2004.

Though ASYCUDA[12] is no longer in use in Mauritius, it would be interesting to have a flashback of its implementation as it represents a major landmark in the history of digitalization at the Customs and Excise Department in Mauritius (Mauritius Customs). The first phase of computerization of customs procedures took place in 1986 when two microcomputers (IBM Personal Computer AT.2) were acquired for the recording of bills on magnetic data tapes. The second phase of computerization started in September 1986 with the implementation of ASYCUDA in three distinct phases:

(i) **Phase I (1988/89):** Installation of the ASYCUDA system at the Customs Headquarters;

(ii) **Phase II (1989/90):** Installation of the system at the SSR International Airport to computerize the clearance of air cargo;

(iii) **Phase III (1990/91):** Installation of ASYCUDA at Port-Louis with a view to computerize the clearance of sea cargo.

ASYCUDA was officially launched in Mauritius on 12th December 1990. It was made available by UNTAD under a technical assistance programme for Customs administrations of developing countries to automate the clearance of goods and the processing of Customs documents in order to improve the efficiency of management and controls.

(ii) Customs Management System[13] *(CMS)*

In 1992, the World Bank strongly recommended to increase the use of IT at Customs in Mauritius. To this end, studies were initiated in November 1993 to examine the feasibility of implementing an electronic network that facilitates existing trade documentation process. A Value-Added Network (VAN) operator, the

MNS, was set up in April 1994 to operate the electronic network and CMS. The core functionalities of CMS have been deployed on a phase-wise basis.

Since 20 July 2009, MRA Customs started using the upgraded CMS (operational on an Oracle 11g platform). One major feature of this enhanced version of CMS was that it enabled the reception of attached documents and graphical user interface. Prior to the upgrade the CMS was based on a UNIX platform (command line). The enhanced CMS enables the linkage to the Cargo Community System (implemented in 2013) and facilitated the dematerialization of documents from the customs declaration (Paperless Customs) in 2012. CMS II provides a more powerful tool for data processing, mining and reporting for decision making. It also enables Customs carry out pre-declaration risk management to improve cargo dwell time and the tracking and tracing of containers in the supply chain.

6.1.2 Trade facilitation

Trade facilitation concerns the simplification and standardization of documents, procedures and operations, with a view to harmonizing local (regulatory and commercial) customs practices in line with multilateral agreements; either binding (e.g. WTO rules or WCO conventions) or voluntary business standards (e.g. recommended customs and practices of the International Chamber of Commerce). Trade facilitation is vital to promote trade as it reduces the cost of doing business and provides a more transparent and predictable business environment. The role of Customs in trade facilitations is primordial. Customs can remove barriers to trade at borders and expedite the clearance of goods through simplified, predictable and transparent procedures. Digitalization is a crucial enabling factor for trade facilitation. The use of ICT and automation simplify customs procedures and processes; enable submission of customs declarations on a real time basis; accelerate the processing of declarations and expedite the whole clearance process thereby reducing delays and costs for the benefit of the trading community. The Customs Department has played an important role in facilitating trade since the time of the first economic miracle of Mauritius in the 1980's up to now. This section describes "digital" initiatives by MRA Customs which have facilitated trade in Mauritius.

(i) e-Customs or dematerialization of customs documents

The dematerialization of Customs documents or e-Customs was implemented in January 2012. It enables the submission of customs declaration ***together*** with scanned copies of the requisite documents (such as invoice, bill of lading, Certificate of origin where required, packing list, etc.) ***electronically*** to Customs. Formerly declarants could submit customs declarations electronically but they had to submit hard copies of all required documents as well as the declaration to Customs. As such they were obliged to come physically to Customs. With the new system, declarants do not need to purchase blanks sets of customs declaration from the Mauritius Chamber of Commerce and Industry. This measure has also decreased the real time processing of Customs declaration and reduced the traders' cost for transacting with Customs.

(ii) Web based submission of customs declarations

Customs agents registered at MRA can submit customs declarations electronically on the CMS. This EDI system is maintained by MNS and regulated by law. Customs agents using the CMS are provided with a Front-End System installed in their office and which are linked to MRA Customs and MNS. Development in internet facilities has enabled enhancement of the TradeNet System with the creation of a dedicated portal for the submission of customs declarations and related electronic trade documents. Now Customs agents can submit their declarations through the web interface from anywhere provided they have internet connection and on a 24 /7 basis. This contrasts considerably with the conventional Front-End System which is restricted to the business premises of customs agents.

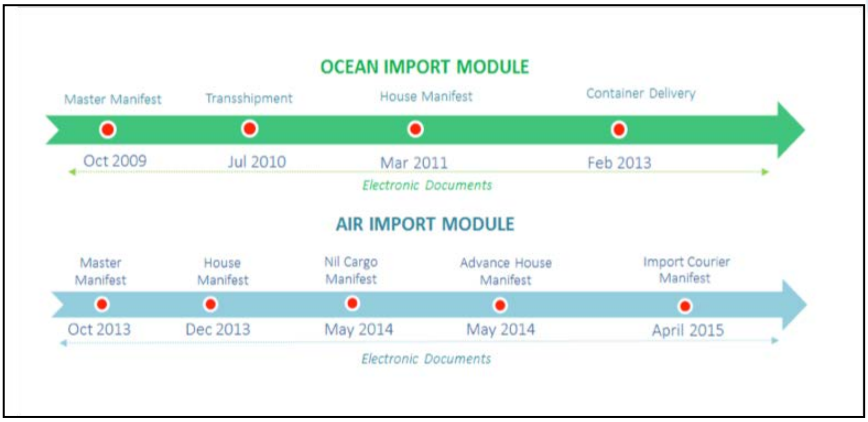
(iii) Cargo Community System (CCS)[14]

The clearance of goods at Customs often requires clearance from other government agencies (such as health, agriculture, etc.). Moreover, there is also a vital exchange of information, data and messages between Customs and different cargo stakeholders of the port community such as the Mauritius Ports Authority (Port Authority), the Mauritius Cargo Handling Corporation Ltd- CHCL (Port Cargo Handling Operator, shipping agents, freight stations etc. For instance, Customs has to give a 'delivery allowed' message to the CHCL for an importer's container to be released from the port yard. A manual process for such exchanges would be very time consuming and costly for all the parties concerned. It would undermine competiveness of the port, increase cargo dwell time and add to the cost of doing business.

The CCS is an electronic platform that aims to eliminate the inefficiencies of the manual processes mentioned above and aims to automate the whole procedures of the supply chain by linking all the parties in the system. The Mauritius Cargo Community System (MACCS) is a private company set up in 2008 to manage the CCS on behalf of the government of Mauritius. At MRA Customs, the CCS is interfaced with the CMS via the TradeNet.

The CCS is a huge project. It is being implemented phase-wise and the overall project split into several modules as shown in the diagram. It is worth noting that the CCS is a requirement of the WCO SAFE Framework of Standards which Mauritius signified its intention to comply with since 2006. The CCS brings a host of advantages to all the parties in the supply chain by enhancing transparency and predictability in the clearance process, expediting the clearance of goods – hence reduced dwell time and costs to the trading community while enabling Customs to apply risk management systematically.

Figure 1: CCS Project – Deployment phases



Source: MACCS website: https://www.maccs.mu/about-us/

(iv) Warehouse Management System (WMS)

The WMS, introduced in February 2016, is a computerized system that has replaced the manual ledger system to record goods entering and leaving the warehouse operated by private operators under the suspended duty regime (Bonded Warehouses). Previously, Customs had to maintain the locks and keys of bonded warehouses under suspended duty regimes, i.e. where importers keep their goods pending the payment of duty and taxes at a later date. Moreover, as from February 2017, this system has been extended to Duty Free Shops and shops under Deferred Duty and Tax Scheme and to Part I Licenses of Excisable goods.

The WMS has eliminated the need for Customs to maintain warehouse locks and keys. Importers can keep their goods in warehouses under their sole custody but have to input movements of goods in the WMS.

This system allows stock management as well as inventory control to be effected in real time by Customs. Customs can now make random and surprise checks of stocks maintained in warehousing using a risk based approach. This streamlining of the warehousing process of goods aims to facilitate trade, reduce cost and optimize the use of risk management in line with the best practices of Revised Kyoto Convention.

(v) Electronic certificate of origin for export

A Certificate of Origin (CoO) is a mandatory document that needs to be submitted by the exporter to meet the requirement of specific trade protocols. Prior to becoming electronic, Mauritian exporters had to buy blank CoOs from the Mauritius Chamber of Commerce and Industry (MCCI), fill it manually and submit it to Customs together with the export declaration. The digitalization of this process started in August 2006 and has been beneficial to the trading community as it replaced the cumbersome manual procedures and reduced the cost of doing business by eliminating the need for traders to buy blank certificates from the MCCI. Application of Movement Certificate EUR1 (for export to the European Union) went electronic as from 01 August 2006 enabling declarants to fill and submit their applications from their Front-End System through the CMS via the MNS. Moreover, as from 01 April 2010, traders can also apply for South African Development Community (SADC) and Indian Ocean Commission (IOC) CoOs electronically in the same way as for EUR1.

(vi) Electronic notification to importers and declarants

MRA recognizes the importance of informing importers and declarants in a timely manner about the status of their customs declarations lodged at Customs. This provides transparency and predictability of the clearance process and enables importers make the necessary planning and logistics arrangement at their end. The following technology based facilities are available:

- **SMS Service to importers:** In May 2013, MRA launched the SMS facilities for economic operators to enhance the communication process with its stakeholders; notifications are sent to economic operators to inform them of the payment status of customs declarations and the clearance of consignments on their mobile phones.
- **E-mail notification of statuses of BOE to Stakeholders including importers:** The objective of this E-mail Notification facility, which is operational since 01 August 2014, is to inform declarants by e-mail on the statuses granted to their declarations, such as query, scanning, examination, delivery/shipment, etc.
- **Notification to declarants for idle BOE on 16th and 18th day after date of validation of BOE:** As from July 2014, electronic messages are sent to declarants on their Front End System on the 16th and 18th day following the date of validation of their BOEs. The objective is to make declarants aware of the status of their declarations and enable them take necessary action such as application for cancellation of BOEs. This measure enables Customs to effectively address the problem of idle BOEs.

(vii) Automatic clearance for green channel declarations within 30 minutes from payment time

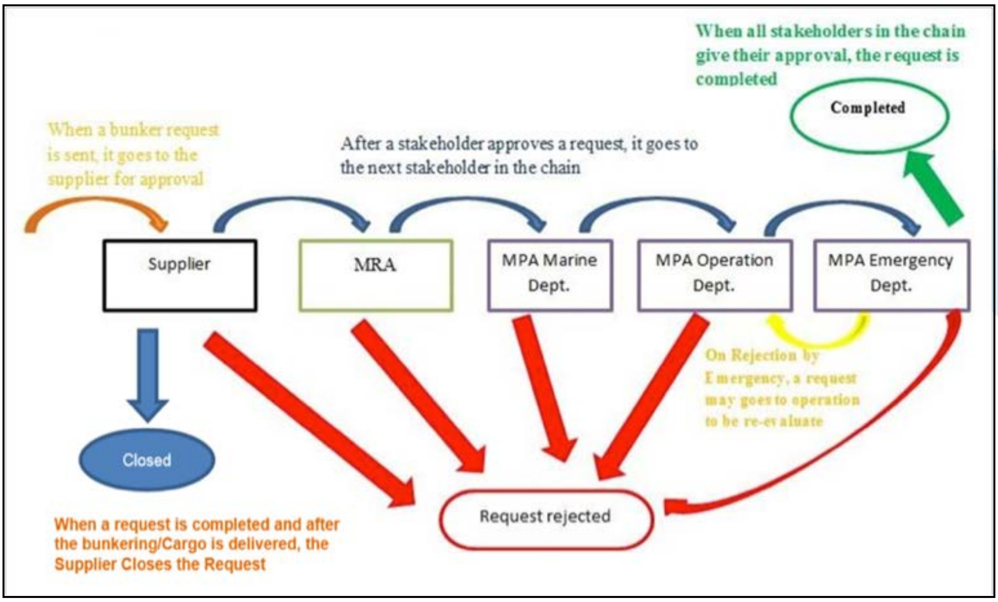
Customs control is usually provided in three main ways to ensure that the correct amount of duties and taxes are paid and that the goods which are the subject matter of control comply with the standards and norms prevalent in the country. Firstly, MRA Customs carries documentary control for all customs declarations submitted in the CMS. Based on pre-determined risk criteria set in the CMS (further explained later), the declaration is granted different channel status. All green channel declarations represent the lowest level of risk and clearance is granted on control of documents such as invoice and bill of lading and the details in the declaration itself. Delivery can be allowed from this compliance control or the consignment can be referred for physical inspection. Secondly, MRA Customs carries physical inspection or examination of goods to verify the authenticity of the declaration. The methods used for physical control involve physical inspection by Customs officer, the use of Non-Intrusive Inspection (NII) technology as well as sniffer dogs. Finally, post-clearance control of the declaration is carried out whereby MRA can verify the books and records of the importer.

Given the low level of risks involved, all Green channel declarations are automatically cleared for delivery 30 minutes after validation if no customs action has been initiated thereon. This measure was initially introduced for sea cargo and extended for air cargo declaration as from December 2015. As a result of this measure, the clearance of goods is expedited and the cargo dwell time is reduced hence facilitating trade enormously. However, as a control measure and to prevent misuse of this facility by unscrupulous traders, same is made active only during official working hours excluding lunch time.

(viii) e-Bunkering application[15]

The e-Bunkering Application is a Port Community System operational since December 2013 on the MACCS platform. This application facilitates the exchange of information between identified parties (Shipping Agent, Supplier of bunker, MRA Customs and the various departments of the Mauritius Ports Authority). It streamlines the bunker booking procedures and approval process with suppliers of bunker fuel and authorities.

Figure 2: MACCS – Bunker Request Handling Process



The system electronically transmits bunkering requests to the various parties involved in the physical operation and facilitates approval by the authorities concerned – Customs and Mauritius Ports Authority. It has thus eliminated the paper-based procedures and the physical displacement of shipping agents to these authorities for approval of bunker requests. Moreover, all the parties in the supply chain can view the status of the application on the system while authorities concerned can make any queries electronically.

Figure 3: MACCS Bunker Approval Platform

Ref No: | Status: ALL
Name of Ship: | IMO No./O.N:
Date From: 04-Apr-2017 | Date To: 04-May-2017
Req. Type: ALL

Double Click on the row to retrieve data for Bunkering/Cargo Loading Request

Bunkering List

Reference No	Req. Type	Ship Name	IMO No	Agent Company Name	Delivery By	Created Date	Delivering Company	Supplier	MRA	Marine Dept	Port Operations Dept	Port Emergency Services	Status	View	View Request	MRA Form 18	Shipping Clearance
IND-2017-04-11-0019	Bunkering	SAMSUNG	4554	MACCS TEST SHIPPING SERVICES	PIPELINE	11/04/2017 13:31:55	INDIAN OIL	Approved	In Progress				Open				
IND-2017-04-04-0009	Bunkering	LIONSHIP	245198515151518	MACCS TEST SHIPPING SERVICES	BARGE-LOUIS TAFO	04/04/2017 10:49:22	INDIAN OIL	Approved	In Progress				Open				
IND-2017-04-25-0057	Bunkering	MSC MRA	2598	MACCS TEST SHIPPING SERVICES	PIPELINE	25/04/2017 08:48:21	INDIAN OIL	Approved		Approved	Approved	Waiting	Open				

As all the data pertaining to the approval process are available in the system, MRA Customs can extract reports for monitoring, statistics and audit purposes. Moreover, the time taken to approve a bunker request can provide a measure of the efficiency of the approval process by the authority concerned. It can stimulate remedial actions or enhancement to the system.

(ix) Second hand vehicle valuation system

Customs agents need to input a value for the purpose of computing duties and taxes while lodging a declaration for the second hand vehicles imported in Mauritius. Prior to 2008, they had to come to Customs with details of the second hand vehicle concerned – such as year of original registration, make, model and options available in the vehicle, etc. Customs makes an assessment of the value after allowing for depreciation based on the original price of the vehicle available in reliable catalogues and price-lists. This assessed value is used by Customs agents while making their import declarations to Customs.

The Second Hand Vehicle Valuation System (SHVVS) was implemented in 2008. With this system, importers do not need to have the value of second hand vehicles assessed by Customs Officers prior to the preparation of their Customs declaration. They can select the make, model and the appropriate serial number of the vehicle and then the system automatically displays the printable version of the report with the description of the vehicle, the options available; and the depreciation including the assessed Free-On-Board (FOB) value. The importer uses a printed copy of the computer generated assessed value to process the Customs declaration. The SHVVS has thus simplified and expedited the declaration process for second hand vehicles for both customs officers and agents.

(x) MRA website

The MRA website (http://mra.gov.mu), operational since December 2011, aims to disseminate Customs, trade and tax related information to business, travelers and the general public. With regards to Customs, the MRA website describes procedures for importation, exportation, and transit, including procedures for appeal or review, downloadable forms and documents required for importation, exportation, or transit, legislations relating to trade and tax; as well as general information to travelers. It also provides tariff information, motor vehicles value, notice to stakeholders, information to travellers, IPR related information, etc. In addition, the MRA Website provides Tender lists and tender forms in respects of goods sold by Auction. Thus, by providing vital information to traders and the general public, the website facilitates trade, promotes compliance to customs and revenue laws, and provides transparency and predictability of customs procedures. The

MRA Website offers various vital online e-Services for the benefit of employees and stakeholders; some of these include the Tax Payer Portal, e-Objection Portal, e-Filing of tax returns and quarterly VAT returns, Annual Tax Deduction at Source (TDS) Return as well as an online Complaints Management System. MRA Corporate plans, Annual Reports and Newsletters are also available on the MRA Website.

(xi) Online tracking system (OTS)

The OTS was launched in 2010 for the tracking and recording of movements of containerized/bulk cargo from and into Freeport Zones. Prior to implementing this measure, Customs' escort was required for all consignments moving to and from Freeport Zones. This represented a cost to the traders concerned. It was also time consuming and cumbersome as the operations depended on the availability of dedicated Customs officers. The OTS has eliminated the need for escort of goods to and from Freeport Zones by Customs officers. All movements of Freeport goods are tracked in the OTS by Customs officers posted at exit gates. A SMS alert system is embedded in the application to alert MRA Customs when Freeport consignments do not reach their destination within the established dwell time. This measure has considerably reduced cargo dwell time as well as the cost of doing business for Freeport operators. It has enabled MRA Customs to make optimal use of its resources in more productive areas.

(xii) Customs warehouse management system (CWMS)

Unclaimed, seized and abandoned goods at Customs are transferred from their place of landing to the Customs Warehouse where they are kept pending their eventual disposal by sale by public tender, destruction or donation to governmental or charitable institutions as the case may be. For instance, goods that are unfit for consumption or have infringed Intellectual Property Rights (IPR) are destroyed while all other goods are sold by public tender or donated. For a long time, all the processes and procedures involved were manual and cumbersome and computerization was deemed to be the solution to increase efficiency in the management of the Customs warehouse and promote transparency of the bidding process.

The CWMS has been implemented in three phases to automate the processes at the Customs Warehouse.

- Phase I which concerns the sending and registering of Account of Packages for the transfer of goods to the Customs Warehouse has been implemented as the 'Auctions Sales Module' in the CMS as from July 2013.
- Phase II of the project which concerns the billing and delivery module went live in May 2015.
- Phase III of the project for the electronic bidding and processing of bids has been launched in January 2017 on the occasion of ICD. The general public can view all the goods put on auction and can bid electronically. Previously they had to go the Customs Warehouse and bid manually by filling in forms provided for that purpose by MRA Customs.

(xiii) Extra attendance request system (EARS)

Implemented in May 2016, the EARS provides an online interface, hosted on the MNS Trade Portal and MRA website where stakeholders can fill in their application for extra attendance of officers and send same to the CMS. The reception, approval and processing of the EAR, after payment of appropriate fees, will be carried out in the EAR Module in CMS. Moreover, to facilitate payment of request fees, provision for an Account Holder Deposit System, for regular and registered stakeholders, has been made in the new module.

(xiv) Centralized complaints management system

MRA is committed to become a world class organization and provide a quality service to its valued stakeholders. In the pursuit of these quests, an online and Centralized Complaints Management System has been implemented in June 2016 with the objective to facilitate the filing of all complaints by an aggrieved stakeholder at Customs and other departments of MRA and their resolution in a timely manner.

(xv) e-Registration of economic operators

Implemented in April 2017, this project measure allows economic operators to register with MRA Customs through online application.

6.1.3 Coordinated border management (CBM)[16]

Several agencies are mandated by the government to manage trade and travel flows at borders. Besides Customs, some of these agencies include police, immigration, agriculture, sanitary and phytosanitary, etc. All these agencies have the crucial role to ensure compliance with domestic laws, regulations and standards with a view to:

(a) Protect government revenue (by preventing the evasion of duties and taxes),

(b) Protect the citizen of the country from goods which are fake, counterfeit or unfit for human consumption, and illicit drugs and narcotics,

(c) Ensure national security by combatting terrorism and money laundering activities, and preventing the entry of arms and ammunitions and other hazardous weapons,

(d) Protect the environment, natural heritage and endangered species by preventing the illegal trade in environmentally sensitive goods.

Expectations from border agencies are increasing and becoming more and more important day by day. Governments and society expect border authorities to apply the law rigorously in order to protect their interests, safeguard the health and safety of their citizens, and ensure national security. On the other hand, traders and travellers are looking for speedier processing and clearance times or trade facilitation. Delay in the clearance of goods (or raw materials) at borders represent a cost to trade – in terms of demurrage costs, port dues, lost customers, delay in production (if raw materials do not reach factories on time) hence resulting in cancelled orders and production costs. Border controlling agencies must therefore facilitate the movement of legitimate trade as well as people, both domestic and international, and this must be achieved by making optimum use of available human resources, technology and best international practices.

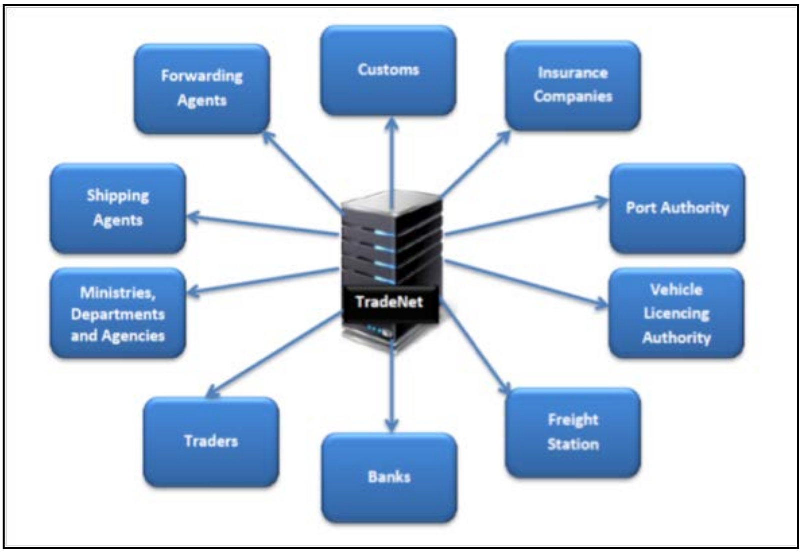
CBM is considered as the solution for achieving greater efficiencies in the management of trade and travel flows while striking the right balance with compliance requirements[17]. This concept was launched by the WCO in June 2009 through a research paper – "Coordinated Border Management – a concept paper". The objective is to promote a coordinated approach by border control agencies in effectively and efficiently managing trade and travel flows while maintaining a balance with compliance requirements. CBM brings a host of benefits to the government, the agencies concerned as well as to traders and travelers. CBM enables the government to address strategic issues in a holistic manner and ensure an effective delivery of service. Border agencies, on the other hand, can make savings by making optimum use of their resources through the effective application of risk management techniques and the use of modern tools and equipment. They can also deliver better services to their stakeholders. Traders and travelers also benefit from reduced processing time and costs.

(i) National single window

The efficiency with which information can be submitted to official agencies is becoming a key factor in the competitiveness of firms or agencies involved with cross-border activities. The 'Single Window' environment aims to expedite and simplify information flows between trade and government and bring meaningful gains to all parties involved in cross-border trade. The Mauritius Trade Link (Other Government Agencies –OGA Portal) was launched on the 26th January 2016 on the occasion of International Customs Day. This platform aims to provide online, web-based facility to submit applications for import/export licenses and permits clearance from government agencies without replication of data entry. The system fully automates the application and payment for trade permit while providing traders the facility to track the progress of the application in real time. It also reduces the time and cost of doing business in Mauritius and provides more transparency at both other government agencies and MRA Customs level.

Presently, the following agencies are already hooked to the single window platform: Ministry of Industry, Commerce and Consumer Protection, Mauritius Standards Bureau, Radiation Protection Authority and Film Classification Board. Agencies that are going to be hooked in the near future include: National Plant Protection Office, National Agricultural Product Regulatory Office (NAPRO), Agricultural Marketing Board, Food Import Unit (Ministry of Health) and Divisional Veterinary Service. It is to be noted that A Technical Committee for implementation of SW has been set up. This Committee reports to the Ministry of Finance and Economic Development (MOFED) who is spearheading the project. Technical assistance has also been obtained from the WCO for the implementation of the SW project.

Figure 4: Electronic Single Window Platform



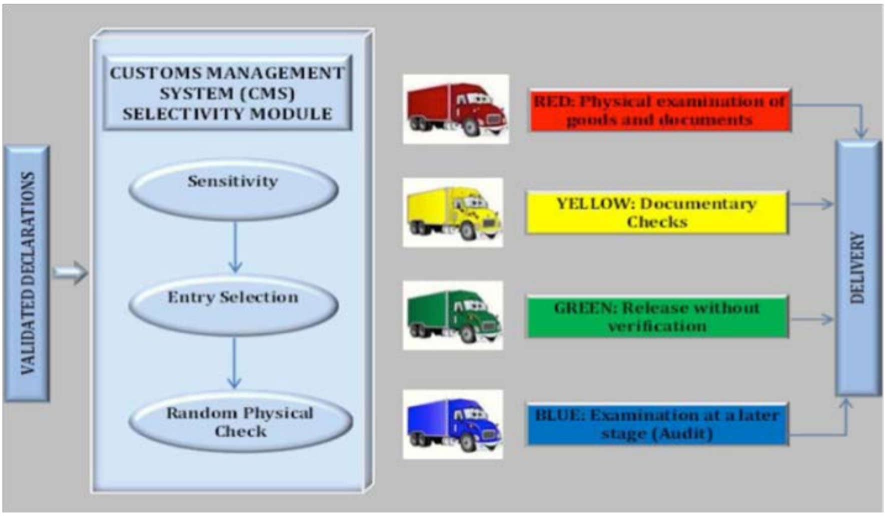
(ii) Risk management

"Risk management is at the heart of border management efficiency and effectiveness and is the key to achieving the balance between trade facilitation and control."[18] The aim of risk based control is two-fold; firstly to identify low risk consignments and reliable traders who can benefit from trade facilitation in terms of expedited clearance and secondly to apply higher levels of control to those who represent compliance risks. In this way, Customs can make optimal use of its resources by shifting its resources to high risk consignments as opposed to those which represent low or minimum risks. MRA Customs manages cross-border risks electronically in the CMS. The risk management approach is based on internal pre-set risk parameters and customs declarations are routed to channels carrying different treatment. Low risk consignments are allotted the Green channel and are provided automatic delivery in 30 minutes from the time of payment; consignments requiring agency clearance or additional information are given the Yellow channel status; high risk or sensitive consignments are allotted the red channel and require physical inspection while expedited clearance is given to compliant traders under the Blue channel.

Moreover, there is a dedicated section for managing risks - the Risk Management Section (RMS) which comprises of specialized units: "Information Team", "Analysis and Profiling Team" and "Selectivity Team". Information and intelligence are gathered from various sources including those identified in the WCO-

Information Pool Chart. The RMS is responsible for the targeting of risky consignments and uploading the necessary selectivity criteria in the CMS. This allows for the electronic channeling of customs declarations (Green, yellow and red) depending on their risk profiles, capturing targeted consignments and allowing the seamless movement of legitimate trade. Moreover, an electronic system for weighing containers (Weighbridge) for risk management purposes has been implemented in 2016.

Figure 4: Risk Management in the CMS



(iii) Non-intrusive inspection (NII) technology

As mentioned earlier, Customs control is usually exercised in three main ways: documentary control, physical inspection of goods, or non-Intrusively, i.e. by using NII technology. The WCO SAFE Framework of Standards advocates the use of NII technology and radiation detection equipment for conducting inspections. This enables Customs to determine whether the consignment needs to be physically inspected and hence optimize the use of its human resources as it is very difficult, if not impossible to physically examine all consignments. The introduction of scanners at different places of Customs operations has been a major landmark in the use of technology at MRA Customs and aim to:

(a) Detect drugs, prohibited goods, commercial fraud and other customs offences effectively and efficiently without physical examination;

(b) Provide a faster clearance of cargo to importers by targeting containers for scanning using risk management and reducing physical examination of goods; and

(c) Deploy less human intervention by minimizing physical examination of goods.

Table 3: Timeline in the use of NII Technology at MRA Customs

Year of introduction	Place of operation	Type of scanner	Purpose
2006	Port (Mauritius Container Terminal)	Large X-ray scanner (replaced in June 2016)	To scan containers
2006	Airport, Cargo terminal (PATS)	Large X-ray scanner	To scan palletized cargo

Year of introduction	Place of operation	Type of scanner	Purpose
2007	Airport, Passenger Terminal (SSRI Airport, Plaisance)	Mini scanners	To scan passengers' baggage
2007	Courier Services	Mini scanners	To scan small packets
2011	Port, Cargo Examination Centre	Mini scanners	To scan packages (out of containers)
2014	Airport, Passenger Terminal (SGD Airport, Rodrigues[19])	Mini scanners	To scan passengers' baggage

(iv) CCTV control room at Custom House

In March 2014, a CCTV control room was set up at the Custom House which enables the monitoring of strategic locations of the port. Besides viewing MRA cameras, Customs officers also have access to the cameras of the Mauritius Port Authority and the Cargo Handling Corporation at the control room. This enables the Port Surveillance and Enforcement Unit to deploy fewer human resources and also to act promptly in case of suspicious movements in the port area.

6.1.4 Compliance and enforcement

One of the main goal of Customs is to enforce Customs laws and regulations with a view to protect the society and ensure national security from cross-border movements of prohibited or restricted goods, including illicit drugs, counterfeit goods, endangered species; weapons of mass destruction, money laundering and the financing of terrorism. To achieve these objectives, MRA Customs requires vital tools, equipment and technology as well as the efficient and effective systems for sharing information with other Customs administrations and border agencies. It is also important for MRA Customs to ensure compliance with revenue laws and fight against commercial frauds that can undermine government revenue. The digital initiatives concerning compliance and enforcement will be discussed in this part.

(i) National customs enforcement network (NCEN)

The nCEN project started in 2006 and was completed in September 2014 with the signing of a Service Level Agreement with the WCO. This is a database for storing data of nominal Customs seizures and offences at a national level, suspected persons, concealment and X-ray picture and business entities. It aims at improving targeted information sharing and gives member countries the possibility to carry out intelligence-led operations and controls based on risk management.

(ii) Interface Public Members (IPM)

MRA Customs started operating the IPM since 2012. This is a secure communication tool for the exchange of information between right holders and Customs administrations that aims to improve detection capacity for combating counterfeit and pirated products. The IPM provides several benefits to right holders and Customs. It provides right holders direct access to Customs officials, share news and alerts, and enables real-time transmission of product information to Customs officers on the ground. Customs officers can conduct online product verification and retrieve product specific information. They can use the IPM as a platform to communicate amongst their peers and directly with rights holders.

(iii) Drug detector equipment

The fight against drugs is a top priority of MRA Customs and in this regard the necessary structure and policies have been put in place and equipment has been acquired. A K-9 Unit was set up in 2010 and more recently in 2016, a dedicated section, the Customs Anti-Narcotics Section has been created. In 2014, hand held trace detectors and other kits have been acquired to increase our drug detection capabilities.

(iv) "Stop Drugs" platform

In June 2016, MRA has launched the "Stop Drugs" platform on the MRA website which aims to intensify the fight against drugs, and sensitize the general public to alert MRA and anonymously share information relating to drugs/narcotics trafficking through a dedicated email address. The platform also provides general information about the direct consequences of drugs abuse and information about drugs seizures by MRA.

(v) Gate exit interface system

This system has been implemented in March 2016 with the objective to enhance control at port gates and to fast-track the recording of gate-out of containers.

(vi) Valuation database

A Valuation Database was set up in 2004 as a risk assessment tool in accordance with the WTO Agreement on Customs Valuation. Officers of the Valuation Unit consult this database to determine whether values have been correctly declared at import. It is to be noted that clear guidelines (Guidelines on the development and Procedures for maintenance of the National Valuation Database) were published to ensure that staff members are aware that value data is not improperly applied as the customs value.

6.1.5 Revenue collection

The collection of revenue, duties and taxes, is considered as one of the most traditional roles of Customs. In ancient times, all consignments were physically examined and duties and taxes calculated and paid manually. Today, such an approach is outdated and inefficient as the volume of trade has grown significantly and Customs administrations have limited human resources. Therefore, it is vital to streamline the revenue collection process in a cost effective manner. Digitalization has been a key factor in effectively and efficiently mobilizing the collection of revenue by Customs administrations. It is to be noted that MRA Customs makes an important contribution to the budget of the Government by collecting customs duty, excise duty, VAT at importation and MID levy.

(i) Automated system for the computation of duty and taxes

The CMS has embedded accounting features that allows the automatic computation of duty and taxes, such as customs duty, excise duty, VAT, MID Levy[20], etc. when a customs declaration is submitted by the declarants. The CMS is linked to the Integrated Tariff which has specific rates of duty and taxes for each corresponding HS code entered by the declarant as well as the rate of exchange applicable at the time of entry of the goods. With a view to expedite clearance, compliance checks on accounting details for customs declarations are not conducted prior to clearance but rather on a post clearance basis by the Post Control Review of Declarations (PCRD) and Post Control Audit (PCA) units.

(ii) e- Payment

The payment of Customs duties and taxes electronically is an international best practice that is recommended by the RKC while the WTO Trade Facilitation Agreement adopted in Bali in 2013 *"obliges Member States, to the extent practicable, to allow traders the option of making payments electronically for duties, fees and other customs charges"*. MRA Customs introduced the e-payment facility in 2004 to allow traders to make payment of duties and taxes electronically via their banks. E-payment provides stakeholders with ease of operation and convenience, enhances security of transactions and is a cost and time effective system. E-Payment benefits MRA also in terms of reduced processing costs and improved efficiency of customs procedures. As from January 2017, E-Payment has been made mandatory where the payment per bill of entry is MUR 50,000 or more or may be made where the amount per bill of entry is less than MUR 50,000. However payment made in other manner other than electronic payment allowed in exceptional or unforeseen circumstances.

(iii) Customs debt management system (CDMS)

The CDMS came into operation as a module in the CMS in May 2012 with the objective to register, compute and monitor all claims raised by MRA Customs including the recording of cheques dishonoured and outstanding electronic payments by the Finance and Administration Department. This application is also used by the Legal Services Department of MRA for the recording of court proceedings and rulings in respect of all claims cases referred to them. The CDMS is monitored by the Debt Monitoring Unit which was set up in November 2010. Some statistics relating to claims are shown in the table below.

Table 4: Customs Debt Management – Claims and revenue raised

CLAIMS	2014	2015	2016	2017 (Jan to Aug)
Total number of claims raised	65	292	762	790
Amount of Revenue Raised in claims (MUR)	26,369,803	106,324,919	77,889,405	297,203,063
Amount of Revenue collected from claims raised (MUR)	26,589,308	48,570,528	79,522,310	74,810,698

(iv) Passenger assessment & clearance system (PACS)

This module was introduced in CMS as a risk management tool in November 2014. It caters for the assessment, calculation and collection of appropriate duty, excise duty and taxes on goods attracting duty and taxes found in excess of the normal allowances granted to bona fide passengers landing at the SSR International Airport in Mauritius. Table 5 shows the number of passengers assessed on the PACS and revenue collected.

Table 5: Revenue Collected from assessment of passengers at SSRI Airport

PASSENGER ASSESSMENT	2014	2015	2016	2017 (Jan to Aug)
Amount of Revenue collected at SSRI Airport (MUR)	12,437,271	13,290,221	13,193,375	8,455,734
No of Assessments	N/A	6,812	7,142	4,382

6.1.6 Customs capacity building

Digitalization cannot achieve its vital objectives of making a customs administration efficient and effective without knowledgeable, motivated and productive customs officers. Training is a catalyst for staff development to cope with computerization and automation of procedures and processes at MRA Customs. However, it is also worth mentioning that MRA Customs has implemented a series of "digital" initiatives that aim to build capacity, enhance knowledge and development of officers and raise productivity, at both individual and organizational levels.

(i) Customs intranet

Launched in 2006, the Customs Intranet serves as a vital tool for the communication of information and sharing of capability and knowledge. It provides access to reference materials such as Acts and Regulations, conventions, Departmental Orders and Instructions, Customs tariff, Intelligence Bulletin, Training materials, SOP manuals, administrative forms and so on. In June 2016, MRA introduced a new and modern Intranet System in replacement of the previous Income Tax and VAT Intranets. Customs officers also have access to this Intranet System to search for information and get access to online services.

(ii) WCO/MRA e-Learning platform[21]

The WCO e-learning aims at enhancing the uniform application of conventions, recommendations and other international customs provisions and making a significant contribution towards meeting the growing needs of Customs. At MRA, this capacity building and knowledge development tool is accessible to officers both on intranet and the internet. The Human Resource and Training Department (HRTD) also organizes frequent training sessions for its officers on the WCO e-Learning Platform.

(iii) WCO virtual customs orientation academy (VCOA)

Young Customs officers of MRA actively participate in all the sessions of the VCOA. This WCO initiative complements the WCO learning and development opportunities offered to the Customs Officers worldwide. The VCOA comprises of core modules, videos, live discussions and multimedia courses, aimed at providing young Customs officers with an understanding of the role of the WCO, its impact on the Customs community and other Customs related matters.

6.2 Main Outcomes Of Digitalization At MRA Customs

Digitalization is not an end in itself; it is a means to achieve the vital objectives of Customs. At MRA Customs, digitalization has brought a lot of benefits some of which are quantifiable while others are only qualitative.

6.2.1 Effectiveness and efficiency of customs declarations processing

100% of customs declarations are processed electronically through the CMS. Customs declarations can also be submitted on a 24/7 basis through the web interface. In 2016, 252,988 and 106,176 import and export declarations respectively were processed. The volume of import and export handled are MUR 201.8 and MUR 113.9 billion respectively.

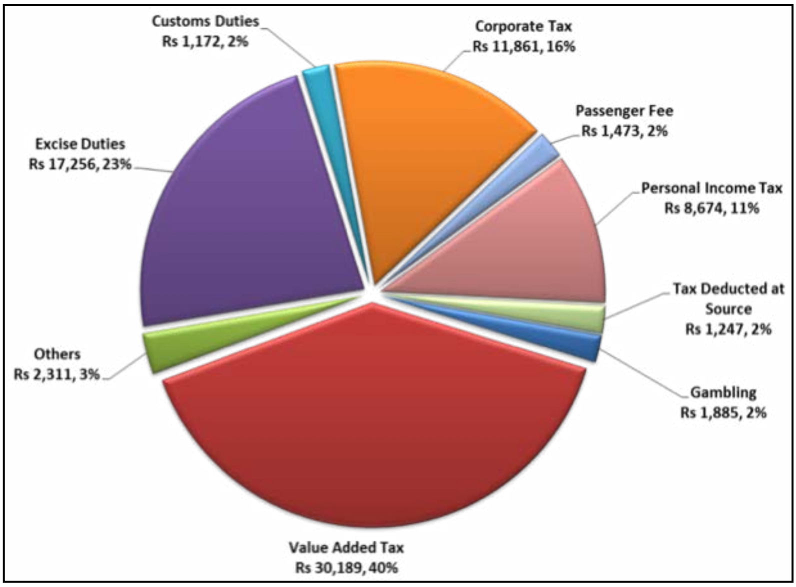
6.2.2 Reduced level of physical inspection

The use of NII technology associated with risk management has enabled MRA Customs to lower the level of physical inspection for goods to around 5% currently as compared to 12% five years ago. Moreover, approximately 30% of import cargo is cleared automatically within 30 minutes.

6.2.3 Optimized revenue collection

Revenue collected by MRA has grown steadily over the years. From MUR 49.3 B collected in 2010, it has reached MUR 76.07 B in FY 2016/17, i.e. an increase of 54.30 % and there has been an increase of 8.63% compared to FY 2015/16. (Amount collected in FY 2015/16 – MUR 70.02 B). Today, 94.6% of revenue collected by MRA Customs is collected electronically as compared to 40.4% in 2014. Figure 5 shows the different types of revenue collected by MRA in financial year 2016-2017.

Figure 5: MRA Revenue collection for financial year 2016-2017



- MRA Revenue Collection: MUR 76.07 B
- MRA collects 80% of total revenue collected in Mauritius.
- Customs collect around 46 % of total MRA collections (including VAT at importation)
- VAT at importation (MUR 16.3 B)

6.2.4 Enhanced control

Around 40% of containers at import are scanned; 51 drug cases with a street value of MUR 170.2 M[22] detected in 2016 and a record MUR 2.5 Billion seizure of heroin in March 2017; 54 offences related to Anti-Money laundering detected; 201 cases of IPR suspended clearance from January 2016 to March 2017.

6.2.5 Enhanced post clearance control

More than 70% of import declarations are reviewed by the Post Clearance Review of Declarations Unit electronically. Around 30% of total Customs declarations are subjected to post control audit.

6.2.6 Reduced transaction costs for stakeholders

Digitalization of MRA Customs has impacted positively on the cost of doing business in Mauritius. Stakeholders have made direct cost savings due to automation projects such e-Customs (Online submission of customs declarations) and e-Certificate of Origin. These initiatives have reduced the costs of transacting with Customs and enabled stakeholders to make time and cost savings by eliminating the costs of purchasing blanks sets of pre-printed customs declarations and certificates of Origin respectively from the MCCI. It is not by mere coincidence that the ranking of Mauritius for the Trading Across Borders[23] improved from 22nd for Doing Business 2011 to 12th for Doing Business 2014. This can be mainly due to the aforementioned measures implemented in 2012.

6.2.7 Enhanced integrity

Digitalization has played an important role in reducing corruption at MRA by substantially reducing the physical interaction between Customs and stakeholders, promoting transparency and reducing discretionary powers of Customs.

6.2.8 Ensures quality service

Digitalization has enabled MRA Customs to provide a quality service to its stakeholders in line with the mission of MRA. The use of panoply of automated system, applications, e-Notifications and e-Services enable our valued stakeholders to interact with MRA easily and rapidly, and in a transparent and professional manner.

6.3 Key Success Factors For Digitalization

A host of important factors have combined to account for the impressive success story of digitalization of MRA Customs. These are described below.

6.3.1 Strong political will

High level political will is one of the most important factors behind the success story of digitalization of MRA Customs. In the late 1980's, the Government of Mauritius was determined to implement the ASYCUDA and computerize the Customs Department because it was believed that automation will expedite customs clearance and boost international trade, a vital engine to achieve the first economic miracle of the country. Since then, successive governments have laid much emphasis on automation of customs operations and procedures in order to facilitate trade, reduce the cost of doing business and provide a quality service to the business community as well as the public in general. The Government of Mauritius allocates substantial budgets for implementing automation projects at Customs. Moreover, it should be noted that, to mark the occasion of ICD 2015 and ICD 2016, two important digital projects – Web Based Submission of Customs declaration and the Mauritius Trade Link respectively have been launched by the Minister of Finance and Economic Development.

6.3.2 Leadership at MRA

Strong leadership at MRA has been a determining factor not only for the digitalization of the Customs Department but also for the other departments falling under its purview. This robust leadership has transformed MRA into a world class and responsible organization committed to provide a service of high value to its stakeholders and mark its contribution to the socio-economic development of the country. Top management of MRA lays considerable emphasis on automation of operations and procedures and online applications for the effective and efficient delivery of services. Moreover, the development of ***'people, processes and technology'*** is one of the strategic objectives of MRA as laid down in the Corporate Plan 2014-2016. Today, MRA offers wide panoply of e-services for the benefit of tax payers and the trading community, some of these include e-Filing of Tax Return, e-Filing of VAT Return, e-Payment, the Tax Payers Portal, e-Objection and Online Complaints Management System.

6.3.3 External support (technical assistance, funding and capacity building)

Another important factor that has contributed to the success of digitalization in Mauritius is the external support, through technical assistance, funding and capacity building, received from key institutions and donor countries. In this area, Mauritius has been very successful in gleaning external support for the following key digitalization projects:

- **Implementation of ASYCUDA in the late 1980's:** assistance of ASYCUDA expert was received from UNCTAD.
- **Mauritius Trade Link:** technical assistance from the WCO. Financial and technical support from the Finnish Government and the World Bank was also received.
- **WCO nCEN:** funding for hardware and software secured from Germany. Training (funded by Japan) provided to MRA Customs officers (users and administrators) by WCO nCEN trainers.
- **NII Technology (X-ray scanners):** credit line policy from the Government of the People's Republic of China for the purchase of X-ray scanners in 2006.
- **Risk Management:** MRA Customs is in the process of acquiring risk management software which is funded under the 11th EDF (European Development Fund).

6.3.4 Collaboration of stakeholders

The close collaboration with and participation of stakeholders has also been very important in the digitalization of MRA Customs. A consultative approach is always adopted to discuss the concerns and views of our stakeholders prior to the implementation of automation projects such as the CMS, the Mauritius Trade Link, WMS, etc. Stakeholders who are frequently consulted by MRA Customs include: the Mauritius Export Association (MEXA), Mauritius Chamber of Commerce and Industry (MCCI), Customs House Brokers Association (CHBA), Association of Freight Forwarders (APT), the Mauritius Ports Authority (MPA), Cargo Handling Corporation Ltd (CHCL).

6.3.5 Internal competencies

MRA Customs has been endowed with competent and motivated people internally who have been capable of driving key automation projects at the department. In the 1980's, a few Customs officers from Mauritius were called upon to form part of the ASYCUDA implementation team in the company of experts from abroad. They received training on computerization and ASYCUDA in France, UK, and Austria and at the UNCTAD Headquarters in Geneva. These officers were also able to successfully impart the high level training received to fellow colleagues in the department for the smooth implementation of the ASYCUDA project. In 2004, the expertise of Mauritius Customs was sought for the implementation of CMS in Ghana while currently MRA Customs is playing an important role in the implementation of e-SADC Certificate of Origin.

Moreover, the CMS-IT Team of the Customs Department, which comprises of Customs Officers who fully understand the business processes of Customs, has marked their contribution in the digitalization process. The team is very much involved in automation projects such as the Single Window OGA Portal, the WMS, CCS and the development of applications to be used by stakeholders. These officers work in close collaboration with the MNS, the MACCS, Information Systems Department of MRA and other stakeholders to facilitate digitalization at Customs.

6.3.6 Adapting to change

While change management has been very important in the digitalization process at MRA Customs, a large part of the success should be rightly attributed to the staffs of the department who have put in the necessary efforts to adapt to the exigencies of Digital Customs and upgrade their skills and knowledge to operate automated systems and use up to date technologies. Similarly, stakeholders who use MRA Customs systems and applications in conducting business with Customs have also easily adapted to automated processes and procedures such as paperless submission of Customs declarations, e-Certificate of Origin, Warehouse Management Systems, etc. Moreover, training and awareness campaigns by MRA Customs have acted as catalyst in the change process.

7. RECOMMENDATIONS

Digitalization is a vital means to achieve ends and not an end in itself. Digitalization aims to help customs administrations achieve their goals of effective and efficient service delivery and revenue mobilization, trade facilitation and protection of society amongst others. Based on the research carried out, the following main recommendations are discussed so that Customs administrations reap the full benefits of digitalization and ensure that its objectives are attained.

7.1 Marketing The Digital Solutions

MRA customs has devoted substantial amount of resources, human, equipment and financial, to develop computer systems for the benefit of its stakeholders. However, some of these digital solutions, such the Web Based Submission of Customs declarations, the Warehouse Management System and electronic notifications systems are not fully adopted by the targeted end-users. Therefore, it is vital to carry awareness campaigns and training to explain the existence of such systems and their benefits. This marketing approach should also be coupled by satisfaction surveys among current users of customs system to identify areas for improvements.

7.2 System and Data Protection

Data and statistics generated from computerized systems are vital for decision making both at the level of administration and policy. Customs administration use data and information to gauge their efficiency and effectiveness and take necessary corrective actions or bring enhancements to their service. On the other, trade and other data generated by Customs systems are very important for policy decision making at the government level such as national budgetary measures and bilateral trade negotiations. Moreover, as highlighted earlier in this paper, digitalization brings numerous key benefits to customs administrations and its stakeholders. However, computer systems and networks are vulnerable to bugs and cyber-attacks that can seriously undermine their benefits. Thus, it is very important to ensure that they work smoothly, are free from bugs and protected from cyber-attacks from hackers. Unnecessary system downtime can be very detrimental to trade while a collapse of customs systems, such as the CMS, can severely paralyze the economy of a country. Thus, it is imperative to protect computer systems through proper maintenance by competent IT professionals, using up-to-date and reliable computer equipment, such as servers. It is also crucial to back-up customs data and develop robust contingency plans to cope with systems downtimes or collapse.

7.3 Post-Implementation Evaluation Of Digitalization

Digitalization of Customs requires huge investments in ICT and automation; funds which are usually secured from the government and donors (countries and institutions) in the form of financial grants or assistance. It is vital to assure that these funds are judiciously spent. For instance, the Single Window OGA Portal project in Mauritius has received technical and financial assistance from the Finnish government and the World Bank under a development loan policy. The cost of the project is borne by the MNS estimated to the tune of $600,000 for developing and maintaining the system[24].***Post-implementation evaluation or the use of***

measurement is strongly justified to evaluate the effects of digitalization and know whether set objectives are being achieved. While this has not been the case for several digital measures already implemented at MRA Customs, it is recommended to evaluate current or forthcoming projects such the National Single Window OGA Portal.

One good example of performance measurement is the case of the Korea Customs Service (KCS)[25]. Studies carried by KCS have revealed that the clearance of goods requiring licenses, inspections, or approvals generally took more than four days prior to the implementation of the Single Window in Korea. Following the implementation of the Single Window, the clearance time has been reduced by one day – the transfer of license to Customs office has now been eliminated. It is interesting to note that the KCS measures the performance of key services/processes, such as cargo clearance, passenger clearance, post clearance audits, and investigation of smuggling by using the balanced scorecard since 2006.

7.4 Time Release Studies

While post-implementation evaluation is a very important method to know whether the objectives of digital measures implemented are being met, it is also more important to constantly gauge performance by conducting Time Release Studies (TRS). Besides Customs, there are various agencies (such as health, agriculture, environment and others) that are involved in the process of releasing goods at import, export and transit. The time taken to release goods has a huge impact on the cost of doing business and is a vital performance indicator. It is to be noted that the RKC and the WTO TFA recommend that customs administrations conduct TRS as per guidelines developed by the WCO. One of the main benefits of TRS is that it helps in identifying bottlenecks in the international supply chain and constraints affecting release of goods. MRA Customs conducted a TRS in 2016 with the assistance of the WCO and it is very important to conduct such an exercise regularly, not to say annually. ***Given the huge cost implications of this procedure, it is critical to devise a simpler and completely automated system of conducting TRS. One viable solution is to enhance the CMS and set parameters stipulated in the WCO TRS Guidelines for the automatic computation of average release times.***

7.5 Choosing The Best Option

Digital solutions can be developed in-house, outsourced to a third party or purchased off-the shelf. ***It is therefore important for customs administrations to choose the best option based on available resources and also ensure successful implementation of these digital solutions. Moreover, given that limited resources may be available for the pursuit of the digital agenda, customs administrations have to prioritize their digital needs based on a cost and benefit analysis.*** MRA Customs has successfully combined its existing resources and outsourcing to third parties such as the MNS and MACCS to develop in-house digital solutions. It should consider resorting more to this option than acquiring costly systems off-the-shelf. Internally, the CMS-IT Team has been a key player in the development of several systems as well as providing business process requirements to external parties contracted to develop digital solutions for MRA Customs. The CMS-IT Section team fully understands the business processes of the department as well as its priority needs. It is also prepares user manuals for officers and stakeholders, carries out awareness and training sessions, testing and de-bugging, pilot launch as well as post implementation monitoring.

8. KEY POINTS IN THE JOURNEY OF DIGITALIZATION

Before concluding, it is worth mentioning the following key points in the journey of digitalization that any customs administration must take note of:

- Digitalization is a key catalyst for the implementation of reforms and modernization programmes and to achieve efficiency and effectiveness.

- It is vital for Customs administrations to base their digitalization programmes from best practices recommended in the conventions, standards and guidelines such as the Revised Kyoto Convention, WCO SAFE Framework of Standards, and WCO ICT Guidelines.
- For customs administration to pursue their digitalization agenda successfully, it is vital to have strong political will, top management support and collaboration of key stakeholders.
- Customs administrations must also glean the necessary technical, financial and capacity building assistance from countries/institutions which have a key interest in customs reforms and modernization, such as the WCO, WTO, UNCTAD, World Bank and other donor countries.
- It is also important to develop internal competencies and build capacity so that Customs administrations can adapt to change due to digitalization.
- To reap the full benefits of digitalization and justify the massive investments made thereto, it is crucial to make optimum use of the digital solutions that have been developed. Customs administrations must effectively market their digital solutions by conducting sensitization campaigns and training.
- Post-implementation evaluation or the use of measurement is also of paramount importance to evaluate the effects of digitalization and know whether set objectives are being achieved.
- Customs administrations must conduct TRS to evaluate the efficiency and effectiveness of their clearance process and identify bottlenecks and constraints in the international supply chain.
- The different options to digitalize should be weighed in terms of the cost and benefits before choosing the right option. Customs administrations must choose whether to acquire systems and software off-the-shelves or develop it themselves.

9. LESSONS LEARNT IN THE JOURNEY OF DIGITALIZATION

MRA Customs has successfully pursued its journey of digitalization and some of the lessons learnt, as mentioned below, are worth retaining.

(a) Digitalization should be adopted as a vital engine for reform and modernization; digitalization should not be an end in itself but a means to achieve the mission of Customs. It is important to prioritize what should be digitalized.

(b) Digitalization does not happen at the press of the button; it should be carefully planned, tested, implemented and evaluated. The bottom line is that it should give the desired results.

(c) Digitalization of Customs is a concern of one and all – management, employees and stakeholders. Consultations and engagement of all parties is necessary to have the right digital solutions.

(d) Digitalization cannot be successful without change management and the appropriate mindset. Employees and stakeholders must embrace digital solutions as vital tool to improve performance and service. Capacity building, awareness and training are very important.

(e) Digital solutions must be enhanced, upgraded or changed in the light of developments in technology, changes in the environment and changes in the expectations and exigencies of management, stakeholders and the clients of Customs. Digitalization is an ongoing process.

(f) Digitalization aims to improve Customs service and the facilitation of trade. However, while Customs is expediting release of goods/containers electronically, the same pace is not followed on the field by port and cargo handling operators and other logistics operators. It is important for these parties in the supply chain to improve their service so that the benefits of digitalization of Customs are reaped to the maximum.

10 CONCLUSION

Since the 1980's, MRA Customs has innovated constantly to improve its services, processes and procedures through digitalization. A series of computerization programmes, automated systems and applications, e-Services have been implemented for the benefit of the trading community and the public in general. This process of digitalization has been driven by key institutions (and their instruments, agreements and conventions) that have a very keen interest in customs reforms and modernization and trade facilitation. Some of these institutions include the WCO, WTO, UNCTACD and World Bank. Important instruments and conventions for digitalization have been the Revised Kyoto Convention, the SAFE Framework of Standards, WCO ICT Guidelines, and WTO TFA amongst others.

Digitalization aims to help customs administrations achieve their vital objectives, traditional and contemporary, of facilitating trade and the movement of goods and people across borders, protection of the society, collection of revenue and provision of trade data for policy decision making. Digitalization often requires huge investments in computer systems and ICT equipment, human resources and capacity building. These funds are mobilized from financial grants and assistance from the government, and donor institutions and countries. Customs administrations should, therefore, be accountable for judiciously spending these funds and ensuring that the required benefits are derived from the digital projects implemented.

Several recommendations have been made based on the research carried out. Firstly, MRA Customs must sensitize its stakeholders to make optimal use of its digital solutions. Secondly, to ensure continuity of service and protect vital customs data, it is important to protect computer systems, back-up customs data and develop appropriate contingency plans to cope with systems downtimes or collapse. MRA Customs should also consider developing its digital solutions in-house to minimize cost; digital projects should also be prioritized through cost and benefit studies. Moreover, post-implementation evaluation of digitalization is also important to know whether the expected benefits or results of digital projects are actually achieved. Customs administration must also measure their performance in the speed of clearance of goods, efficiency and effectiveness of service delivery, revenue collection and control measures by using tools such as Time Release Studies. Digitalization should also be a continuous process and customs administration must innovate and adjust to technological and environmental changes.

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NOTES

1 Extract from the Official address of Kunio Mikuriya, Secretary General of the World Customs Organization on the occasion of International Customs Day (ICD) 2016

2 WCO ESA Regional Office for Capacity Building: http://www.wcoesarocb.org/status-digital-customs-members-administrations/

3 World Customs Organization, '*Customs Capacity Building Strategy*': http://www.wcoomd.org/en/topics/capacity-building/overview/cb_strategy.aspx

4 On 01 July 2006, the Customs and Excise Department joined the Mauritius Revenue Authority (MRA) which is a corporate body set up under the MRA Act 2004. The MRA administers and collects all taxes due in Mauritius within an integrated organizational structure.

5 '*Customs in the 21st century- enhancing the WCO for the 21st century role*' (WCO Policy Commission-60th Session, Brussels, 2008)

6 Michael Engelschalk and Tuan Minh Le, "Two decades of World bank lending for Customs reform: Trends in project design, project implementation and lessons learned" *Customs Modernization Handbook* (World Bank, 2005)

7 For further details please read: http://www.tfafacility.org/trade-facilitation-agreement-facility

8 Provisions that the WTO Member will implement on a date after a transitional period following the entry into force of the TFA and requiring the acquisition of assistance and support for capacity building

9 EDI is the direct computer to computer data exchange between two organizations of standards business transactions documents within human interventions. It uses the network system and follows standards and procedures that allow output from one system to be processed as input to other systems. This is the central concept of e-commerce and changing the way business is done.

10 Please read: Christine Msemburi, Larry Liza, '*Trade Facilitation in East and Southern Africa*' (Research papers presented at the 1st ROCB ESA Research Conference Harare, Zimbabwe 4th – 5th June 2014) [Online]: Available at: http://www.wcoesarocb.org/wp-content/uploads/2016/04/WCO-Trade-Facilitaion-in-East-and-Southern-Africa-by-Larry-and-Christine.pdf.

11 MNS is a tripartite joint venture company, incorporated in April 1994, involving public and private sector representatives and a foreign technical partner.

12 Source: *Mauritius Customs Magazine*, 1989 (Page 11)

13 Source: World Customs Organization, '*Handbook of Case Studies on Customs Reform and Modernization in East and Southern Africa*', (WCO, 2014) – Page 73

14 The Cargo Community System is an electronic single window which enables the timely exchange of manifest data between Customs and public and private business processes for cargo stakeholders of the port communities (Customs, Port Authority, Port Terminal, Container Freight Station, Freight Forwarders, Importers, Exporters, Customs Brokers and Shipping Agents).

15 Source: https://www.maccs.mu/e-bunkering/

16 Please read: Stefan Aniszewski, *'Coordinated Border Management – a concept paper'* (World Customs Organization, 2009): [Online] Available at: www.wcoomd.org/en/

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17 Note that the World Customs Organization has included CBM, in its Strategic Policy on Customs in the 21st Century, as one of the 10 key building blocks for managing borders in today's environment. The WCO also devoted the theme of the International Customs Day 2015 to Coordinated Border Management under the slogan "Coordinated Border Management - An inclusive approach for connecting stakeholders".

18 Professor David Widdowson, *'Border Management Modernization Reference and Implementation Guide – Risk-Based Compliance Management'*, (The World Bank Publications, 2011)

19 Rodrigues is an autonomous outer island and dependency of the Republic of Mauritius located in the Indian Ocean, about 560 kilometres east of Mauritius.

20 The Maurice Ile Durable (MID) is a tax on fossil fuels established in July 2008 to finance clean energy projects (e.g., subsidies for compact fluorescent lamps and solar water heaters). It is levied on products such as coal, liquefied petroleum gas (LPG), and other petroleum The MID concept aims to minimize the dependency on fossil fuels through increased utilization of renewable energy and a more efficient use of energy in general. In a broader sense, it includes all aspects of development, i.e. economic, social and the environmental aspects as these are considered pivotal in the quest for a sustainable Mauritius.

21 The WCO e-learning was officially launched on 26th January 2012 on the occasion of the International Customs Day.

22 Note that MUR 35.58 is approximately equivalent to US$1.

23 The Trading Across Borders is a sub-component of the Ease of Doing Business index published by the World Bank on a yearly basis. It records the time and cost associated with the logistical process of exporting and importing goods.

24 Source: World Customs Organization, *'Handbook of Case Studies on Customs Reform and Modernization in East and Southern Africa'*, (WCO, 2014) - Page 76

25 Please read: *Measuring the effects of the Republic of Korea's Single Window System* by Soyoung Yang (*Reform by Numbers- Measurement Applied to Customs and Tax Administrations in Developing countries*, World Bank, 2013)

REPORT ON THE 2ND WCO ESA REGIONAL RESEARCH CONFERENCE

Regional Training Center, Kenya

1. BACKGROUND

The Governing Council of the World Customs Organization, East and Southern Africa region, established the regional research programme aiming to build institutional capacity and the body of knowledge in customs through research. The objective of the programme is to encourage research on topical themes for customs in East and Southern Africa. The programme also aims to develop a body of knowledge to guide the decision-making process concerning trade facilitation and regional economic integration in the Region.

It is also hoped that the research programme and the results from findings from the research initiatives will assist countries in sharing experiences, ideas, knowledge, and information on new innovations to improve Customs operations while creating new inventions to continue modernizing customs to ease facilitation of trade in East and Southern Africa. The envisaged output from this process will always be the publication of an e-book consisting of a consolidation of papers presented during the conference.

A Regional Research Panel was established by the ROCB for the overall coordination of the conference. The Panel comprises representatives from the ROCB, WCO Research Unit, RTCs, Experts (including from academia), and other stakeholders.

2. INTRODUCTION AND OPENING REMARKS

The 2nd WCO ESA Regional Research Conference was hosted by the RTC Kenya and took place on the 23rd and 24th November, 2017, at the Kenya School of Monetary Studies (KSMS) in Nairobi, Kenya. It was co-organized by the ROCB and the RTC Kenya and attended by more than 200 participants from 20 nations. Participants included researchers and officials from various member customs administrations in the East and Southern Africa Region, WCO ESA Regional Training Centres (RTCs), the WCO, the African Union, the World Bank, Africa Development Bank, Regional Economic Committees (RECs) (the East African Community), the Government of Australia, Kenyan ministries, the private sector, academia, and other cooperating partners.

The theme of the conference was “Impacts and Implication of the Trade Facilitation Agreement and the WCO Mercator Programme to the ESA region” and covered the following topics: Impacts of the WTO Trade Facilitation Agreement in East and Southern Africa; Data Analysis for Effective Border Management in East and Southern Africa; Best Practices in Digital Customs in East and Southern Africa; E-commerce as a Driver for Economic Growth in East and Southern Africa; Securing and Facilitating Trade in East and Southern Africa; and Regional Integration: Addressing Levels of Intraregional Trade in East and Southern Africa.

This conference was made possible by the support of CCF Korea and RTC Kenya.

The head, RTC Kenya, Ms. Beatrice Memo, also representing the Commissioner General KRA, Mr. John Njiraini, welcomed the delegates to Kenya and to the conference. She informed the delegates that the RTC Kenya had grown into a full-fledged learning institution offering various diplomas, post-graduate diplomas, and Master's degrees, with a current student population of 2,300. She pointed out that RTC Kenya, in conjunction with the Jomo Kenyatta University of Agriculture and Technology (JKUAT), graduated the first batch of students in November, 2017. She recognized the wide range of sectors represented in the conference and pointed out the importance of trade facilitation in the Region. She welcomed delegates to brainstorm on issues of border protection and facilitation of trade within the borders, stressing the need to open borders in recognition of customs as a "global village." She also stressed the importance of intraregional trade and called on key stakeholders to promote trade within Africa and find a solution for the African market challenges.

Ms. Memo announced that the Kenya Revenue Authority is implementing its sixth corporate plan, whose theme is "Building Trust through Facilitation So As to Enhance Tax Compliance." Among the many measures put into place to achieve this were the Integrated Customs Management System (ICMS), a robust intelligent system that consolidates all customs cargo clearance processes to one point of access to improve customer experiences. Together with other partner states, Kenya also recently launched a Regional Electronic Cargo Tracking System (RECTS) to ease the movement of cargo between our borders and further connect and unite Kenya, Uganda, and Rwanda. She thanked the ROCB for the good work it has done to ensure development in the Region and reiterated that RTC Kenya will continue to support the ROCB in this endeavor. She finally wished the delegates fruitful deliberations and declared the conference officially open.

Annex 1: Speech of the Commissioner General of Kenya Revenue Authority and Head of RTC Kenya at the opening of the 2nd ESA Research Conference

The Director of the ROCB, Mr. Larry Liza, provided a history of the ESA Research Programme, highlighting that it was a Decision of the WCO Governing Council to establish a programme aimed at building capacity in customs knowledge within the Region. He acknowledged the support of various stakeholders, particularly the WCO, among other key stakeholders and partners. He thanked RTC Kenya for hosting the conference and noted that the number of participants in the 2nd Regional Research conference had tripled those of the first conference. He also recognized and thanked CCF Korea for sponsoring the conference.

The director also decried the low levels of intraregional trade in Africa and urged members to work toward improving these levels. He hoped that the conference would come up with solutions to the challenges affecting intraregional trade, including sharing and implementation of best practices.

Mr. Kwanseon Cho, of the Customs Cooperation Fund (CCF) Korea, at the WCO and representing the Commissioner of Customs, Korea, congratulated the Region for holding the second conference and ensuring continuity of the ESA Research Programme. He pointed out that Korea, through CCF Korea, has over the years continued to support the ESA Region especially in the customs reform and modernization process, and reiterated their continued commitment to support capacity-building activities in the Region. He also stressed that TFA, which came into force on February 22, 2017, presented an opportunity to introduce international standards to lower trade barriers and promote trade around the world and hoped that such efforts will contribute to the development of the Region. Finally, he thanked the ROCB and RTC Kenya for the successful preparation of the conference and wished the delegates a successful conference.

Mr. Thomas Cantens, Head of Research Unit World Customs Organization, expressed his gratitude to RTC Kenya and the ROCB for inviting the WCO to the conference. He noted the dynamism of research in the ESA Region and pointed out that it received a high level of political support, thus ensuring its success. He reassured the Region of continuous support from the WCO toward ensuring that the Research Programme continues to grow and provide solutions to challenges being experienced nationally, regionally, and globally.

Mr. Michael Mc. Ginley, representing the Australian High Commission, thanked RTC Kenya and ROCB for the invitation to attend the ESA Regional Conference and that Australia was looking forward to a continued partnership with the WCO ESA ROCB and Kenya Revenue Authority. He commended the Region for its measures to support trade facilitation such as the Single Window. He highlighted the centrality of trade regional integration and the importance of implementing the TFA in boosting trade in Africa.

Mrs. Mercy Njuguna Ag. Commissioner of Customs and Border Control, representing the Commissioner of Customs and Border Control, KRA, welcomed the delegates to Nairobi and expressed gratitude to RTC Kenya for hosting the conference and thanked the ROCB and CCF Korea for ensuring its success. She informed the delegates that Kenya has hosted the ROCB since its inception and recently relocated the office to a newer, modern building and reiterated Kenya's commitment to support the office and the Director. She pointed out that Kenya was among the first countries to ratify the TFA and has put various measures in place to ensure its successful implementation, aiming to ensure ease of doing business both nationally and regionally. Finally, she wished the delegates an enjoyable and pleasant stay in Nairobi.

3. PROGRAMME OF THE CONFERENCE

The programme of the conference included two panel discussions on trade facilitation challenges in Africa and accelerating regional development through cross border trade and e-commerce, keynote speeches, and various presentations on the impacts of the WTO Trade Facilitation Agreement in East and Southern Africa, Data Analysis for Effective Border Management in East and Southern Africa, Best Practices in Digital Customs in East and Southern Africa, E-commerce as a Driver for Economic Growth in East and Southern Africa, Securing and Facilitating Trade in East and Southern Africa and Regional Integration, addressing levels of intraregional trade in East and Southern Africa as well as a presentation of awards to the finalists of the 2nd WCO ESA Research Conference.

Annex 2: Programme of 2nd ESA Research Conference

4. KEYNOTE ADDRESS 1:

Accelerating Regional Development through Cross Border Trade Facilitation, Dr. Mukhisa Kituyi, Secretary General, United Nations Conference on Trade and Development (UNCTAD).

Dr. Mukhisa Kituyi focused on a variety of issues aimed at boosting regional development through cross-border trade and the trends and role of Customs, simplification, and harmonization of laws and regulations, TFA, Regional integration, and the Continental Free Trade Area (CFTA). He highlighted the exponential growth of information in recent years (80% of all human knowledge being only two years old or less), and the importance of deepening market integration and seamless interconnectivity and sharing challenges and solutions among member states in the promotion of trade.

He highlighted; the critical role played by data analysis in effective management of administrations, stressing the importance of the interface between big data and analytics in effective data analysis. He pointed out that higher growth in service provision is growing much faster than the exchange of goods in the marketplace and mentioned the role of cross-border trade as an enabler of regional integration and e-commerce.

He stated that e-commerce is growing at a 4%–5% rate to GDP with an urgent need to tackle challenges presented by e-commerce and cross-border trade, such as lack of trust among stakeholders. For example, Mexico has addressed this challenge through establishing an electronic platform that resolves disputes of electronic trade; on this platform buyers are able to either get the items bought replaced if they are not satisfied or get a refund of their money.

The delegates were informed of the equal importance of building synergies, legislative frameworks, consideration of local development, skills development, and having laws that make things easier in order to enhance electronic trade. Stakeholder engagement also remains key in promoting cross-border trade, establishing and addressing the challenges of traders, and building capacity among traders in order to facilitate trade. He cited the case of the EAC, which shares common laws governing customs, as a successful example of regional integration. He noted that political will is a critical factor in regional integration without which efforts toward integration will be futile. He also highlighted the important role of Regional Economic Communities such as COMESA, SADC, SACU, and EAC in regional integration.

It was noted that a combination of political will, commitment from leaders, harmonization of Customs laws and regulations, automation, revamping the Customs Reform and Modernization Programme, and introducing systems such as the Single Window are important in regional integration as well as trade facilitation. He also pointed out the importance of automation in trade facilitation and curbing revenue leakage.

5. KEYNOTE ADDRESS 2:

Exploring Regional Efforts toward Mitigating Trade Facilitation Challenges in ESA, Mr. Erastus Mwencha, the Immediate Former Deputy and Chairperson of the Africa Union Commission

The keynote address was delivered by **Mr. Erastus Mwencha, the Immediate Former Deputy Chairperson, Africa Union Commission**. In his address, Mr. Mwencha pointed out various issues affecting global trade. He stressed the importance of minimizing costs of doing business and informed the delegates that when costs of doing business are reduced, you gain market share. He noted that it is no longer tariffs that are barriers to trade; the key challenge to boosting trade comes from non-tariff barriers.

He highlighted various objectives of trade facilitation, including minimizing cost, market access, optimization of production resource allocation, economic expansion, improved consumer welfare, and simplification and harmonization of rules and procedures. He further informed the delegates about existing trade facilitation institutional frameworks and various global trends and practices in trade.

He pointed out the various trade facilitation elements in Regional Trade Agreements, including exchange of customs-related information, cooperation in customs and other trade facilitation matters, simplification of formalities and procedures, publication and availability of information, and appeals and harmonization of regulations and formalities. He further informed the meeting that ESA had put in place various measures to support trade facilitation, which included one-stop common border posts, harmonized standards, transit corridor development, harmonized valuation systems, and moving toward CFTA. He urged delegates to lobby their administrations to work toward implementing the TFA to ensure that the Region benefits from this initiative.

Annex 3: Keynote Address by Erastus Mwencha

6. PANEL DISCUSSIONS

Panel Discussion 1: Trade Facilitation Challenges in Africa

Introduction

The moderator, ***Dr. Dennis Ndonga***, introduced members of the panel who included KRA (***Ebby Khaguli and Pamella Ahago***), WCO (***Thomas Cantens***), World Bank (***Akinyi Gikonyo***), SCEA (***Agayo Ogambi***), and African Development Bank (***Patrick Kanyimbo***). He briefly introduced the topic and noted that TFA had recently entered into force and that efforts were being made by contracting member states to ensure its implementation.

Discussions

It was noted that there is very limited information on the TFA, and it was therefore recommended that trade information should be made available through publications, websites, and other forms of media. Structures should be put in place to promote trade. It was pointed out that trade facilitation includes facilitating all stakeholders and is not limited to customs. The importance of reducing the cost of doing business in order to ensure that goods and services are affordable was highlighted.

Challenges of implementing the TFA in Africa were mentioned, stressing that in order for the agreement to be implemented, it has to receive political support and overcome insecurity, management changes, lack of supporting laws and regulations, lack of awareness among stakeholders, lack of proper coordination of the implementation process, poor management of the NCTFs, and lack of resources to implement the TFA.

The Region was urged to seek funding from donors to support the implementation process. It was further pointed out that such funding proposals needed to be created professionally. The needs to be addressed and the importance of implementing specific measures to attract funding were pointed out.

The panelists further pointed out the important role that customs plays in trade facilitation and reiterated that they should play a major role in the NCTFs to offer guidance to other stakeholders. Customs should also be charged with ensuring that the NCTFs are functional and effective, given that they are more familiar with various initiatives and measures in place to ensure the successful implementation of the TFA.

Panel Discussion 2: Accelerating Regional Development through Cross-Border Trade and E-Commerce

Introduction

The moderator, ***Mr. Thomas Cantens***, introduced members of the panel, including the Kenya National Chamber of Commerce and Industry (***James Mureu***), KRA (***Constantine Kandie***), and the African Union (***Dhunraj Kassee***). He briefly introduced the topic and pointed out the importance of e-commerce in promoting trade in the Region. He posed various questions to the panelists, which he hoped could be addressed during the panel discussions. The questions included: How does insecurity affect trade? What is the role of the private sector in promoting trade facilitation? How is the Region coping with challenges of implementing the TFA and insecurity? What is being done to support the development of informal traders? How does the Region take advantage of the dynamism of informal and cross-border traders to increase trade in the Region? How can African economic traders benefit from e-commerce? How does the AU support e-commerce?

Discussions

It was pointed out that cross-border trade is an informal sector with no structure; however, it carries a lot of numbers and thus is very important in the development of the Region. However, the informality of their trade poses a challenge. For example, it's very hard to tax them. These challenges need to be addressed through cooperation of all stakeholders in the industry and by finding ways to engage traders.

The importance of data was also highlighted. Without data, it's almost impossible to measure the contribution of cross-border traders as well as other informal traders to the economy. The Region has not addressed this challenge and needs to put more effort into promoting intraregional trade. The importance of CFTA in promoting intraregional trade was also pointed out during the discussions

The delegates were informed that Kenya had established a Kenya commodities exchange programme to deal with both informal and cross-border trade, especially in the agricultural sector. The aim of this programme is to facilitate informal traders and make it possible to actually trace the trade data in these sectors and allow proper taxation. Various government bodies are involved in this project, and it's closely monitored to ensure its success. Apart from proper taxation of this sector, the project also aims to create more job opportunities in the country.

Various benefits of e-commerce were also discussed, including saving transaction time, increasing credit opportunities with banks, creating job opportunities, reducing informal trade since it's easy to access data generated from e-commerce.

The delegates were further informed that the AU is committed to boosting intraregional trade and has put various measures in place to support that endeavor. The AU has endorsed the establishment of the CFTA, aimed at promoting intraregional trade. The importance of sensitization of the Region on CFTA was stressed in order to bring members on board. Various negotiations are ongoing in the AU in regard to various annexes aimed at improving trade facilitation in the Region. One such annex is TFA.

The AU has carried out a situation analysis aimed at finding out what challenges were being experienced by members in the implementation of the TFA. These findings were consolidated and shared with the Region. The AU is committed to supporting members in addressing these challenges. The AU also pointed out that they are working closely with the ROCB in carrying out various capacity-building activities in the Region.

7. PRESENTATIONS OF RESEARCH PAPERS

Securing Our Borders: The Measures Implemented by the Mauritian Customs to Bolster Border Security.

Researchers: Dulmeer Sameer and Auckburally Mohammad Imteaz Mauritius Revenue Authority.

The researcher highlighted various measures implemented by Mauritius Revenue Authority, some of which include;

- The Stop Drug Platform, launched at the end of 2016, is an electronic platform on which the public may share relevant information on drug trafficking in total anonymity. Information is kept confidential and analyzed by a dedicated team at MRA Customs.
- X-Ray Scanning: Containers have become the lifeblood of global trade. Mauritius handles 300,000–400,000 containers per year. The WCO SAFE Framework of Standards recommends

that Customs use non-intrusive detection equipment. Since 2006, two Nuctech X-ray container scanners have been fully operational in the port and airport. In 2008–2009, four additional scanners were added to the passenger Arrival Hall, courier hub, parcel post office and ferry terminal.

- Sniffer Dogs (K9) Unit: In 2004, with the assistance of French Customs, a drug detector dog unit (K9 Unit) was introduced. In 2010, three additional dogs were acquired from South Africa. Almost 80% of all drugs and narcotics seized were from the assistance of the K9 Unit.
- The nCEN Platform: In 2000, the WCO developed the Customs Enforcement Network (CEN). In 2012, the MRA Customs implemented the National Customs Enforcement Network (nCEN) platform. Mauritius has been the pioneer country in the ESA region to adopt the nCEN.
- Risk Management Section: In 2009, the MRA created the Risk Management Section (RMS), which analyzes feedback from all MRA sections and gathers intelligence from third parties. Posts on intranet intelligence bulletins, alerts, and wrong classifications reports are for the benefit of all Customs officers, especially those at the cargo examination areas.

Annex 4: Presentation on the measures implemented by the Mauritian Customs to bolster border security

Combating Revenue Fraud in WCO ESA: A Mirror Analysis through the Lens of Malawi Customs

Researcher: Frank Kalizinje, Malawi Revenue Authority

The researcher highlighted that the role of Customs is quickly expanding; historically, revenue collection has been key, while other functions such as Trade Facilitation and securing the supply chain are becoming more important. Revenue collection remains crucial to the least developed countries such as Malawi, and thus the need to be sustained.

He pointed out that Customs boasts huge chunks of data generated daily at the borders, but it is largely underutilized. This data can be turned into insight and value as well as detect fraud at the least cost, which can be done through Mirror Analysis. Mirror Analysis involves comparing import data of Country A and the corresponding exports from Country B by one or more countries, and vice versa.

He noted that his study followed Cantens (2015), Raballand et al. (2012), and Chalendard et al. (2016) where Mirror Analysis was used to detect revenue fraud.

He gave a summary of his findings and highlighted the various policy implications of his study. Most importantly, he noted that the study shows that Customs can detect and classify fraud and greatly improve risk management at minimum cost.

Annex 5: Presentation on combating revenue fraud in WCO ESA: A Mirror Analysis through the Lens of Malawi Customs

The Dwindling of Customs Revenue Collection by Intra-Regional Trade Liberalization. Is There Any Possible Way Out of Developing the Least Developed Countries? Case Study of Malawi

Researcher: Murendere Mathew Chaponda, Malawi Revenue Authority

The researcher introduced his topic of study and pointed out that trade liberalization is the removal or reduction of restrictions or barriers on the free exchange of goods between nations (e.g., removal or reduction of tariff obstacles such as duties and surcharges, and non-tariff obstacles such as licensing rules, quotas, and other requirements). He noted that many Developing Countries' (DCs) and Least Developed Countries' (LDCs) import duties and related taxes represent a significant proportion of the national revenue.

He pointed out that the current global trend shows that there is a paradigm shift in the traditional role of customs of revenue collection to diversified activities that focus more on trade facilitation, global free trade, and border security, even among the DCs and LDCs (SACU, 2012).

The delegates were informed that from 2012 to 2014, Malawi lost approximately $11,722,793.09 US (computed from MRA'S Customs ASYCUDA++ System) of trade taxes through bilateral and regional trade agreements, and this constituted the problem statement of his study. The objective of the study was to investigate the possible alternatives of revenue growth, which will cover the foregone customs taxes as a result of trade liberalization.

He pointed out that in order to effectively gain from the trade liberalization agreements, his study proposes that Malawi needs to develop growth for exports that will specifically be traded across the regional member countries. This will enable striking a trade balance and reciprocal gains from the trade partnership.

Annex 6: The Presentation on the Dwindling of Customs Revenue Collection by Intra-Regional Trade Liberalization; Is There a Possible Way Out for Developing and Least Developed Countries? Case Study of Malawi

Regional Integration: Addressing Levels of Intraregional Trade in Eastern and Southern Africa

Researcher: Sendra Chihaka, Zimbabwe Revenue Authority

The Researcher introduced her topic of study and pointed out that intra-regional trade levels within ESA trading blocs remain low despite various initiatives taken by the regional trading blocs SADC, COMESA, and EAC to promote intra-regional trade. Intra-African trade averages 10%–12% compared to other parts of the world (e.g., 40% for the intra-association of South East Asian Nations (ASEAN) trade.

She informed the meeting that RTAs in ESA are mostly made up of countries geographically near each other, yet trade is still low, thus to some extent defying the Gravity Model. According to the Gravity Model, countries sharing borders are most likely to trade more with each other; therefore, intra-regional trade in ESA is expected to be high, but that is not the case.

Delegates were informed that this study will be of paramount importance to policy makers, especially as it comes soon after the coming into force of the World Trade Organization Trade Facilitation Agreement whose measures will play a pivotal role in promoting regional integration.

In conclusion, she noted that initiatives to boost intra-regional trade have not yielded the desired results of increasing intra-regional trade as a result There is a need to rethink Africa's development and practice regional economic patriotism in order to boost intra-regional trade in Africa in general and ESA in particular.

Annex 7: Presentation on Regional Integration: Addressing Levels of Intraregional Trade In East and Southern Africa

Impact of Regional Integration on Intra-Regional Trade in the East African Community

Researchers: Julius Kugonza and Ronald Nsubuga Uganda Revenue Authority

The researchers introduced their topic of study and noted that the idea of political and economic integration in East Africa began in 1927 with Uganda, Kenya, and Tanzania. The East African community was created in 1967. However ideological differences and personality problems between the leaders led to its collapse in 1977. A Protocol for the Establishment of the East African Community Customs Union was signed by the three East African heads of state on March 2, 2004, in Arusha, Tanzania.

The delegates were informed that the Customs Union has been in force since 2005 as defined in Article 75 of the Treaty for the Establishment of the EAC. Partner States agreed among themselves on a common external tariff (CET), EAC Rules of Origin, and with the provisions of the Protocol with a major goal of stimulating intra-regional trade and spurring economic development among the partner states. However, intra-EAC trade remains extremely low compared to other blocs between 2000 and 2016. For example, in 2016, EAC intra-trade accounted for only 11.47% of the total trade, which compares very poorly with other regional economic blocs such as the Asia Pacific Economic Cooperation, the European Union, and the North American Free Trade Agreement, where intra-regional trade accounted for 69.87%, 61.73%, and 45.99% of total trade, respectively, in2016.

From the study, it was recommended that in order for the EAC region to enhance intra-regional trade within EAC, the member states should prioritize reducing non-trade barriers. To achieve this, the EAC member countries should increase their commitment to the EAC regional integration by aligning their diplomatic, trade, and economic policies toward an enabling environment for EAC integration.

Annex 8: Presentation on the Impact of Regional Integration on Intra- Regional Trade in the East African Community

The Impact of the WTO Trade Facilitation Agreement on Trade Openness: Evidence from Eastern and Southern African Countries from 2005 to 2016

Researcher: Mr. Risal Beeharry, Mauritius Revenue Authority

The researcher gave a brief history of Trade Facilitation. He pointed out that the research objective of his study was to assess the impact of Trade Facilitation (TF) measures on trade openness on nine African countries from 2005–2016; namely, Comoros, Kenya, Madagascar, Malawi, Mauritius, Mozambique, South Africa, Tanzania, and Zambia.

The delegates were informed about various benefits of Trade Facilitation, which included harmonization and simplification of laws and procedures; enhancing trade flows; reducing levels of human and material input; fostering human development; increasing economic activity, which leads to employment opportunities, education, health, technology transfer and income growth; and reduction of poverty.

Challenges of implementing Trade Facilitation include a multitude of non-tariff measures that negatively impact the cost and ease of doing business on the continent and inefficient border procedures causing a large reduction in revenues. Africa is still widely recognized as the place where importers and exporters face far greater obstacles in trade than in any other region of the world.

Using the World Bank's LPI as the main proxy for trade facilitation, the study found that Trade Facilitation has a positive and significant effect on trade flows for the nine African countries.

Annex 9: Presentation on the Impact of the WTO Trade Facilitation Agreement on Trade Openness: Evidence from Eastern and Southern African Countries from 2005 to 2016

Securing and facilitating trade in Eastern and Southern Africa

Researcher: Ferdinand Everest Ntuli, Fort Hare University- Zimbabwe

The researcher pointed out that in the face of increased global trade, there is a need to ensure robust controlled trade. Facilitation of trade in the absence of regulation may result in the following negative outcomes: an influx of illegal immigrants, human trafficking, cross-border terrorist activities, smuggling of narcotics and weapons, under-valuations, false declarations, and corrupt practices by customs officials.

The delegates were further informed about the evolving role of the customs administration (revenue collection, protection of domestic industries, social protection, trade facilitation, supply chain security). It was stressed that there is a need to strike a balance between regulating and expediting trade. Customs is charged with the overwhelming work of effecting controls on behalf of other government departments, implementing a risk-managed approach, fostering good relations with industry and enhancing information management.

The shortcomings of measures of trade security and facilitation were also highlighted, including limitations of risk committees, challenges of non-intrusive inspections, difficulties of managing transit cargo, the divide between customs and industry, a lack of capacity to utilize information and share under CBM, SW, and OSBPs, and corruption as a hindrance to trade facilitation and security.

Annex 10: Presentation on Securing and Facilitating Trade in Eastern and Southern Africa

The Impact of Authorized Economic Operator Accreditation on Trade Facilitation: The Case of Uganda

Researchers: Dr. Geofrey Okoboi and Michael Kyanzi, Uganda Revenue Authority Electricity Regulatory Authority- Uganda

The researcher pointed out that accreditation is voluntary and free and takes a minimum of two months. There are six steps to the accreditation process: expression of interest to the URA Commissioner of Customs; preliminary consultation with a customs AEO team; filling out forms (with supporting documents); vetting of eligibility of the applicant; on-site inspection of applicant's premises; and authorization/approval of the entity as an AEO by the URA.

The delegates were informed that there are more than 4,000 firms in Uganda's international trade space, but between 2012 and 2016, only 28 firms were accredited. It was noted that there is scant literature on the impact of AEO accreditation and mixed results.

It was further pointed out that the specific objectives were to assess the impact of AEO accreditation on clearance time as a measure of trade facilitation, to assess the impact of AEO accreditation on a firm's trade volume, and to assess the impact of AEO accreditation on a firm's customs taxes paid.

It was noted that URA AEO accredited firms are reaping benefits that come with expedited cargo release and exponential growth in trade volumes. The quantum of taxes paid to the government by AEO accredited firms is significantly higher than non-AEO peer firms, and the AEO accreditation program in Uganda has been a success.

Annex 11: Presentation on the Impact of Authorized Economic Operator Accreditation on Trade Facilitation: the Case of Uganda

Leadership and Change Management Tools Required to Successfully Implement Border Agency Cooperation (Article 8) of the WTO Trade Facilitation Agreements in Eastern and Southern Africa

Researcher: Dhunraj Kassee, Africa Union Commission

The Researcher highlighted Article 8 of the WTO Trade Facilitation Agreement, which states that each member shall ensure that its authorities and agencies responsible for border controls and procedures are dealing with the importation, exportation, and transit of goods and are cooperating with one another and coordinating their activities in order to facilitate trade.

Each Member shall, to the extent possible and practicable, cooperate on mutually agreed terms with other Members with whom it shares a common border with a view to facilitate cross-border trade. Such cooperation and coordination may include alignment of working days and hours, alignment of procedures and formalities, development and sharing of common facilities, joint controls, and the establishment of a one-stop border post control.

It was noted that Article 8 remains one of the least notified measures in Category A for LDCs and DCs within Africa and the most notified measure in Category C for LDCs.

The delegates were informed that Article 8 in Border Agency Cooperation will need a holistic approach. Its implementation will require interventions beyond hard and soft infrastructure, and there is a pressing need to tackle issues involving political will, commitment, human behavior, attitudes, and mindset.

Annex 12: Presentation on Leadership and Change Management Tools Required to Successfully Implement Border Agency Cooperation (Article 8) of the WTO Trade Facilitation Agreement in Eastern and Southern Africa

Best practices in Digital Customs in East and Southern Africa: A Case Study of the Mauritius Revenue Authority Customs

Researchers: Ms. Anandee Sonnagee and Ms. Késhika Quédou

The researchers informed the meeting that digital customs plays an integral part in the fast-changing customs environment. They defined digital customs as simply moving from paper-based processes to paperless processes and highlighted challenges of manual paper-based processes that included time wastage, lack of sufficient storage areas, and increased cases of corruption due to face-to-face interactions.

The delegates were informed about the various organizations driving the Digital Customs agenda globally. They included the World Customs Organization, the World Bank, the World Trade Organization, the United Nations, the Conference on Trade and Development (UNCTAD), the International Monetary Fund (IMF), and others. The Mauritius Reforms and Modernization Department is charged with driving the Digital Customs agenda in Mauritius.

Various challenges that face the implementation of digital customs were highlighted, including facilitation of trade without weakening Customs Control. Several initiatives are running concurrently: inadequate awareness and education to stakeholders regarding the use of the implemented systems as well as resistance to reforms by some staff and stakeholders due to lack of IT knowledge.

Annex 13: Best Practices in Digital Customs in East and Southern Africa: A Case Study of the Mauritius Revenue Authority Customs

Digital Customs: The Successful Experience of the Mauritian Customs

Researchers: Dookhee Nageeb and Dulmeer Sameer, Mauritius Revenue Authority

The researchers informed the delegates that in 1994, upon the recommendation of the World Bank and the strong political will of the government to promote e-governance and facilitate the existing trade documentation process, the government made the decision to implement a Trade Net (TN) System (Customs SW) modeled on the successful implementation of the Singapore Trade Net System. In conjunction with the TN System, it was also decided to develop a Customs Management System (CMS) for the processing of customs declarations.

It was pointed out that the Mauritius Network Services (MNS) was set up to design, develop, and maintain the TN System and also develop the CMS. The E-Customs project, which was implemented on January 1, 2012, enables the submission of electronic declarations together with scanned copies of the requisite documents. However, the law requires the importer/declarant to keep a copy of those documents for a certain period of time, and they can be produced on demand by Customs.

It was noted that Mauritius was ranked 25th out of 190 countries by the World Bank's Doing Business Report 2018. Mauritius made trading across borders easier by improving the Cargo Community System, introducing advanced electronic document submission and updating the risk-based inspection system.

Going forward, the researchers recommended that a Regional/Global Single Window, which emphasizes nation-to-nation (N2N) exchanges of trade information, be developed, a data warehouse and data mining tool to better assist the officers in their tasks be established, tracking of the challenges posed by the "dark net" be done, as well as keeping track of the latest advances in technology such as nanotechnology, artificial intelligence, and robotics.

Annex 14: Digital Customs: The Successful Experience of the Mauritian Customs

The Challenges Encountered during the Research Process in Africa

Presenter: Dr. Nellie Dhaera, Zimbabwe Revenue Authority

The presenter highlighted various challenges faced by researchers in Africa, including a lack of resources (time and funds to carry out the researcher), failure to keep appointments by the respondents, a reluctance of decision-makers to share information, and confidentiality clauses that make it difficult to obtain information.

Pressure of work has also affected research in the region. Researchers lack time to do research due to work pressure and targets. Lack of commitment from the supervisors was also highlighted, as well as a lack of relevant literature, especially in Customs. Thus, researchers lack a theoretical framework on which to base their research.

The presenter also informed the delegates that researchers lacked motivation to do research. Another challenge pointed out was poor response to questionnaires or lack of cooperation from the respondents. Poor data sampling is also compromising the quality of research in Africa.

Tips for Current and Future Customs

Researchers Dr. Denis Ndonga, Murdoch University, Australia

The presenter highlighted various tips for current and future customs researchers and pointed out that Customs officers have the primary resource to do successful research since they have access to information on customs and handle the Customs processes on a daily basis. That makes Customs officers the best-placed people to do research in Customs.

The delegates were also encouraged to network with people from other sectors in order to ease the burden of information collection. It was pointed out that a wider range of information results in quality research.

Researchers were urged to pick a topic that is current and avoid irrelevant topics or areas that have already been bypassed due to time. It was pointed out that in order to do an academic research; every researcher needs a problem statement. What does your study aim to achieve or what solutions does it present for the challenges being faced in various industries?

The importance of the style of writing was also highlighted. The research has to be objective, precise, concise, and well referenced. The researcher has to be critical in his or her analysis and be open to challenging the information that is available on a particular topic. Methodology was stressed as a critical factor in a successful research. Without using proper methods during research, the researcher is very unlikely to get proper results that will be used to come up with useful recommendations

8. SPECIAL PRESENTATIONS FROM KENYA

TRS as a Measure of Supply Chain Performance: The Successful Experience through the Lens of Kenya Customs

Presenters: James Ndege and Peter Kerage, Kenya Revenue Authority

The researchers introduced the topic and noted that the WCO Time Release Study (TRS) is a unique tool and method used to measure the actual performance of Customs activities as they directly relate to trade facilitation at the border. It relates to imports, exports, and in-transit movements. It measures standard processing times linked to operational procedures carried out by Customs and other regulatory actors to determine efficiency.

The delegates were informed that Kenya was the first country in Africa to use TRS and has used it in its entirety to measure performance, serving the department on various occasions by evaluating customs release activities for persons and commodities at land, air, and sea ports. The TRS provided Kenya with practical data in terms of clearance times, leading to strategic policy decisions geared at even greater efficiency by implementing modernization initiatives.

Various benefits of using TRS were highlighted, including trade facilitation; reduction of supply chain time from arrival to releasing cargo; reduction of transaction costs for businesses; promotion of investment in a broader manner; contribution to economic development of countries; and prosperity, simplification, and harmonization of customs procedures, which lead to the automation of Customs processes and measures to improve compliance or enforcement.

Annex 15: TRS as a Measure of Supply Chain Performance: The Successful Experience through the Lens of Kenya Customs

Impact of Pre-Export Verification of Conformity (PVoC) on Trade Revenue in Kenya

Presenter: Bernard Kirui, Kenya Revenue Authority

The Researcher informed the delegates that the PVoC programme is a conformity assessment and verification procedure implemented with an effective date of December 1, 2015, by KRA and KEBS. PVoC seeks to ensure quality, health, and safety of products imported into the country. The programme is expected to curb undervaluation, concealment of imports, and improve quality and revenue yield per import unit. A certificate of conformity (CoC) is required for all consignments. The COC is obtained from these authorized agents: Messrs Bureau Veritas, China Certification and Inspection Group, Intertek International, and Société Générale de Surveillance (SGS). Specific consignments may be allowed to undergo destination inspections after appropriate application but are subject to a surcharge of 15% of the CIF value and a bond above the testing and inspection costs.

The delegates were informed that to understand the challenges facing PVOC operations, a descriptive research design was used. The design involved an online survey targeting 24 PVOC unit officers. The gravity model was also used to gauge the impact of the PVoC on revenue and trade values. The gravity model has been applied widely, and the World Trade Organization (WTO) and the United Nations Conference on Trade and Development (UNCTAD) have issued guides to its use in analyzing trade policy.

The study resulted in various recommendations such as facilitating officers with advanced verification tools (non-intrusive technology, scanners), printers, cameras, transportation, and office space to effectively enforce a 100% inspection of sampled containers and consolidated cargo.

Annex 16: Presentation on impact of Pre-Export Verification of Conformity (PVoC) on Trade Revenue in Kenya

9. SPECIAL PRESENTATIONS BY BOTSWANA

Data Analysis: Botswana Unified Revenue Services (BURS)

The delegates were informed that BURS has various data sources such as declarations created by customs clearing agents and traders using the Customs Management System as well as data from other government agencies (OGAs).

It was noted that manual data are difficult to analyze, and thus there is a need to implement the Customs Reform and Modernization programme and ensure that Administrations move toward a paperless system. It was pointed out that the Implementation of the National Single Window will bring together OGAs and link them to Customs, which will result in more data from OGAs.

It was further pointed out that data sent to Statistics Botswana is analyzed and published for public consumption. Customs also does its own data analysis for various reasons such as risk management, misclassification, undervaluation, decision-making, and so forth. Customs extracts the data using Structured Query Language (SQL).

It was also noted that data analysis is done using MS Excel and Access. The data analyzed by Customs are not for public use, and Customs is not currently analyzing data from open sources such as UNCOMTRADE. The meeting was also informed that due to a lack of advanced data analytics systems, Big Data is also not available and hence not analyzed.

10. SPECIAL PRESENTATIONS BY SOUTH AFRICA

Data Administration: South African Revenue Services (SARS)

The delegates noted that there are four central data hubs, including branch, clearing agents, ports of entry, and others. The importance of scanning data to minimize errors, document verification to prevent under declaration and misclassification, fast trade facilitation through the use of the green channel, and minimization of corruption through central control of processes was pointed out.

It was also noted that while carrying out data analysis, SARS considered various aspects such as trade balance, monitoring (dumping and industry protection), policy (trade agreements), revenue estimation, academic research, operational strategy (building capacity among staff and putting various measures and infrastructure in place to facilitate trade), and risk analysis.

The delegates were further informed that there are various aspects to be considered while carrying out risk analysis. They include transaction/audit analysis - Under, mis, over declaration (unit price), trend analysis (economic), compliance (payments), industry analysis (supply chain and tax implications), and trade flow analysis (country of origin/export, trade in transit, purpose code, port of entry).

11. AWARDS TO THE FINALISTS

All the researchers who presented their papers were awarded certificates, and the best three researchers were awarded trophies. A special award (Supervisor's Award) was presented to the researcher who was deemed the most cooperative and committed by supervisors.

The awards and prizes were presented by the conference's guest of honor, **Dr. Mukhisa Kituyi, Secretary General, United Nations Conference on Trade and Development (UNCTAD)** and **the head of RTC Kenya, Ms. Beatrice Memo.**

The awards were presented as follows;

1. Winning Paper Award

Researchers: ***Dr. Geoffrey Okoboi and Michael Kyanzi***

Title of Research Paper: *The Impact of Authorized Economic Operator Accreditation on Trade Facilitation: The case of Uganda*

2. 1st Runner-Up Award

Researcher: ***Frank Kalizinje***

Title of Research Paper: *Combating Revenue Fraud in WCO ESA: A Mirror Analysis through the Lens of Malawi Customs*

3. 2nd Runner-Up Award

Researcher: ***Sendra Chihaka***

Title of Research Paper: *Regional Integration: Addressing Levels of Intraregional Trade in East and Southern Africa*

4. Supervisor's Award

Researcher: ***Sudhir Dey Ancharaz***

Title of Research Paper: *Digital Customs: Best Practices in Digital Customs in East and Southern Africa: A critical Assessment of the Success Story of the Mauritius Revenue Authority*

12. OUTCOMES OF THE 2ND ESA REGIONAL RESEARCH CONFERENCE

The conference;

(a) **Importance of Regional Research:** Saluted the ESA Regional Research as a viable programme in boosting regional development. It called for more strategic partnerships and collaborative research between different Member countries, Academia, Regional Economic Communities, and the African

Union, among others, in research. This will promote gathering regional data sets, on topical issues to support trade, such as Time Release Studies, Single Window development, Coordinated Border Management, Authorized Economic Operators, informal trade, among others.

(b) Low Levels of Intra-African Trade and support to Continental Free Trade Area: Decried the low levels of intra-regional trade in East and Southern Africa as well as in Africa. It nevertheless took note of growing intra-regional trade in East Africa and urged concerted efforts to improve the levels in the region and continent. It called for the removal of Non-Tariff Barriers which continue to hinder free movement of goods and persons and encouraged intentional measures to reduce the high costs of trade in the Region. The conference equally highlighted the need to optimize production and promote proper resource allocation to key stakeholders. It saluted the efforts of the African Union in achieving the Continental Free Trade area and hoped for speedier conclusions on the negotiations.

(c) Importance of TFA, its Ratification and Implementation: Underscored the importance of the WTO Trade Facilitation Agreement and urged continued support to

(d) Members by the World Customs Organization, considering the WCO's preparedness, tools and instruments, to support TFA. It called on for greater partnerships, collaboration and support for Members in matters related to Trade Facilitation. It took note that about half of the East and Southern African Region, and about the same in Africa have ratified the TFA and urged continued ratification and implementation by Members. The conference recognized the many players involved in trade facilitation and urged harmonization of systems and IT platforms.

(e) E-commerce: Recognized the continued growth of e-Commerce, its opportunities and challenges in light of the ever changing Customs and Trade environment. It called for concerted approaches to harness the opportunities presented by this trade as well as measures to counter threats paused by e-Commerce against the society, revenue and security.

(f) Security: Recognized the need to ensure secured global chains in trade in light of continued measures to support trade facilitation. It acknowledged measures taken by the World Customs Organization in promoting security, particularly in light of the Punta Cana Resolution. It called on the Region to promote digitization, align to best practices and share experiences. Furthermore, it highlighted border security challenges, particularly in the various volatile borders with the region and the continent and encouraged cooperation and increased political will among all the countries. Of concern was the security actors' lack of awareness of the challenges in the borders and their failure to take into account the status of the borderland. The conference also urged the incorporation of the public health departments in research, considering the place of Customs as a lead boarder agency and the threats posed by chemical weapons, bioterrorism (such as anthrax), among others.

(g) Data Analysis and Management: Agreed that Customs has a huge amount of data which is yet to be fully harnessed to further national and regional development. It recognized measures by certain Members especially in establishing data centres and called for the need to continually secure the integrity of data. It stressed the importance of the interface between big data and analytics in effective data analysis.

13. LISTING OF ANNEXES

Annex 1: Speech of the Commissioner General at the Opening of the 2nd ESA Research Conference

Annex 2: Programme of the 2nd ESA Research Conference

Annex3: Keynote Address by Erastus Mwencha

Annex 4: Presentation on the Measures Implemented by the Mauritian Customs to Bolster Border Security

Annex 5: Presentation on Combating Revenue Fraud in WCO ESA: A Mirror Analysis through the Lens of Malawi Customs

Annex 6: The Presentation on the Dwindling of Customs Revenue Collection by Intra-Regional Trade Liberalization; Is There Possible Way Out for Developing and Least Developed Countries? Case Study of Malawi

Annex 7: Presentation on Regional Integration: Addressing Levels of Intraregional Trade in East and Southern Africa

Annex 8: Presentation on the Impact of Regional Integration on Intra-Regional Trade in the East African Community

Annex 9: Presentation on the Impact of WTO Trade Facilitation Agreement on Trade Openness: Evidence from Eastern and Southern African Countries from 2005 to 2016

Annex 10: Presentation on Securing and Facilitating Trade in Eastern and Southern Africa

Annex 11: Presentation on the Impact of Authorized Economic Operator Accreditation on Trade Facilitation: The Case of Uganda

Annex12: Presentation on Leadership and Change Management Tools Required to Successfully Implement Border Agency Cooperation (Article 8) of the WTO Trade Facilitation Agreement in Eastern and Southern Africa

Annex 13: Best Practices in Digital Customs in East and Southern Africa: A Case Study of the Mauritius Revenue Authority Customs

Annex 14: Digital Customs: The Successful Experience of the Mauritian Customs

Annex 15: Presentation on TRS as a Measure of Supply Chain Performance: The Successful Experience through the Lens of Kenya Customs

Annex16: Presentation on the Impact of Pre-Export Verification of Conformity (PVoC) on Trade Revenue in Kenya

The annexes not available in the book may be accessed on our website (www.wcoesarocb.org).

14. CONFERENCE ORGANIZING TEAM AND REPORT SECRETARIAT

CONFERENCE ORGANIZING TEAM

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2.	**Dr. Fred Mugambi** Deputy Commissioner, Co- Chair	2.	**Ms. Faith Mosongo** Programme Officer
3.	**Mr. Levi Mukhweso** Principal	3.	**Ms. Primrose Maina** Administrative Assistant
4.	**Ms. Eunice Njenga** Chief Manager	4.	**Mr. Eric Kaburu** ICT Intern
5.	**Ms. Caroline Wairimu** Officer	5.	**Ms. Haido Igwo** Project Assistant, WCO ESA Project II
		6.	**Ms. Judy Mwaura** Administrator and Personal Assistant to the Director
		7.	**Mr. Andrew Odhiambo** Finance Officer
		8	**Mr. David Ladu** Programme Officer

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Mohammad Imteaz Auckburally is a Customs Officer currently posted at the Unstuffing Section, Customs Department of the Mauritius Revenue Authority (MRA). He is a holder of a Bachelor Degree in Management from the University of Mauritius. He joined Customs in 2013, and prior to that he has worked as an educator in a private institution in Mauritius.

Frank Kalizinje

Frank Kalizinje is a Business Intelligence Analyst/Researcher and holds a Master of Arts degree in Tax Policy and Tax Administration from the Berlin School of Economics and Law. He is an economist by profession and holds a Bachelor Degree in Social Science majoring in Economics with Sociology as a minor from Chancellor College-University of Malawi. His working paper on 'VAT Revenue Productivity and Reforms in Malawi: A Performance Diagnosis and Options for Further Reform' was presented at the 2015 African Tax Research Network (ATRN) conference and has since been published in the 2015 ATRN e-journal. The paper was also presented at the International Institute of Public Finance (IIPF) Annual Congress-Master Class in 2016 in Tahoe, Nevada, U.S.A. He has passionate interest in tax research relating to Tax and governance, Tax Policy, Customs Law and Tax Law. He possesses certificates in Rethinking International Tax Law from Leiden University, International Trade Law and Development as well as Quantitative Trade Policy Analysis from Trade Policy Training Centre in Africa (TRAPCA). He is also a graduate of the 1st Virtual Customs Orientation Academy (VCOA) which was hosted by World Customs Organization in 2014. He is currently working on two research projects the first one involves analyzing the relationship between transfer pricing and customs valuation and the second one is the incumbent one which focuses on mirror analysis and customs revenue fraud in WCO ESA. Before turning into a Customs Officer at Malawi Revenue Authority, Mr. Kalizinje once worked in numerous research projects as a supervisor / enumerator.

Murendere Chaponda

Customs Officer who has worked in various customs clearance departments which includes Declaration Processing Centre, Inland and Border Stations and Technical Department of the Malawi Revenue Authority's Head Office. A holder of Masters of Arts Degree in Economics from the University of Malawi, Chancellor College and a Bachelor's Degree in Business Administration.

Sendra Chihaka

Sendra Chihaka is an aspiring researcher whose research interests are in trade and development issues. She has done scholarly research on Customs Procedures as a Barrier to Trade, Corruption and effectiveness of Trade Facilitation in SADC, Importers perceptions of Corruption in Customs, One Stop Border Posts as a Trade Facilitation Tool (published in the 1st quarter 2017 issue of WCO ESA ROCB newsletter) among other research.

Sendra holds a BSC honours degree in Economics from the University of Zimbabwe, a Master of Science degree in Development Studies from the National University of Science and Technology, Zimbabwe and a FIATA trainer certificate for courses leading to the FIATA Diploma in Freight Forwarding. She is currently studying towards a Master's degree in Trade Policy and Trade law with the Lund University (Sweden) through Trade Policy Training Centre based in Arusha Tanzania. She also received training in the following areas: Advanced Customs and Taxes, Gender and Development, Prince 2 Project Management, WCO Revenue Package, International Trade Policy and Development, Quantitative Trade Policy Analysis, Border Agencies and Trade Facilitation, Trade Facilitation and Agricultural Standards, Logistics and Trade Facilitation, Trade Facilitation and Development, International Trade Facilitation Law, Introduction to Trade Negotiations and Cooperation.

Sendra has been working as a revenue officer at the Zimra Revenue Authority (ZIMRA) for the past 12 years. She possesses vast knowledge and skills in customs procedures, rules of origin, customs valuation, Harmonise System of classification, imports and exports, trade policy analysis and auditing organisational procedures. She has also presented at various trade fora and liaised with other government agencies on behalf of ZIMRA.

Ronald Nsubuga

Ronald is a Development Researcher. Ronald has conducted research on international trade issues including but not limited to regional integration, customs issues and laws, customs administration and systems, tariffs and non-tariff barriers among others. He has broad experience in survey/evaluation designs and analysis of qualitative and quantitative data.

Julius Kugonza

Julius is a Certified Project management Professional (PMP) with a Masters' degree in Economic Policy and a Bachelors' degree in statistics from Makerere University, Uganda. He is also a trade policy design, analysis and Negotiation fellow from the University of Adelaide – Australia and University of Cape Town-South Africa. His areas of expertise include project management, monitoring & evaluation, socio-economic research design, data management & analysis and related preparation required for trade negotiations. He has worked for Uganda Revenue Authority as a Customs Statistician and managed international trade data to ensure its reliability and availability for effective tax and trade policy formulation, effective risk management and informed decision making. He also worked with Uganda Cares-AHF as a Data Manager where he participated in the development and review of data collection tools, supervised data collection, data entry as well as data analysis on the test and treat project. He began his career as a Field Team leader with Uganda Bureau of statistics where he participated in survey designs, supervised data collection, cleaning and entry in a number of different socio-Economic surveys like the Census of Business Establishments, Resource flow survey, Uganda National Household Survey, Demographic Health Survey and annual business inquiry. Julius has also worked as a Trade Expert at the East African Community-EAC and a Consultant at the Common market for East and Southern-COMESA. He has done research on Trade facilitation, food Security and urbanization in sub Saharan Africa and presented policy research papers in Italy, Philippines, Ethiopia, Kenya and Zambia.

Ferdinand Ntuli

Ferdinand Ntuli is currently a PhD student with Fort Hare studying public administration and is working as a university administrator. His main areas of interest are customs administration. His work experience includes more than 10 years as a customs officer and 2 years lecturing at Chinhoyi University of Technology in customs practice and legislation. Ferdinand aspires to contribute to the improvement of customs administration particularly in developing countries.

Dr. Geofrey Okoboi

Dr. Okoboi heads the Directorate of Economic Regulation at the Uganda Electricity Regulatory Authority. Prior, Dr. Okoboi headed the Sectoral Department and worked as Research Fellow at the Economic Policy Research Centre at Makerere University. Previous placements include working at Kyambogo University as lecturer in Economics and Statistics department; and Research analyst at International Institute of Tropical Agriculture (Uganda). Dr. Okoboi has published in several journals including Journal of Economic Structures (springer), energy, sustainability and society (springer), journal of sustainable development (Canadian Centre of Science and Education), African Journal of Food, Agriculture, Nutrition and Development. Also, Dr. Okoboi has also published several working papers including one with the Africa Growth Initiative at Brookings. Dr. Okoboi holds a Ph.D. in economics from Makerere University

Michael Kyanzi

Mr. Kyanzi heads the Business Analysis function at Uganda Revenue Authority under the Research Planning and Development Division. Previously Michael served as the Supervisor Strategy Development and Management Unit, Ag. Head of Modernization Programmes and Head Corporate Performance Reporting, Monitoring and Evaluation. Prior, Michael served in the Customs Department of Uganda Revenue Authority as the International Trade Specialist. Michael holds a Master's Degree in Economic Policy Management from Makerere University and is finalizing his Master's Degree in International Trade Policy and Trade Law from Lund University Sweden.

Nassika Anandee SONNAGEE

Ms. Nassika holds a Bachelor Degree in English Language from Pune University in 2002, Diploma in Information Technology from the National Institute of Information Technology (NIIT) in 2006 both in Pune, India. In addition, Ms Nassika SONNAGEE has completed a distance learning course in Intellectual Property by WIPO Academy in 2009 and an MBA general from the University of Technology, Mauritius in 2011.

She has worked for nearly nine (9) years at the Customs Department of the Mauritius Revenue Authority. Throughout her years spent at the Mauritius Revenue Authority, Ms Nassika Anandee SONNAGEE has worked in different sections at Customs department. She was based at the Capacity Building Team in Director Customs' office for three (3) years where she was very active in coordinating workshops such as the WCO ESA meeting held in 2011 and involved in various Capacity Building projects.

Ms Nassika is currently working at the Customs Management System-IT section, working on the core modernization projects of the MRA Customs. Thus, she has a keen interest in trade facilitation and Customs reforms and modernization. In 2016, she attended three (3) weeks seminars on Customs administrations in Beijing, China.

Last but not the least; she is also Member of the International Network of Customs Universities (MINCU) since 2014.

Késhika Gupta QUEDOU

Ms. Késhika holds a Bachelor degree in Management (Minor: Information Systems) in 2013 and a Master in Total Quality Management and Performance Excellence from University of Mauritius in 2015.

In 2010, Késhika joined the State trading Corporation, in the department of Finance, as a trainee. In 2012, she joined Fashion and Design Institute, in the department of Finance and Student Affairs department for one year.

In 2014 she joined the Mauritius Revenue Authority and posted in the Finance and Administration department as support officer for two (2) years. She was appointed in the Customs department in 2016 as Customs Officer I and is presently posted at the Customs Management System-IT section.

Furthermore Ms Késhika has been participated actively in the Organisation for Economic Co-operation and Development (OECD) Global Forum Meetings in Mauritius organized in collaboration with the Mauritius Revenue Authority (MRA) its 5th Competent Authority Conference (CAC) in Mauritius and 8th Automatic Exchange of Information (AEOI) Working Group Meeting. Secondly, she contributed in the Second Training of Trainers Workshop as Secretary September 2016. Where the Mauritius Revenue Authority (MRA) hosted the 2nd World Customs Organisation (WCO) East and Southern Africa (ESA) Training of Trainers (ToT) Workshop at the Address Boutique Hotel, Tombeau Bay.

Sudhir Dey ANCHARAZ

Mr. Sudhir has worked for 18 years at the Customs Department of the Mauritius Revenue Authority. He holds a Diploma in Business Studies from the London Chamber of Commerce and Industry, a Bachelor Degree in Management and MBA from the University of Mauritius; and a Master in Customs Administration from the University of Muenster, Germany. In 2014, he also participated in the 64th WCO Fellowship Programme in Belgium and South Korea. Mr. Sudhir Dey ANCHARAZ has worked in various sections at Customs. He was based at the Capacity Building Team in Director Customs' office for several years and is currently working at the Excise Section for the control of importation of petroleum products. He has a keen interest in trade facilitation and customs reforms and modernization. He is also Member of the International Network of Customs Universities (MINCU) since 2015.

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Dr. Mupanduki (nee Dhaerah) is Head Human Capital Development with the Zimbabwe Revenue Authority (ZIMRA) in charge of Zimbabwe Revenue Authority Regional Training Centre. She has been with ZIMRA since 2001 and has been a manager since 2005. She once was Head Research and Development as well as Head Technical Services within the Customs and Excise Division. This is her second time to participant in the ESA Regional Research Conference. She did a presentation when it was officially launched in Harare, Zimbabwe.

She did a Research for United Nations Conference on Trade and Development (UNCTAD) on Assessment of readiness for Zimbabwe to implement the WTO Agreement on Trade Facilitation. The implementation plan was adopted by the government of Zimbabwe.

She is a holder of Masters' Degree with the Midlands State University, Bachelor of Business Studies honors degree with the University of Zimbabwe and other qualifications in line with her work. She is an accredited risk analyst recognized internationally

Dr. Dennis Ndonga

Dr. Ndonga is a Lecturer at Murdoch University School of Law, Australia. He holds a Bachelor of Laws degree from The Catholic University of Eastern Africa, Kenya, a Masters of Laws in Commercial Law and PhD from Monash University, Australia. His research areas include: trade facilitation, single windows, e-commerce and special economic zones. He is the author of the 2015 book, "Single Windows and Trade Facilitation". Over the years Dennis has worked with various international organizations and Customs colleges including the WCO, Kenya School of Revenue Authority and Shanghai Customs College. He is currently a member of the International Network of Customs Universities (INCU) and the Society of International Law.

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