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AGRIBUSINESS, TRADE AND INVESTMENT TRENDS IN AFRICA

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Abstract

This paper answers three questions, namely: (i) Is Africa trading with its self-enough? (ii) What are the driving and restraining forces of agribusiness development in Africa? (iii) Why agribusiness development, trade and invest in Africa? A review of relevant literature coupled with panel data econometric estimation based on 12 African countries for a period of 11 years (spanning from 2005 to 2015) was used to address the stated questions. Findings suggest that African countries are trading less with each other as compared to trading with non-African countries. Intra-African trade is dominated by grains, followed by vegetables and fruits and South Africa is a key trading partner on the continent. The increasing in population dynamics, urbanization, growing middle class with differential incomes, increase in consumption patterns on basic and diversified products and food waste are some of the driving forces of agribusiness while identified restraining forces include policy uncertainties, lack of infrastructure, trade distortions and climate change. Policy implications: There is need to; enact free trade within Africa (removal of trade barriers), develop infrastructure across the continent, and ensure political stability given that these factors will lead to increased development of agribusiness sector, more investment and competitive intra-Africa trade.

1. Introduction and background

Globally, agriculture is a big business. The upstream and downstream activities account for about 78% of the total global value chain (Brookfield Agricultural Group, 2010). In Africa, primary agriculture accounts for about 24% of the Gross Domestic Product (GDP). The agribusiness suppliers, processing, marketing and retail add about 20% of the GDP (IFAD, 2016). Combination of primary and secondary agriculture implies that African agriculture contributes an estimated 45% of GDP making agriculture the main economic sector. For example, the contribution of agriculture to the GDP in Nigeria was at 20.9%, Indonesia was at 14.5%, China was at 9.0%, Botswana at 2.4% and South Africa was at 2.3% during 2015 (World Bank, 2016). As a consequence, it can be said that most of the African countries depend on agriculture for their livelihoods (employment and income generation). The illustrations provided clearly show that more development and investment is still needed in the African countries to advance the contribution of the agricultural sector towards its economies. On the contrary, developed countries depend more on the service sector and industrialization and less on agriculture. For example, the United State of America (USA), the United Kingdom (UK) and countries within the European Union (EU) recorded less than 2% in the contribution of agriculture to the GDP, but more than 20% on industrialized sectors and more than 60% in the service sector during 2014 (IMF, 2016). This comparison shows

that Africa is still far from development and it will require significant amount of resources to change the current picture of dependency on agriculture to the other sectors of the economy.

The agricultural sector is responsible for the production and marketing of different agricultural commodities namely, field crops and horticulture. Animal production (e.g livestock and fisheries) also form part of the key agricultural industry production. Commodities produced are generally traded in various markets such as in the local, national and export markets. Trading of the fresh produce industry for example requires sorting, washing, storage, packaging and packing (which includes branding), and transport before distribution to the markets. While in the livestock industry there is a need for feedlots, auctioneering facilities, slaughter houses, cold storage and transportations of fresh meat prior to the marketing itself. In the grain industry, there is a need for huge chunks of land, capital investments such as combine harvesters, silos, storage, rail, trains and trucks to move commodities. In addition, there are other sectors that develop further when the agricultural sector is booming. These might include manufacturing industries which are responsible for conversion of raw agricultural materials into processed products. The creation and expansion of all the agribusiness and its related value chain (agro-industries) mentioned will require massive investment for trade to occur.

Existing literature on agricultural business development shows that there is more beneficiation when commodities are processed as compared to when there is less processing or when raw agricultural commodities are traded (Mlambo, 2016). This implies that if more agricultural commodities can be produced, processed and traded in the African and international markets, significant country growth in terms of GDP values can be achieved as well as food security status. This will translate into additional job opportunities through further processing and handling as other sectors of the economy will be created through forward linkage process. However, in order to create and expand the agribusiness opportunities in Africa more investment from both the public and private sector is required. Banks and developmental financial institutions must be willing to amend their strict lending policies and criteria so that entrepreneurs can invest money in the agribusiness industries.

These lead us to attempt to address the following three research questions about agribusiness, trade and investment in Africa.

1) Is Africa trading with its self-enough?
2) What are the driving and restraining forces of agribusiness development in Africa?
3) Why agribusiness development, trade and invest in Africa?

2. Methodology and analytical framework

To answer the three research questions, a comprehensive review of relevant literature, personal communication with industry experts and compilation of trade data was conducted. To address the question of whether Africa is trading enough with itself, we analyse how much intra-African trade occurs visa vie trade with the rest of the world. In addition, we also look at the proportion of the markets assumed by African exports relative to the share of imports in African markets. Furthermore, we look into maize, fruits and vegetables as the most commonly traded agricultural commodities and the major trading partners. For the second research question, on top of reviewing relevant literature and experts' opinions, an empirical econometric estimation of the extent to which some of the forces impact on intra-African trade was also undertaken as detailed in the subsequent paragraph.

To empirically assess the driving and/or restraining forces that impact on intra-African trade we used panel data techniques to analyse data obtained from TradeMap database. Data employed spans for a period of 11 years (2005-2015) and 12 African countries were used in the analysis. Six of the countries (Nigeria, Ethiopia, Egypt, DRC, Tanzania and Uganda) are projected to have burgeoning populations by 2030 while the others (South Africa, Botswana, Zimbabwe, Kenya, Cote D'Voire and Morocco) are among the top ten countries involved in intra-African in agricultural products. We used agricultural exports in thousand US dollars (*LnAgr_X*) as the dependant variable and data was obtained from the TradeMap database. The specified model is as expressed in the following equation, with explanatory variables presented in Table 1.

$$LnAgr\_X_{ij,t} = LnX1_{ij,t} + LnX2_{ij,t} + LnX3_{ij,t} + LnX4_{ij,t} + LnX5_{ij,t} + LnX6_{ij,t} + LnX7_{ij,t} + LnX9_{ij,t} + LnX9_{ij,t} + X10_{j} + \varepsilon_{it}$$

With the exception of membership to a trade bloc (X_{10}), all the other variables were transformed into their natural logarithms (Ln). To estimate the specified model, two approaches were used. That is, *i*) the Generalized Least Squares (GLS) and *ii*) robust regression so as to control the problem of outliers. The GLS estimator assumes that the panels are heteroskedastic with no autocorrelation.

Table 1: Description of variables and data sources used

Variable	Factor	Proxy used	Data source
X_1	Population dynamics	Population growth (annual %)	World Bank Development Indicators (WDI)
X_2	Investment in Agric sector	Credit to Agric sector (US$, Current prices)	FAOSTAT (2016a)
X_3	Stability in supply agric. food items	Per capita food production variability (constant 2004-2006 thousand US$)	FAOSTAT (2016a)
X_4	Land availability	Percentage of arable land equipped for irrigation	FAOSTAT (2016b)
X_5	Consumption patterns	Average dietary energy supply adequacy	FAOSTAT (2016b)
X_6	Urbanisation	Urban population growth (annual %)	WDI
X_7	Infrastructure	Mobile cellular subscriptions (per 100 people)	WDI
X_8	Political Stability	Political stability and absence of violence/terrorism	FAOSTAT (2016b)
X_9	Trade distortions	Time to export (days)	WDI
X_{10}	Tariffs and Non-Tariff measures	Number of trade blocs to which a given country is an ascribed member	Focus Africa[1]

Note: *Seven trade blocs were considered, namely; Common Market for Eastern and Southern Africa (COMESA), Economic Community of West Africa States (ECOWAS), Southern Africa Development Community (SADC), South Africa Customs Union (SACU), West Africa Economic and Monetary Union (UEMOA), East Africa Community (EAC), and Economic Community of Central Africa States (ECCAS).*

3. Results of the study

In this section trade flow between African countries is analysed, first with respects to all products and secondly with respect to the agricultural commodities. The main purpose is to examine if African countries are trading with each other and to investigate elements of market integration. However, it is important to note that some African countries' trade performance is not reported and where information was not available, mirror data was employed as per the International Trade Centre (ITC) records. In addition, it is important to note that informal trade is not accounted for in the analysis.

[1] http://focusafrica.gov.in/Trade_Agreements_Africa.html

3.1 Intra-African trade

To answer the question of whether Africa trades enough with its-self, an assessment of intra-African trade was based on aggregated agricultural commodities and on two of the most traded agricultural commodities. In this case, maize and fruits and vegetables (FV) were used to assess intra African Trade. **Figure 1** shows two perspectives, namely: intra African trade and African trade with the rest of the world. The figure shows that trade (exports and imports) amongst African countries was very low in comparison with African trade with the rest of the world between 2001 and 2015. On average, intra-African trade was valued at US$54 million per annum for exports and at about US$52 per annum for imports. Trade amongst African countries exhibits insignificant growth during the period under review. This observation may be indication of persistent technical and non-technical trade barriers amongst African countries.

Taking into consideration that informal trade is not forming part of the analysis, the picture may be slightly different. The lack of data on informal trade also manifests itself as a problem hampering effective planning and designing of appropriate policies to foster intra-African trade. However, if it was recorded, formal trade could have increased. This implies that if African countries were to improve on record keeping of their trade a lot more of information on trade could come to light. On the contrary, there seems to be significant trade between Africa and the rest of the world. Trade from African countries (exports) to the rest of the world was valued at an average of US$373 million per annum during the period under review (2001 to 2015) while Africa's imports were on average valued at about US$377 per annum. Generally, this implies that Africa is a net importer given the negative trade balance. However, this does not denote that the continent has been a net importer over the entire period considered in this paper. For example, Africa had a trade surplus between 2006 and 2008 and again between the period of 2010 and 2012. It was only during the period 2001 and 2005 and during 2013 and 2015 that the imports to Africa were on the rise.

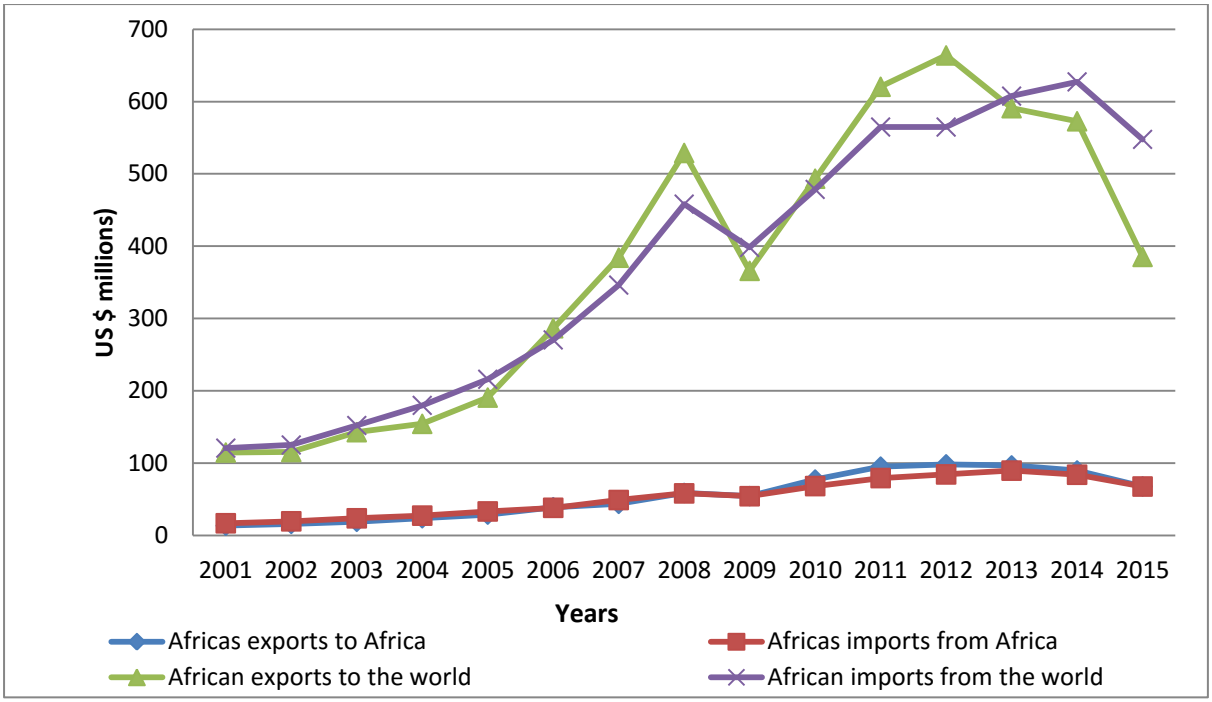

Figure1: Intra African trade and rest of the world

Source: ITC, 2016

With regards to the market share of African countries' exports, **Figure 2** shows top 10 African countries exporting to other African countries. South Africa commands the largest market share on the African continent, with an average share of about 30 percent on all the products exported during the 2011 – 2015 period. The 30 percent market share is equivalent to an average of US$ 26 million worth of goods exported during the same period. Analysis further shows that South African exports are on the positive growth path. During 2011, South Africa exported about 28 percent of all its products to Africa and in 2015 exports was at 32 percent. This represents a growth of about 4 percent in exports destined for other African countries. The second country on the export front is Nigeria with a market share of about 12.88 percent during the 2011 - 2015 period.

This share of the African market (12.9%) commensurates with US$11 million worth of all Nigeria's exports to Africa during the period under review. The analysis further reveals that Nigeria's exports to Africa exhibited annual fluctuations. For example, during 2011 Nigeria had a market share of 13.8 percent and by 2015 the market share had declined to 11.2 percent. Following Nigeria was Egypt with a market share of 4.5 percent, translating into an equivalent of US $ 4 million worth of all the products exported during the period under review. The other African countries shown account for market shares ranging between 2 percent and 3 percent.

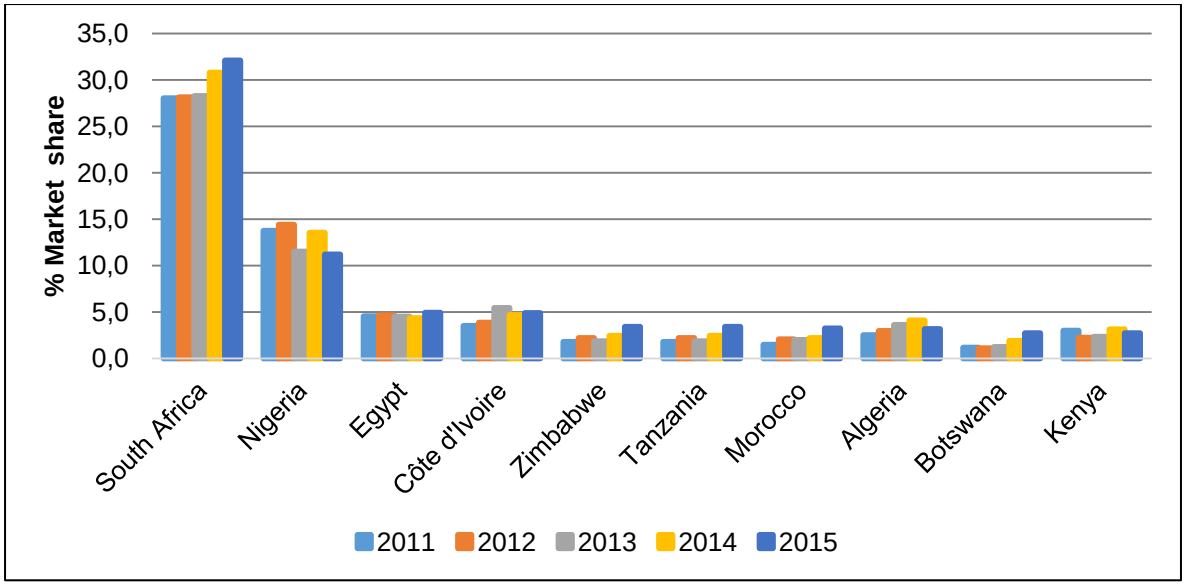

Figure 2: Top 10 African countries exporting to other African counterparts

Source: ITC, 2016

Figure 3 provides the top 10 African countries that import from other African countries. Again, it can be observed that South Africa was the leading importer with a 14.4 percent market share for all agricultural products imported during the period under review (2011 to 2015). This market share value (14.42%) was equivalent to an average of US$11.6 million worth of agricultural imports. Analytical results further show that South Africa's imports fluctuated over time. For example, a positive growth was recorded during the period of between 2011 and 2012 while a decline in growth was also registered in 2014 and 2015. This can be ascribed to changes in business cycles.

The second largest importing country is Botswana with a market share of seven percent, which is equivalent to US$5.5 million for all products imported from the African countries during the period under review (2011 to 2015). Furthermore, results reveal that Botswana's imports rose in all the years, except for 2013. Zambia commanded a market share of 6.5 percent, which was on average equivalent to US$5.2 million on all the products. Just like Botswana, Zambia registered an increasing growth in imports, which is not a good performance indicator for any country. For instance, in 2011, Zambia's imports were about 5.5 percent on all its products from Africa and by 2015 imports rose to 7.2 percent on aggregate. The market share of the other countries ranges between 2 percent and 3 percent for all the imports.

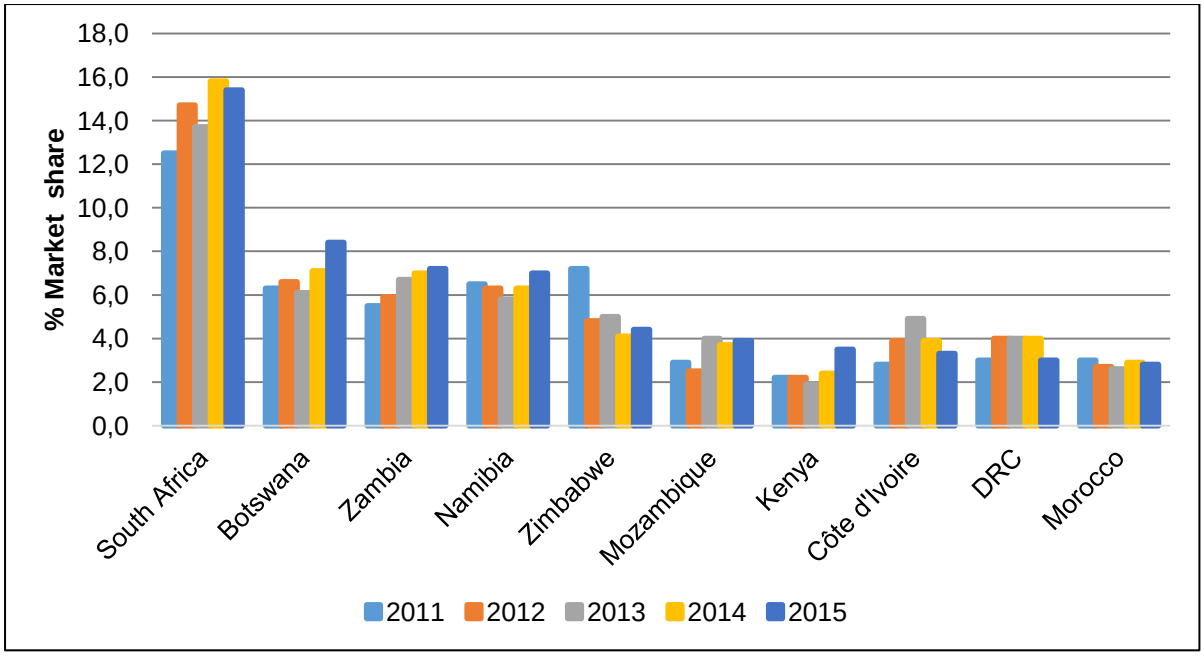

Figure 3: African countries imports from Africa

Source: ITC, 2016

From a trade balance perspective, **Figure 4** reveals that intra-Africa exports outweighs the imports from other African countries. This implies that African countries are net exporters amongst themselves. On average over the period under review, intra-Africa exports were valued at about US $90 million while imports were estimated at slightly above US $ 75 million. However, it is concerning that the values of both exports and imports are on the declining trend. The decline in both imports and exports are attributed to slow economic growth which has not only affected the African countries but also the rest of the world.

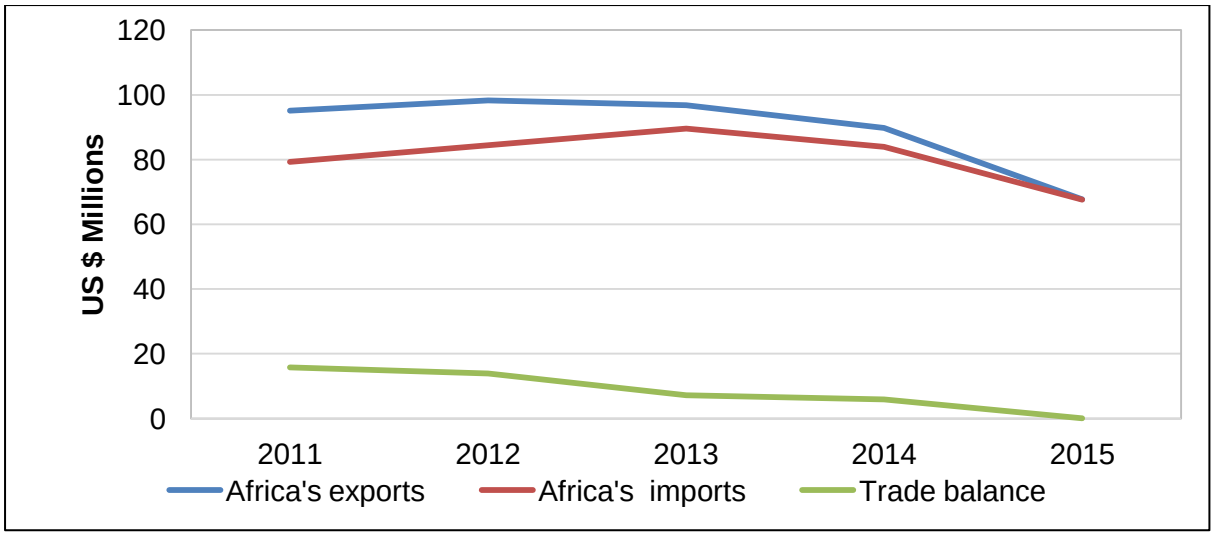

Figure 4: Intra-Africa trade balance

Source: ITC (2016)

3.1.1 Most traded agricultural commodities in Africa

a) Maize

Maize, fruits and vegetables are the most traded agricultural commodities amongst Africa countries (ITC, 2016). Zambia and South Africa are the top exporters of maize on the continent as shown in Figure 5 while Zimbabwe, Kenya, Botswana, Malawi and Mozambique are the major maize importers in Africa as shown in Figure 6. Zambia recorded a higher market share of 55 percent in 2012 and 45% in 2015 in the export of maize while South Africa registered a market share of 58 percent in 2013 and 51 percent in 2014 in the export of maize. Maize exports by Zambia and South Africa are an indication that the two countries exhibit competitive advantage in producing the crop as compared to the other African countries. In Africa, maize is regarded as one of the major staple foods hence it is not surprising when large volume of grains is traded across borders. The high level of maize trade aims at addressing food shortage problems which often arise in times of catastrophic events like droughts and civil wars which are eminent on the continent.

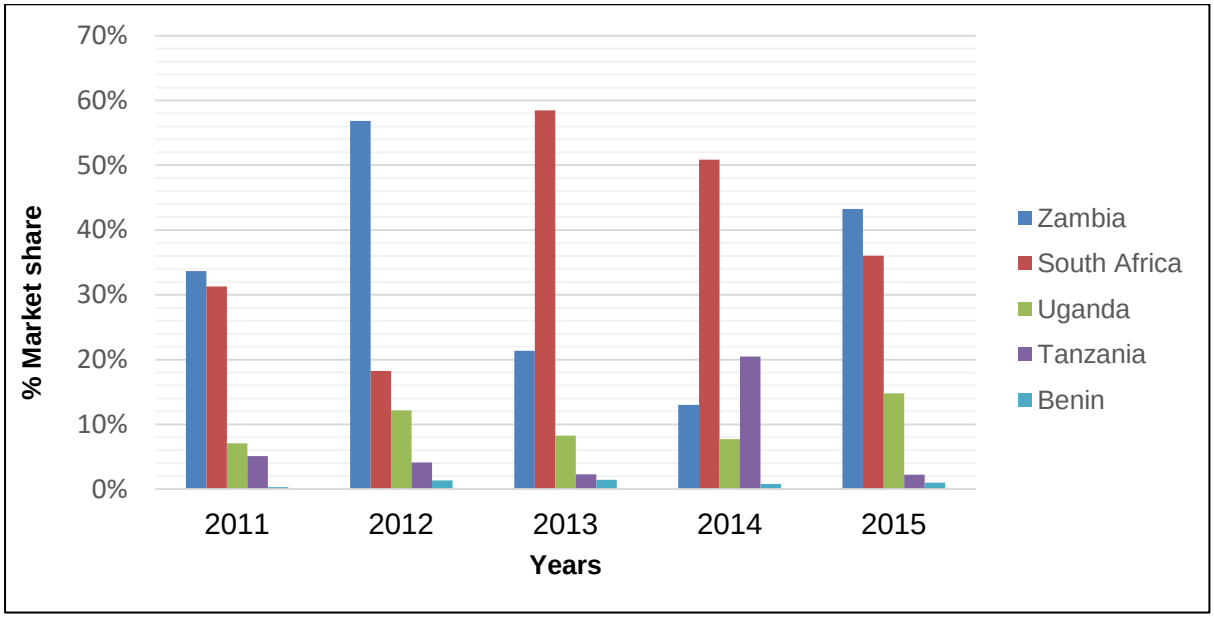

Figure: 5: Market share of intra-Africa maize exports by the top five exporters
Source: ITC (2016)

Zimbabwe's maize imports on average commanded a market share of about 30 percent during the 2011-2015 period as shown in **Figure 6**. Kenya was the second most maize importing country, with about 13 percent market share (on average) over a five years' period (2011–2015). Botswana was the third largest importer of maize, followed by Malawi, and Mozambique with an average market share of 9.4 percent, 9.0 percent and 3.6 percent, respectively during the same five years' period. However, due to the erratic climatic

conditions associated with El-Nino in Africa, intra-Africa maize imports may not be sufficient, hence Africa might consequently import more maize from other continents. For example, following the 2014/2015 prolonged drought that affected much of the SADC region, South Africa's maize imports from the Americas was valued at over R 8.8 billion with Argentina supplying more than 50 percent (ITC, 2017).

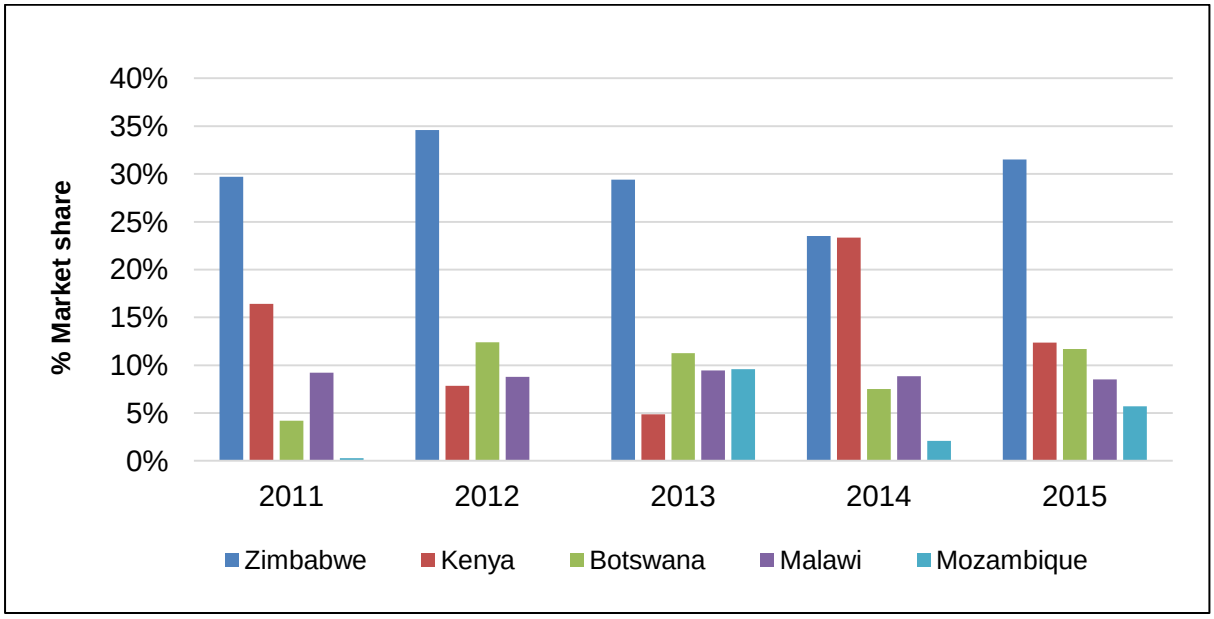

Figure 6: Intra Africa maize imports by market share

Source: ITC (2016)

b) Fruits and vegetables (FV)

Based on 2016 trade balances presented in **Table 2**, Africa is basically a net exporter of fruits and vegetables (FV) within Africa. Apples, pears and quinces (0808) are the most traded horticultural commodities amongst African countries. The value of exports from this category ranged from R 1 933 million in 2014 to over R 2124 million in 2016, while imports also depict a gradual increase.

Table 2 shows Africa's intra trade status quo in fruits and vegetables (FV) (2014 - 2016).

hs code	Product label	Africa's exports to Africa (R' Million)			Africa's imports from Africa (R ' Million)			Trade balance (R 'Million)		
		2014	2015	2016	2014	2015	2016	2014	2015	2016
'0808	Apples, pears & quinces	1933.3	2138.7	2124.0	1770.3	2229.2	1954.6	163.1	-90.6	169.5
'0804	Dates, figs, pineapples,	1166.2	1235.9	1577.9	1224.1	1312.1	1486.4	-57.8	-76.2	91.5
'0713	Dried leguminous vegetables, shelled	2054.3	2326.6	1555.9	1990.5	2309.4	1594.4	63.9	17.2	-38.5
'0701	Potatoes	1134.1	1274.8	961.7	1193.8	1200.4	650.9	-59.7	74.5	310.9

'0703	Onions, shallots, garlic, leeks …	756.2	648.8	954.1	784.4	901.8	910.4	-28.3	-253.0	43.6
'0805	Citrus fruit, fresh or dried	616.4	852.5	750.0	574.3	841.5	627.6	42.1	11.0	122.4

Source: ITC (2017)

With the exception of dried leguminous vegetables (0713) which generally show an increasing negative trade balance over the years considered in table 2, the other commodities reveal that there are more exports than imports. The positive performance may be attributed to Africa's high variation in climatic conditions as well as variation in geographical characteristics which favour horticulture production throughout the year by the different countries. This renders the continent to self-sufficient in producing for its own consumption demands.

South Africa ranked the number one exporter of FVs on the continent, followed by Egypt, Tunisia, Morocco and Ethiopia, among others (see **Table 3**) while Morocco ranked the most importer, followed by Botswana and Mozambique in that order. Annual growth rates reveal that Africa's FV imports increased at a higher rate than exports between 2005 and 2016. This may be due to the prolonged drought that affected SADC countries, particularly South Africa, the largest exporter of FVs. From the table 3, it is clear that South Africa's annual growth rate in imports was about 11 percent more than the growth rate in her exports.

Table 3: Top 5 exporters of FVs within Africa

Exporters				**Importers**			
	2015	**2016**	**% Annual growth rate (2015-2016)**		**2015**	**2016**	**% Annual growth rate**
Africa	**21086,25**	**11828,94**	**-43,90**	**Africa**	**21677,61**	**10963,70**	**-49,42**
S. Africa	4686,88	5 872,69	25,30	Morocco	1 092,57	1 347,69	23,35
Egypt	1 567,27	1 639,30	4,60	Botswana	662,91	812,82	22,61
Tunisia	1 333,52	843,49	-36,75	Mozambique	298,75	673,70	125,50
Morocco	514,26	714,62	38,96	S. Africa	486,31	665,97	36,94
Ethiopia	8 479,83	547,62	-93,54	Algeria	902,01	630,65	-30,08
Total	**16581,77**	**9 617,73**	**-42,00**	**Total**	**3 442,55**	**4 130,82**	**178,33**

Source: ITC (2017)

In 2016, South Africa's horticultural exports alone accounted for a 6.3 percent share in value in world's exports as the other African countries' shares were less than 2 percent individually. During the 2014-2016 periods, South Africa was the leading exporter of Apples, pears (0808), potatoes (0701), onions, (0703) as well as citrus (0805), amongst other commodities (see **Table 4**). Other key exporters of the mentioned commodities include Egypt and Morocco. The good trade performance of these countries is probably due to the variation in the production seasons of these horticultural products coupled support from the respective industry administrative bodies, hence they are able to supply FV all year round.

Table 4: Top three exporting and importing countries of FVs within Africa

hs code	Product label	List of top 3 supplying markets in Africa for the product imported by Africa	List of top 3 importing markets in Africa for the product exported by Africa
'0808	Apples, pears & quinces[2]	South Africa, Uganda, Morocco	Nigeria, Kenya, Senegal
'0804	Dates, figs, pineapples,	Tunisia, Egypt, South Africa	Morocco, Rwanda, South Africa
'0713	Dried leguminous vegetables	Egypt, Ethiopia, South Africa	Algeria, South Africa, Kenya
'0701	Potatoes	South Africa, Morocco, Uganda	Namibia, Botswana, Angola
'0703	Onions, shallots, garlic, leek	South Africa, Niger, Egypt	Mozambique, Angola, Libya
'0805	Citrus fruit, fresh or dried	South Africa, Morocco, Egypt	Senegal, South Africa, Mauritius

Source: ITC (2017)

Following South Africa's outstanding trade performance in exporting FVs, a further analysis reveals that Botswana, Mozambique, Namibia, Nigeria and Angola were the major market destinations for South Africa's horticultural commodities in that order. With particular emphasis on South Africa-Botswana trade given the trade agreements tailored towards removing barriers to trade between the two countries. For example, the Botswana, Lesotho, Namibia and Swaziland (BLNS) trade arrangement to which South African and Botswana are key signatories.

[2] www.trademap.org/Country_SelProductCountry_TS.aspx?nvpm=1||7||7|0808|||4|1|2|1|2|1|4|1|1

Generally, South Africa is a net exporter of agricultural commodities to Botswana. In 2016 for instance, South Africa's horticultural exports to Botswana were valued at US$ 51.2 million while imports from Botswana were estimated at US$ 4.15 million only. This situation is attributable to Botswana's smaller population (estimated at 2.3 million people in 2016) as compared to South Africa. Dried leguminous vegetables (0713) was the core horticultural commodity imported from Botswana. As depicted in **Figure 7**, South Africa export more products to Botswana, total trade was valued at $ 3.8 billion in 2015.

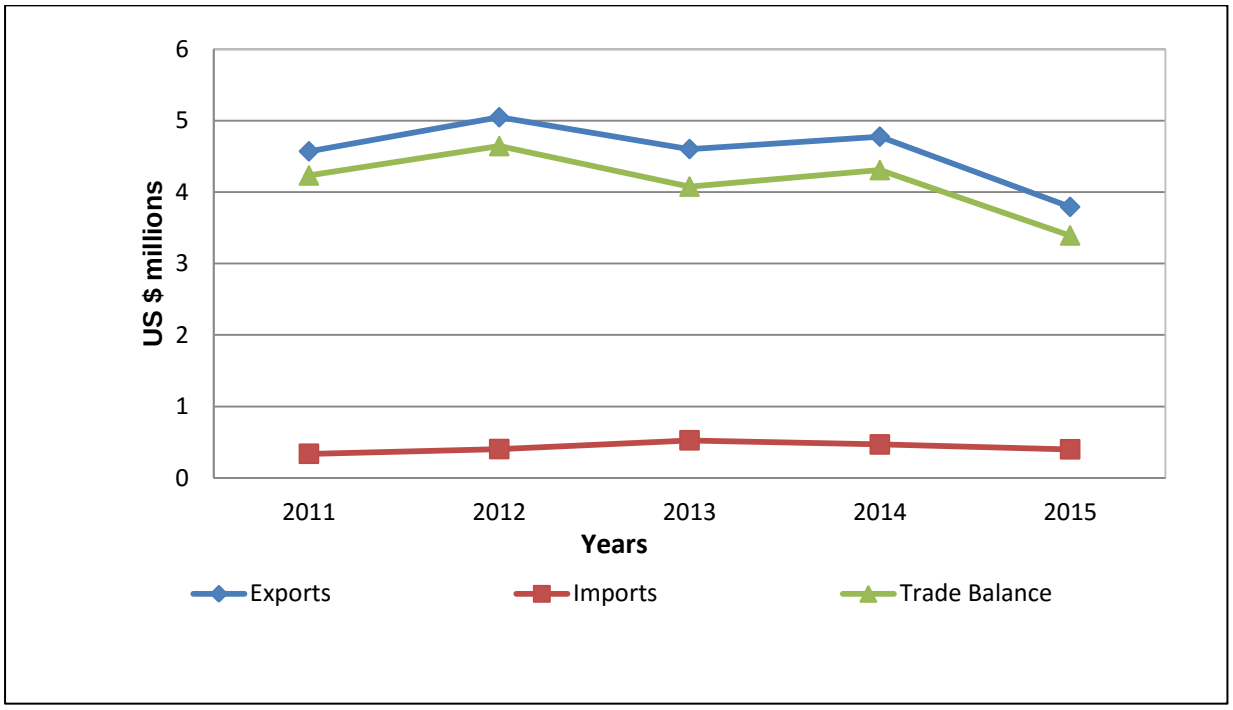

Figure 7: South Africa's trade with Botswana

Source: ITC, 2016

Unlike Botswana, South Africa mainly produces vegetables mainly for own consumption and surplus is exported to African markets. **Figure 8** below shows trade of vegetables from South Africa to Botswana during the period of 2011 and 2015. It is important to note that trade of vegetables shown in figure 8 are at an aggregated up to HS 4. The value of potato vegetables exported from South Africa to Botswana increased by 31 percent from $5.2 thousand in 2011 to $ 6.9 thousand dollars in 2015. The value of onions increased significantly by 129 percent from $2.2 thousand to $5 thousand over the past five years. However, in 2013 South Africa's gross value of exported vegetables such as potatoes, carrots, onions and tomatoes declined. Potatoes experienced a serious decline of 31 percent amongst all the vegetables exported and this was attributed to shortage of the produce due to less production by the producers. However, it appears that Botswana imported other vegetables during the same period (2013) as a substitution for the decline in the volume of the usual commodities.

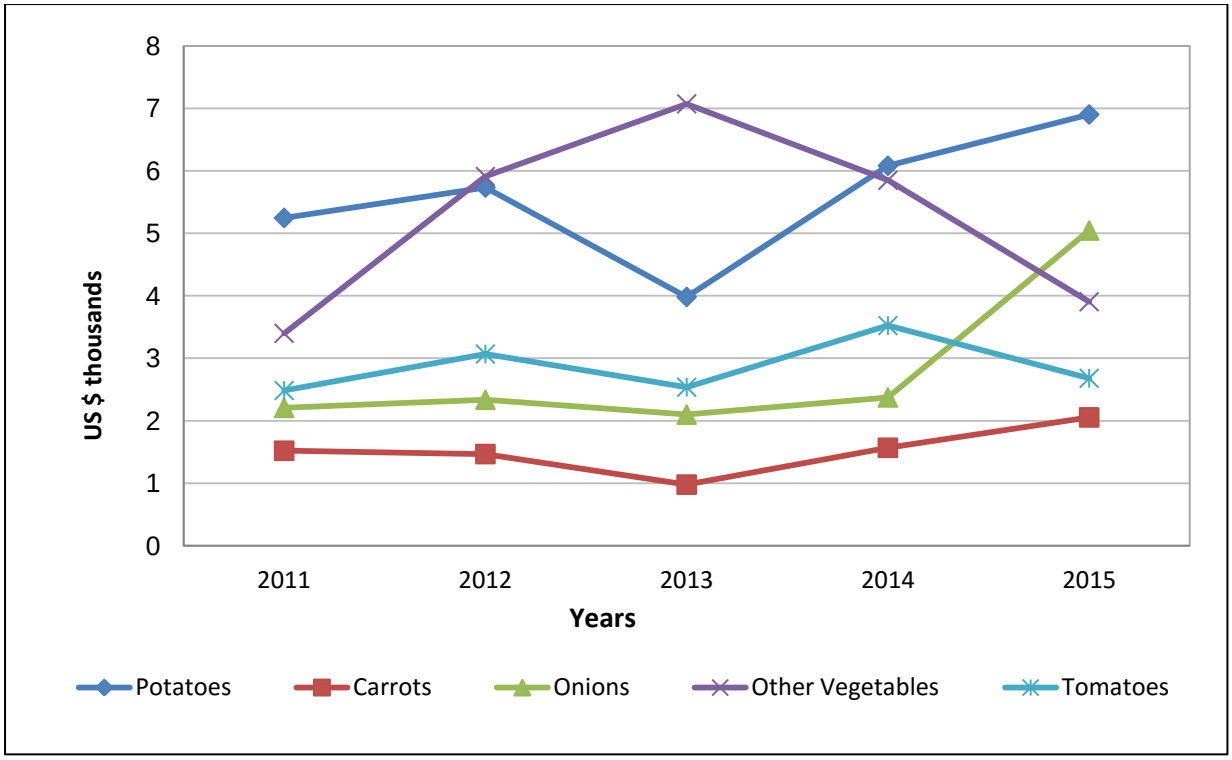

Figure 8: South Africa's vegetable exports to Botswana

Source: Trade Map (2016)

In the case of fruits, **Figure 9** shows that the value of South Africa's apple exports destined for Botswana during the 2011 – 2015 period increased by 5 percent from $8.0 thousand in 2011 to $8.4 thousand in 2015. Similarly, the value of bananas increased significantly by 15 percent from $4.8 thousand to $5.5 thousand over the past five years. Other fruit commodities that were exported to Botswana include citrus, grapes and dates. The values of these fruits were however somehow stagnant except citrus which exhibited a significant increase of 67 percent during 2015.

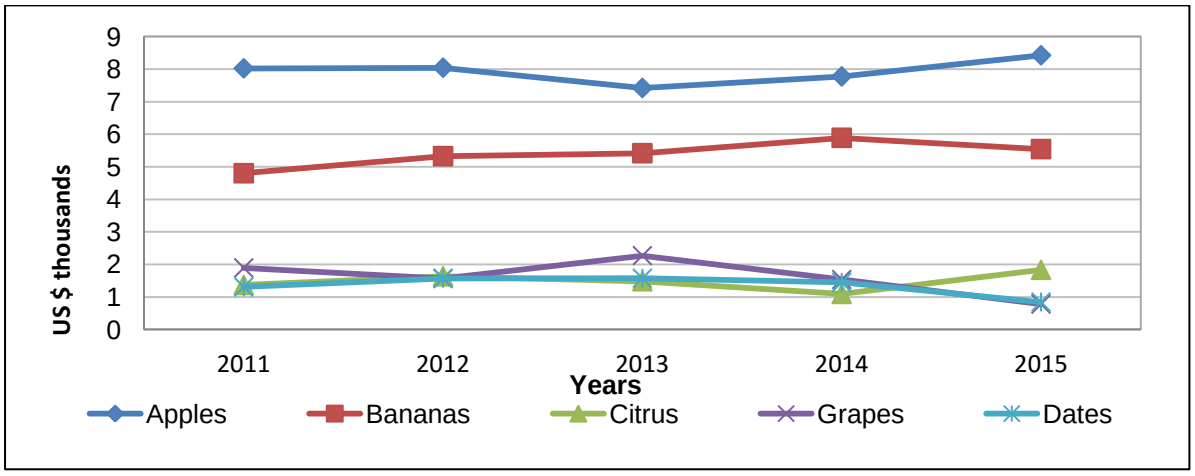

Figure 9: South Africa's fruits exports to Botswana

Source: ITC, 2016

3.2 Driving and restraining forces of agribusiness development in Africa

Based on the existing literature and personal communication with agribusiness experts, a number of factors influencing agribusiness development in Africa were highlighted as discussed in the subsequent paragraphs. In most African countries, unprocessed materials are largely exported to international markets instead of adding value at a local level before exporting. Approximately, 60 percent of Africa's land is arable, but hardly half of this arable land is used for farming. Effectively putting to use of all the arable land presents high prospects of alleviating poverty in all its various forms, while contributing towards improved food security. Globally, there are many driving and restraining forces that influence the performance of the agribusiness sector and trade in agricultural commodities. **Table 5** provides a highlight of some of the identified driving and restraining factors.

Table 5: Driving and restraining forces of the agribusiness in Africa

Driving forces	**Restraining forces**
Population dynamics	Climate change
Urbanization and migration	Policy uncertainty
Rising middle class income	Trade distortions (Tariffs and Non-tariff measures, customs procedures
Changing consumption patterns	Infrastructure (roads, communication)
Food waste	Political instability
Diet and structural change	
Bilateral trade	
Land availability	

3.2.1 Driving forces

a) Population dynamics

The United Nation Department of Economic and Social Development (UNDESA) report of 2015 states that the world population is expected to be about 8.5 billion people by 2030 and approximately 9.7 billion in 2050. Currently, the world population stands at an estimated 7.4 billion people of which Africa alone accounts for about 1.2 billion. According to Worldometers (2016), Africa makes up 16.14 percent of the total population globally. The estimated 9.7 billion people by 2050 implies that the world population is to rise at an alarming rate largely due to the high fertility rate. In Africa, burgeoning population are expected to arise in Nigeria, Ethiopia, Egypt, Democratic Republic of Congo (DRC), Tanzania and Uganda (UNDESA, 2015).

However, populations of developed countries are anticipated to decline during the late 2040s. Considering the expected significant population growth of the world, this presents an opportunity to the agribusiness sector to produce and trade more for agriculture related goods so as to be in position to feed the populace. According to a study by African Union (2013), about 530 million are involved in the agricultural sector in Africa. Furthermore, the report indicates that about 48 percent of Africa's total population solely relies on agriculture. Hence agriculture is their means of livelihood, survival and economic development for a number of African countries.

b) Urbanization and migration

The UN world urbanisation prospects of 2007 shows that on average, 70 percent of the world population will live in urban areas in the near future. About 90 percent of the population in Latin America and the Caribbean will leave in urban area, this is followed by developed regions, with 88 percent, Asia will have 67 percent and Africa will have 60 percent of the population that will live in urban areas. A drive to urban areas is attributed to migration of people who seek better opportunities which are mostly available in the cities. This move also highlights the challenges of rural economic development and transformation. Although there is sufficient evidence about population increases in Africa and in the world, trends show that developed countries will have older population averaging 60 years while Africa will have younger generation.

The young active generation presents the required labour force to venture into the agricultural sector, particularly if the younger stars are passionate about the sector. Currently, many youths do not perceive agriculture as a lucrative and well-paying sector as compared to other sectors. Thus, there is a need to encourage the youth to actively participate in the sector. Low fertility rate in the developed countries can be ascribed as one of the reason why developed countries will have an older generation while high fertility in the developing countries can be a reason for faster increase in young generation.

c) Rising black middle class

Given the fast-growing population, there is also the emergence of rising middle class. According to Simpson (2016) and in the South African context, black middle class refers to a person who is 18 years or more living in a household with an income of between R20 000 and R55 000. This relates to wealthier group of individuals who will be mostly educated (with tertiary qualification), will live in cities, own a car and houses or able to afford a rent in metropolitan areas. The rising middle class is associated with a high purchasing power, especially of processed food stuffs of high quality. This renders that agribusiness very

relevant especially when agricultural produce has been processed to meet the market demands of the affluent class. The rise in middle class occurs because the world of economy is becoming more opened. Most of the restriction either in traveling, doing business and in job search between countries are being removed.

Countries of the world are continuing to increase bilateral relations. Credit provided by financial institutions also fuel growth of middle class. This action increases trade between the countries either in goods or service and as a result increases the citizen's wealth. The global middle class is estimated to be 2.1 billion in 2050 and will account 28.4 percent of the global population. Africa's middle class, by income definition, is estimated at between 300 to 500 million people similar to size in China and India and is set to double by 2030 (Wingfield, 2016). Countries with higher proportions of middle class in Africa are expected to be Gabon, Namibia, South Africa and Botswana. In South Africa, the rising middle class is estimated at 5.6 million and is still rising (Simpson, 2016). More of these groups are concentrated in the cities centres and is estimated that 52 percent reside in Gauteng and 18 percent in KwaZulu-Natal.

d) Changing consumption patterns

Consumption of agricultural food will continue to grow globally due to the projected increase in population. As a result of population increase and urbanization, new consumption pattern will emerge, there will be a sharp shift in diets beyond grains into no-grain foods, such as dairy, fish, meat, vegetables, fruits and tuber and heavily into processed foods (IFAD, 2016). This implies increase in diversification of agricultural commodities and value chain activities that will move away from staple food to more horticultural and animal industry products.

The World Bank (2013) estimates that urban food markets will increase four times and will exceed US$ 400 billion dollars by 2030. With shifts in qualitative and quantitative dietary patters agricultural production and investment will also need to be transformed to comply with changing consumer needs. Reardon (2015) refer to this change as "quite revolution" of food supply chain which spans retail, whole sales, first and second processing, packaging branding and logistics. As a consequence, food security will become a major investment theme in many African countries. However, with some African countries developing there is an increasing trend on eating out more as compared to preparing of home cooked meals. Take away food is a feature of every Friday night and this increases significantly at month end. There are also packed processed food available that need little cooking. This trend signifies the importance of country development and change in consumption patterns that warrant investments.

e) Food Waste

While food is important for human survival and for the development of the global economy, it is also being lost along the supply chain, that is between farmers and consumers. It is estimated that each year approximately one third (33%) of all food produced for human consumption in the world is lost or wasted (FAO, 2013). Food loss along the supply chain is a missed opportunity for business and for countries development. The major cause of food loss is attributed to lack of infrastructure on value addition, storage and hugely on transportation amongst the smallholder farmers. Further, it appears that users are not aware as to what can be done with the unwanted food. Food waste presents opportunities to agro-processing firms as losses can be converted into usable and nutritious food. However, little can be done when the food is already with the consumer hence the issue of awareness is important.

Given the problem of infrastructure and lack of awareness, the question is where food is mostly lost and which regions of the world waste more food. FAO (2013) study show that significant loss in food occurs between production and retailing and less is with the consumer. What is depressing is that food that is lost or wasted is sitting on about 1.4 billion hectares of land which could have been used to produce quality food. This represents about 30% of the world cultivated land. Large volumes of fruits and vegetables are wasted in Europe, Asia, and Latin America and in Sub Saharan Africa between production and retailing. Europe, North America and Asia are still considered to be losing significant amount of food by the consumers as compared to Sub-Saharan Africa (FAO, 2013).

f) Diet and structural change

Many African countries are still dependent on agriculture as the primary economic sector. However, as income increases and diets diversity, demand for food shifts from staples to horticulture and livestock products (IFAD, 2016). These events are unfolding in the East and Southern Africa where agriculture contribution to the GDP is declining and service sector is increasing as compared to the west and central African countries where the contribution of agriculture is still huge on the GDP and the service sector is higher but not increasing significantly. At the same time when there is structural shift in African countries, there appear to be shift in the land from agriculture to support urbanisation through the building of suburbs and malls and to industrialisation such as in mining. There are also increasing international calls for the production of biofuels while at the same time water and arable land are becoming scarce and global warming is making it more difficult to produce food in Africa.

g) Food quality and safety

There is an increasing trend in the agribusiness world that food produced for human consumption must be of quality and should as well be safe. However, due to different agricultural output market segments all agribusiness segments have their own standards and requirements that prescribe their own food quality and safety. Inability to meet market standards and requirements by all categories of farmers means exclusion from the markets. These actions by the agribusiness industries require significant investment in farms certification. According to Biénabe and Sautier (2005), smallholder farmers have limited information and resources on how to meet food safety and quality standards, as well as on specifications of the formal markets, as compared to commercial farmers. The challenge with certification is costs of establishment and maintenance (in terms of its monitoring and seasonal inspection of farms), hence many smallholder farmers in Africa might be excluded from the global markets. When a farm is certified (for example with Global GAP), opportunity exist for gaining market access. As a consequence, certified farms are more likely to meet markets standards and would probably obtain premium prices for the goods delivered to the markets.

3.2.2 Restraining forces

a) Climate change

Climate change refers to the increasing average surface temperatures on Earth (Anon, 2016). Excessive temperatures which came through the phenomenon of El-Nino leading to less rainfall and ultimately to drought. Africa is regarded as one of the most vulnerable continents to climate change in the world. Climate change can lead to loss of many plants due to lack of rainfall and water for irrigation purpose; in addition, animals will also not survive as there will be no grass for grazing. The situation is exacerbated by Africa's poor state of economic development and low adaptive capacity. The continent's vulnerability is further increased by frequent natural disasters such as drought and floods, extreme poverty and dependence on rainfall. Due to changes in land use pattern and climate, some regions in East Africa have become drier and the situation is continuing to be worse due to lack of rain.

Water sources are disappearing and streams that used to run year-round are now seasonal. Studies show that, there is a severe increased in water stress and possible increased drought risk for parts of northern and southern Africa and increases in run-off in East Africa. Complex river basin management is another threat to water access. Severe drought which got intensified in 2015 left most African countries food insecure and yields of most products and animals reduced. As an approach that enhances the resilience of farm systems to the

effects of climate change in Africa, Climate Smart agriculture (CSA) was introduced. This will lead to sustainable rising of agricultural productivity and incomes, adapting and building resilience to climate change and reducing greenhouse gases emissions.

b) Policy uncertainty

Despite the abundant natural resources such as land and probably water resources in some countries, Africa is under serious shortage of food. Millions of hectares of arable land are lying unused in Africa due to lack of clear policy direction on land, labour and business. It is estimated that about 60% of the world's available and unexploited crop land is in Sub-Saharan Africa and in addition, only between 5-7 percent of the continent's cultivated land is irrigated. (KPMG, 2013) The unused arable land is denying Africa of its opportunities to produce more quality food for its populace and to export surplus to the world markets. As a consequence of policy uncertainty, investments in agricultural development is almost stagnant. Investors require surety of return to capital and if African governments are not clear on how to handle issues of land reform to which the citizens have been calling for review in many instances, Africans are likely not to see investment in agriculture due to huge risks involved in the production of agricultural commodities.

Land degradation and rising land prices are other issues that affect agricultural production. Land degradation in Africa is as a result of the declining soil fertility which is a major constraint to the transformation of agriculture. Approximately 28 percent of farmers from rural areas cultivate land that is considered to be degrading (Barbier & Hochard, nd). On the other hand, the region has experienced rising demand for agricultural land by both international and national companies as well as urban investor farmers (Deininger, *et. al* 2011). Increased interest in African farmland may also be explained by the perception that there are large areas of unclaimed "available" arable land in Africa for investment. According to the 2016 Africa Agriculture Status Report, the amount of fertile land for cropland expansion may be considerably less than earlier estimates. Although this is the situation, investments in infrastructure, implements, technology (new ways of farming) are needed in Africa to improve the current production trends which are relatively low as compared to developing and developed countries.

c) Trade distortions

There are many trade distortions that restrict flow of goods and services between countries. These include restrictive licenses, employment laws, unjustified Sanitary and Phyto-Sanitary (SPS) measure, roles of origin, unjustified labelling and packaging, lengthy customs procedures to name the few. Although trade restriction/policies are necessary to control

trade and to protect citizens from unwanted commodities, there appear to be an increase in non-tariff measures in the world. For instance, at some stage the European Union (EU) banned South Africa's citrus fruits affected with black spots; these led to a significant reduction in the volume of fruits destined the EU. Other examples of exports from South Africa that were at one time banned by Zimbabwean authorities include coffee creamers, baked beans, potato crisps, peanut butter, flavoured milk, canned fruits and vegetables (Anon, 2016). In addition, alien banana plants which were infected with panama disease from Mozambique were banned by Tanzania (Nkwame, 2016).

Although governments use SPS measures to ensure that foods and beverages are safe to consume and to protect animals and plants from unwanted pests and diseases (Froman, 2014), SPS also present barriers to trade especially in instances where bilateral trade agreements are not binding between a given set of trading partners. Countries have different specifications in terms of grading, this can lead to less products being exported by African countries. However, it appears that African countries are not too strict as the EU and the United States (US), when it comes to the product specification. African exporters are challenged with logistical problems such as inadequate road infrastructure which leads to long shipping time of the products. Lack of adequate cold chain management in the fresh produce industry can lead to loss of quality of the product hence the produce might not be accepted by the importing countries. Fixation of a minimum import price (tariff) can help control the flood of cheap import products into the country. However, this can also be detrimental to a country which is desperate to address the food insecurity situation.

d) Infrastructure

Infrastructure such as road, rail, and cold chain transport and boarder gates plays a vital role in international trade. Research by the Infrastructure Consortium of Africa (ICA, nd) has shown that the cost of goods traded among African countries is between 30-40 percent higher due to poor road, rail and harbour infrastructure. Poor infrastructure leads to high transportation costs and may take longer to deliver the products, which may result in high trading costs. Lack of infrastructure is a serious problem in Africa which results in a low level of intra-African trade. Handling capacity for imports and exports, distribution route development, frequency of shipments and the costs of freight handling, storage, distribution and related services is directly impacted by transport and logistics infrastructure.

Across the continent governments are committing billions of dollars to infrastructure. The amount of investment required to meet core infrastructure is large and growing. A study by Pottas (n.d) show that in order to sustain and expand essential public infrastructure,

developing countries need to spend 5 percent of their Gross Domestic Product (GDP) on average annually on infrastructure capital expenditures. For Africa to be able to improve its investment attractiveness and address the transport and logistics program, the continent will need to pursue a deeper engagement with the private sector on developing transport and logistics projects.

3.3 Empirical results of driving and/ or restraining forces impacting on intra- African trade

Results generally affirm some of the afore mentioned driving and restraining forces in intra-African agribusiness, except for the annual population growth (X1) which is insignificant and trade blocs (X10) which was a prior expected to positively affect agribusiness. This peculiar result may be associated with the non-tariff barriers which significantly vary across trade blocs. Thus, if one country wishes to export agricultural commodities to another African state, it inculcates upon the exporter to comply with all the requirements to access the market and this most often than not comes at a cost.

Table 6: Empirical driving and/ or restraining forces impacting on intra- African trade

Variable	GLS		Robust regression	
	Coefficient	Standard error	Coefficient	Standard error
X1	0.633	0.672	-0.107	0.809
X2	0.118*	0.063	0.160**	0.069
X3	0.578***	0.157	0.772***	0.178
X4	0.190**	0.076	0.260***	0.087
X5	1.485*	0.874	4.149***	1.170
X6	0.306	0.316	0.859**	0.365
X7	0.561***	0.076	0.588***	0.110
X8	-0.313**	0.150	0.078	0.166
X9	1.468***	0.349	2.751***	0.450
X10	-0.432***	0.125	-0.340**	0.157
Constant	-2.706	4.987	-20.536***	6.636
Wald chi^2	135.87***			
R^2			0.554	
Adjusted R^2			0.517	
Observations	130		130	

***, **, * denote significance at 1%, 5% and 10% level respectively

Source: Authors' own calculations

Consumption patterns (X5) and Trade distortions (X9) are the most influential drivers of agricultural exports across the African continent. Although trade distortions may be perceived as deterrents to trade, the proxy used in our analysis (days to export) have been reducing over time. This suggests that there is improvement in the effectiveness at various

levels in ensuring that consignments are exported timely. Similarly, physical infrastructure (road networks, railways and airports) are a limitation to smooth trade in agricultural commodities but since we used communication related infrastructure (mobile cell phone usage) and given that a number of people have access to a cell phone, this explains the significant positive coefficient on X7. Data about physical infrastructure (particularly roads and railways) was highly limiting over the period considered in this study, hence the use of an alternative proxy. Political instability strongly deters the agricultural trade.

3.4 Reasons for agribusiness development, trade and invest in Africa

Considering the African trade profile and agribusiness trends discussed in the previous sections, the two big questions that remained was to establish whether there exist opportunities to invest and trade in Africa and secondly, the approaches that should be pursed for agribusiness to thrive. Agriculture is the backbone of most African countries economic development given that it provides backward and forward linkages. There is huge potential of land in most African countries that can be used to feed the projected increase in population and to eliminate hunger and food insecurities (KPMG, 2013). This implies that if significant investment can be made on land in terms of infrastructure development and technology, Africa can be in a position to feed its own populace.

In addition to land opportunities in Africa, Agro-processing through value adding activities is regarded as a silver bullet for the development of African economies. This is because studies have showed that most of the food around the world including Africa is still being lost along the value chain. This happens more between production and retail and less from the consumers as waste. This is an opportunity that requires significant investment in resources to capture the waste and turn them into profitable business. Agro-processing business sector further lead to diversification of the countries enterprises as a result there is an increase in demand for processed food in Africa due to urbanisation and growing middle class.

The Comprehensive African Agricultural Development (CAADP), which is an initiative by NEPAD is also said to boost investment in agriculture. Through CAADP countries had committed to raise annual agricultural productivity by a minimum of 6 percent by 2015 and to increase public investments in agriculture to at least 10 percent of their annual national budgets. However, many countries (e.g. Uganda) are spending less than 10 percent of the national budget towards the agricultural sector (Mutyaba et al, 2016). The Africa Agriculture and Trade Investment Fund (AATIF) is a public-private financing structure, which is dedicated to uplift Africa's agricultural potential for the benefit of the poor. It aims at improving food security and providing additional employment and income to farmers,

entrepreneurs and labourers alike by investing patiently and responsibly in efficient local value chains. Through direct and indirect investments, AATIF has disbursed about $110 million in recent years. Financing of small and medium scale agricultural businesses along the entire agricultural value chain were the direct investments, while indirect investments included funding local financial institutions.

Investment could be a vital driver of financial integration within Africa, which is so far limited. Foreign direct investment into Africa increased significantly by 450 percent from $10 billion in 2000 to about $55 billion in 2015. Regional integration and job creation could expand by strengthen trade finance in Africa. About 80 percent of Africa's exports are raw commodities and 20 percent is manufacturing. Trade within the African continent is about 60 percent of manufactured product and 40 percent of primary commodities (African Economic Outlook, 2016).

4. Conclusion

Agriculture is a huge business globally due to upstream and downstream opportunities. In Africa, the primary agricultural sector account for about 24 percent of the Gross Domestic Product (GDP). The agribusiness suppliers, processing, marketing and retail add about 20 percent of the GDP (IFAD, 2016). This implies that Africa derive most of the economic opportunities from agriculture compared to developed and developing countries which derive contributions from the service and industrial sectors. Development of agricultural business, trade and investment according to the predictions will continue and will be propelled by a number of factors such as increase population which is expected to be 2 billion in Africa by 2050, Urbanization and growing middle class and consumption patterns which came with diversified and processed food items, among other factors. Combination of all the driving forces of development means there will be a huge demand for food (raw and processed) to feed the projected population. Africa has greater potential to produce enough food to feed everyone in the world by 2050, as it has about 60 percent of the world land.

Although the continent can feed its self, there are issues of climate change which continues to hit most African countries. In order to succeed in the production and trading of agricultural commodities, efforts need to be made to adapt and mitigate climate change effects, trade distortions and to implement proper policies. In addition, there is need to improve infrastructure which seems to be a serious hurdle to trade in Africa. Analysis shows that there is trade imbalance among African countries. Fewer commodities are traded within the continent than it does with the developed and other developing countries. African governments need to expand access to trade, finance and reduce trade restrictions.

Increasing intra African trade relations can assist in stimulating the continent's economic growth while fostering job creation as well. African markets are also huge to attract investment. As a consequence, agricultural investors have a daunting task to decide on investment types.

However, value chain approaches are seen as a guide to investor's strategic decision making. Agribusiness in Africa can create opportunities through investment in infrastructure; farming and agro-processing while at the same time also contribute to development of skills. Analysis shows that these risks are still considered to be moderately low in Africa to conduct business. African governments need to come together to discuss ways in which they can strengthen trade among themselves, how the continent can make use of the arable land (increasing agricultural products), ways in which the continent can deal with issues such as climate change and improve infrastructure. Addressing the above issues will lead to reduction in poverty and food insecurity which are serious issues in Africa.

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