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Abstract

This study aims to explain how Kenya could enhance trading in the recently established African Continental Free Trade Area - AfCFTA market through its livestock products. To achieve this objective, the study examined the relative competitiveness and compared the structure of specialization in livestock trade vis-a-vis the AfCFTA member states. The analysis spans a 5-year period from 2017 to 2021 (before AfCFTA), using data obtained from the International Trade Centre database. The study finds that Kenya enjoys a significant comparative advantage in meat and edible offal under the broad harmonized system (HS) 02 (HS classification 02) across the eight (8) markets in the AfCFTA and a comparative advantage of over five (5) in leather products. Despite the high comparative advantage, the economic potential of the leather industry was unexploited before the AfCFTA. While Kenya has no widespread comparative advantage in the dairy and egg products category (HS-04) across Africa, value addition on these products reveals higher competitiveness in the AfCFTA market. Based on these findings, the study recommends deliberate actions to increase Kenya's competitiveness in different livestock products as African countries operationalize AfCFTA. The Government of Kenya and private institutions could create an enabling environment to accelerate industrial development in the sub-sectors of livestock by establishing industrial parks and zones; promoting easier ways of doing business; revamping the production of dairy and eggs; and conducting continuous training on current livestock farming trends and practices. These policy recommendations are important to policy makers in the ministries of Trade, Agriculture, National Treasury and Economic Planning, the Kenya Meat Commission, the Kenya Association of Manufacturers, the State Department for Development of Arid and Semi-Arid Lands, and other stakeholders.

Abbreviations and Acronyms

AfCFTA	African Continental Free Trade Area
AUC	African Union Commission
DAI	Development Alternatives Incorporated
DRC	Democratic Republic of Congo
FAO	Food and Agriculture Organization
GASL	Global Agenda for Sustainable Livestock
GDP	Gross Domestic Product
HS	Harmonized System
H-O	Heckscher-ohlin Theory
ILRI	International Livestock Research Institute
ITC	International Trade Centre
KMC	Kenya Meat Commission
MALFI	Ministry of Agriculture, Livestock, Fisheries, and Irrigation
RCA	Revealed Comparative Advantage
SDGs	Sustainable Development Goals
USD	United States Dollar

Table of Contents

List of Tables

1.　　Introduction

The African Continental Free Trade Area (AfCFTA) is a free trade area encompassing most of Africa. It was established and adopted for signing on 21st March 2018 by 44 of 55 member states in Kigali Rwanda, brokered by the African Union. This made it the largest global free-trade area by the number of member states after the World Trade Organization (Crabtree, 2018). The AfCFTA, in addition, has the largest population and geographic size. The pact connects 1.3 billion people across the world's second largest continent after Asia, with a combined Gross Domestic Product (GDP) valued of US$ 3.4 trillion. It has the potential of lifting 30 million people out of extreme poverty depending on putting in the right policy reforms and trade facilitation measures. Article 23 of the agreement establishing the AfCFTA entry into force occurs 30 days after the 22nd instrument of ratification is deposited with the Chairperson of the African Union Commission (AUC), the designated depositary for this purpose. The agreement entered into force on 30th May 2019; it entered its operational phase following a summit on 7th July 2019 and officially commenced 1st January 2021.

The establishment of AfCFTA is a game changer in the African continent that has previously been characterized by low intra-African trade at 16 per cent. Africa trails in intra-continental trade compared to its counterparts in other regions such as Asia with 59 per cent and Europe at 68 per cent (Bavier, 2021). Creation of the AfCFTA with a vast regional market is a major opportunity for African countries to diversify their exports, accelerate growth, attracting foreign direct investment, maximizing the potential gains and minimizing risks.

The AfCFTA envisions that with the reduction in tariffs on goods and services, intra-African trade is likely to shoot up to 25 per cent by the year 2040 (Songwe, 2020). Empirical evidence has shown that minimization of trade tariffs can catalyze significant long-term economic gains. Reduction of tariffs alone is necessary but is not a sufficient condition for unlocking economic potential in a regional block.

Kenya having ratified the AfCFTA instrument and fully committed to trade within the framework ought to assess its competitiveness in the region. However, there are some setbacks that are likely to befall Kenya in this quest, one of them being the dismal performance that Kenya has been recording in the past five years in the export of livestock products specifically in the dairy and meat products. Livestock production is a huge contributor towards Kenya's economic development, food and nutrition security towards realization of the Kenya Vision 2030. This is also essential in the 3rd and 17th Sustainable Development Goals (SDGs) as is central to the livelihoods of many households.

The livestock sector utilizes 30 per cent of the high to medium potential land and 81 per cent of the arid and semi-arid land in Kenya. The sector is estimated to generate 30-42 per cent (Muthee, 2016) of Kenya's agricultural Gross Domestic Product (GDP) and 5.6-12.5 per cent (Behnke and Muthami, 2011) of total Kenya GDP over the years, according to a 2019 report by Development Alternatives Incorporated (DAI). This is in addition to providing employment to about 40 per cent of the national labour force in agriculture.

Kenya has potential to leverage export of livestock products to the African market on the introduction of the AfCFTA market. However, exports to the region have been dwindling over the last five years and Kenya has lost some of its markets. Among the market share lost by Kenya include Egypt and South Africa where Kenya lost its market for dairy products and eggs (HS-04) and South Africa where Kenya lost its market share of meat and edible offal HS-02). In addition, exports of meat and edible offal to the African region has been mixed in the past decade. Kenya managed to export US$ 2.190 million in 2021 down from US$ 3.966 in 2020, representing a 45 per cent decrease in just one year. Similarly, the country has had a fluctuating trend on dairy products and eggs, and Kenya exported US$ 70.430 million compared to US$ 132.897 million in 2018, denoting a dip of 47 per cent.

This study aims to explain how Kenya can enhance trading in the recently established AfCFTA market through its livestock products. In the light of evidence, some policy implications are drawn. The paper examines the relative competitiveness and compares the structure of specialization in livestock trade vis-à-vis the AfCFTA member states. The empirical analysis of the current paper is based on Revealed Comparative Advantage (RCA). The approach is useful in demonstrating the comparative advantage among the livestock products that Kenya has within the AfCFTA. This will provide the initial step towards understanding what factors curtail Kenya's potential and how we can alleviate this situation and exploit the advantage that Kenya has within the continent. It would, therefore, be imperative to investigate the countries and products that Kenya has a comparative advantage to export as this will offer policy guidance on how Kenya can reclaim its trade dominance in the region, especially in the wake of AfCFTA.

Kenya is considered the hub of African economy due its strategic location, robust ICT infrastructure and political stability. Therefore, the plummeting livestock exports should be of great concern to policy makers. If this situation is not reversed, Kenya is likely to lose its competitiveness in the bloc and fail to reap the fruits of the newly formed regional integration. It is against this background that the study sought to compute the revealed comparative advantage of livestock products to identify potential markets within the AfCFTA.

The study is organized as follows. Section 2 introduces the situational analysis of the livestock trade in the country as section 3 and 4 gives the literature review and methodology used in addressing the objectives of the study. Section 5 and 6 give the results of computations and conclusion leading to policy recommendations from the study.

2. Situational Analysis of Kenya's Livestock Product Export to Africa

The livestock policy in the Ministry of Agriculture aims to transform livestock from subsistence to a commercialized undertaking. This is anticipated by applying modern technologies acquired through continuous research and innovation. The institutional framework under the Kenya Meat Commission's (KMC) mandate (Laws of Kenya CAP 363) to consistently purchase of quality meat and meat products and sustainable market for financial sustainability and profitability purposes.

Kenya's livestock product export performance in the African region has been riddled with inconsistencies in export value and performance between 2017 and 2021. Some products have been thriving whereas others have been gradually declining over time and no record of export at worse. Fluctuations in export values over time have also been realized. There was a general decrease of products exported in 2020 due to the COVID-19 pandemic where cessation of movements to people and closing of borders for goods and services from increased stringent checks.

To begin with the meat and edible meat offal under the Harmonized System (HS) code 2, as displayed in Table 1, the frozen meat of bovine animals has been performing quite well over the 5 years period. It closed at US$ 5.383 million up from US$ 4.5 million in 2020. Meat and edible offal, salted in brine, had a steady performance over the 5-year period, closing at US$ 1.836 million in 2021 down from US$ 1.766 million in 2017. Meat of sheep or goats, fresh, chilled or frozen, hasn't recorded promising performance over the years. There was a large decline in export values between 2017 (US$ per cent increase from the 2020 export value settling at US$ 1.677 million. A similar trend is observed for the meat of swine, fresh, chilled or frozen whose value has been deteriorating by significant margins from US$ 1.877 million in 2017 to US$ 344 million in 2021. Finally, Kenya has been exporting low values of meat and edible offal of fowls of the species, ducks geese and turkeys in the African market at an average of US$ 148 million over the 5 years period.

Table 1: Kenya's export of meat and edible meat offal (HS-02) to AfCFTA

Product code	Product label	Kenya's exports to Africa				
		Value in 2017	Value in 2018	Value in 2019	Value in 2020	Value in 2021
'0202	Meat of bovine animals, frozen	5,714	5,851	5,186	4,506	5,385
'0210	Meat and edible offal, salted, in brine, dried or smoked; edible flours and meals of meat or …	1,766	1,850	1,329	987	1,836
'0204	Meat of sheep or goats, fresh, chilled or frozen	2,322	1482	275	463	1677
'0203	Meat of swine, fresh, chilled or frozen	1,837	719	213	208	344
'0207	Meat and edible offal of fowls of the species Gallus domesticus, ducks, geese, turkeys and …	121	97	70	229	224
'0201	Meat of bovine animals, fresh or chilled	39	21	5	8	5

Source: ITC trade map, values in US$ '000

Moving on to dairy produce, birds' eggs, natural honey under HS-04, there are products that have shown steady increase over time. One of these products is Natural Honey (HS-0409) which in 2017 Kenya was only exporting US$ 34,000, recorded an all-time high of US$ 889,000 in 2019 and closed at US$ 640,000 in 2021. Another product is Butter, ghee and fats and oils derived from milk (HS-0403) that Kenya only exported US$ 332,000 in 2017 but ended up with an export of US$ 1.282 million in 2021. There are products whose export values have taken a dive over the period, among them being non-concentrated milk and cream (HS-0401). In 2017 Kenya exported US$ 1.582 million to Africa but the export dipped to US$ 63,000 in 2020 and only exported US$ 357,000 in 2021.

Table 2: Kenya's export of dairy produce, birds' eggs, natural honey (HS-04) to AfCFTA

Product code	Product label	Kenya's exports to Africa				
		Value in 2017	Value in 2018	Value in 2019	Value in 2020	Value in 2021
'0409	Natural honey	34	238	889	449	640
'0406	Cheese and curd	201	311	389	333	375

'0403	Buttermilk, curdled milk and cream, yogurt, kephir and other fermented or acidified milk and ...	542	158	154	294	299
'0405	Butter, incl. dehydrated butter and ghee, and other fats and oils derived from milk; dairy ...	332	555	155	250	1281
'0402	Milk and cream, concentrated or containing added sugar or other sweetening matter	62	181	355	161	88
'0401	Milk and cream, not concentrated nor containing added sugar or other sweetening matter	1582	536	86	63	357
'0407	Birds' eggs, in shell, fresh, preserved or cooked	11	37	26	34	45

Source: ITC trade map, values in US dollar thousand

The final export products are Raw hides skin and leather (HS-41). Some products have recorded improvements for instance Other raw hides and skins, fresh, or salted, dried, limed, pickled, or otherwise preserved (HS-4103). Kenya recorded zero exports to Africa in 2017, US$ 33 million in 2018 and ended up with an export value of US$ 1.017 million in 2021. Another product with similar trend is Tanned or crust hides and skins of bovine animals (HS-4104) which Kenya recorded an export value of US$ 289 million in 2021 up from US$ 22 million in 2017. In contrast however, some products dove Leather further prepared after tanning or crusting (HS-4113) that Kenya had exported US$ 214 in 2017 to only US$ 1 thousand in 2020 and no exports in 2021.

Table 3: Kenya's export of raw hides skin and leather (HS-41) to AfCFTA

Product code	Product label	Kenya's exports to Africa				
		Value in 2017	Value in 2018	Value in 2019	Value in 2020	Value in 2021
'4103	Other raw hides and skins, fresh, or salted, dried, limed, pickled or otherwise preserved, …	0	33	910	364	1017
'4107	Leather further prepared after tanning or crusting ""incl. parchment-dressed leather"", of …	177	141	177	436	246
'4105	Tanned or crust skins of sheep or lambs, without wool on, whether or not split (excluding further …	145	0	75	0	431
'4101	Raw hides and skins of bovine ""incl. buffalo"" or equine animals, fresh, or salted, dried, …	19	10	73	20	16
'4113	Leather further prepared after tanning or crusting ""incl. parchment-dressed leather"", of …	214	108	72	1	0
'4104	Tanned or crust hides and skins of bovine ""incl. buffalo"" or equine animals, without hair …	22	78	13	44	289
'4115	Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip, whether …	17	8	9	25	34
'4106	Tanned or crust hides and skins of goats or kids, pigs, reptiles and other animals, without …	217	0	0	176	408

Source: ITC trade map, values in US$ '000

3. Literature Review

3.1 Theoretical Literature

International trade is prominently composed of the Ricardian theory and the Heckscher-Ohlin (H-O) theories in the comparative advantages. The Ricardian theory assumes that comparative advantage arises from differences in technology across countries. A country has comparative advantage in producing a good if the opportunity cost of producing that good in terms of other goods is lower in that country compared to other countries. Heckscher Ohlin theory suggests that technologies are the same across countries. H-O theory attributes comparative advantage to cost differences resulting from differences in factors.

The H-O theory, a country's comparative advantage is determined by its relative factor scarcity. A nation will export the commodity whose production requires intensive use of the nation's relative abundant and cheap factors and import the commodity whose production requires intensive use of the nation's scarce and expensive factors. A country with an abundance of cheap labour would export labor-intensive products and import capital-intensive goods and vice versa. However, it is well known that measuring comparative advantage and testing the Heckscher-Ohlin theory have some difficulties (Balassa, 1989) since relative prices under autarky are not observable. Balassa (1965) proposed that it may not be necessary to include all constituents affecting country's comparative advantage suggesting that comparative advantage is "revealed" by observed trade patterns, and in line with the theory, one needs pre-trade relative prices which are not observable.

The Balassa index tries to identify whether a country has a "revealed" comparative advantage rather than to determine the underlying sources of comparative advantage. However, as was firstly asserted suggested by Balassa (1965), the definition of RCA has been revised and modified such that an excessive number of measures now exist. Some studies measures RCA at the global level (e.g., Vollrath, 1991), others at a sub-global regional level (see Balassa's original index), and while some others evaluate the measurement as bilateral trade between two countries or trading partners (Dimelis and Gatsios, 1995).

3.2 Empirical Literature

3.2.1 Factors of production

Yameogo et al., (2014) study using RCA established that African countries that were previously endowed with larger herds of livestock do not necessarily have long term comparative advantage over their African counterparts with relatively

smaller herds. Botswana ranked 25th in the continent in livestock numbers, it possessed a long-term comparative advantage in the export of fresh, chilled, and frozen meat. Nigeria on the other hand did not demonstrate comparative advantage in export of any livestock product inspite of livestock endowment.

FAO (2012) concluded that East Africa contributed the highest livestock production and showed the biggest potential for beef and meat export in the continent. South Africa, which the study found that had 30 percent cattle, 64 percent goats, and 2.9 percent sheep, against the leaders Ethiopia (90.5 cattle, 3.3 percent goats and 5.9 sheep) and Kenya (89.1 percent cattle, 5.0 percent goats and 5.1 sheep), is currently leading in meat exports. These statistics are, however, older during the time when Kenya was competitive, to the best of the author's knowledge, there are no recent studies that target Kenya particularly under the AfCFTA framework.

Nin et al (2007) employed Relative Comparative Index to analyze livestock production across countries within and outside Africa. In their findings, the authors established that countries in Sub-Saharan Africa possessed significant advantage in dairy production, moderate disadvantage in poultry, and some advantage in beef and meat between 1965 and 1980. However, between 1995 and 2011, majority of the African countries had lost their comparative advantage in export of the livestock commodities. These realities challenge policy makers to design and execute livestock policies which build long-term capabilities and comparative advantage.

3.2.2   Value addition

Porter (1985) study asserted that a country's competitiveness is dependent on the effectiveness with which a nation utilizes its skills, technology, intermediate inputs and processing equipment. However, effectiveness in an economy arises from the concerted efforts of domestic and foreign investments of a country. When a country holds a comparative advantage in the export of a given product signifies its competitive advantage in the export. These competitive prospects for higher productivity help explain a country's level of profitability.

3.2.3   Proximities

Eita, J. H (2008) demonstrated that proximities and sharing of common borders increases exports. This was estimated in the determination of the Namibian exports and a concluding that increase in the importer's GDP and that of Namibia's GDP led to an increase in the country's exports. Hence as the distance of the importer increases, the exports decrease.

4. Methodology and Data Sources

4.1 Theoretical Framework

The study is anchored on Revealed Comparative Advantage theory. The technique follows the theory of revealed comparative advantage by Ricardo. The original RCA measure was proposed by Balassa (1965) who defined the export performance of a specific product/industry from a country–as measured by the revealed comparative advantage index – as the relative share of the country's export of the product in the world export of the same product, divided by the overall share of the country in world exports. More specifically, the revealed comparative advantage index of product j exported from country i (RCAji) can be expressed as follows:

$$RCA_{ji} = (X_{ji}/X_{jw}) / (X_i/X_w) \qquad (1)$$

Where:

X_{ji} = exports of product j from country i

X_{jw} = world exports of the product j

X_i = exports of country i

X_w = world exports

The RCA index presented in equation 1 uses the world market as the reference market. The study, however, sought to compute RCA at AfCFTA regional level. To enable disaggregation of the analysis of revealed comparative advantage at the regional and bilateral levels, the study will extend the above equation to become:

$$RCA_{ji}^{R} = \left(X_{ji}^{R} / X_{i}^{R} \right) / \left(X_{ji} / X_{i} \right) \qquad 2$$

Here RCA_{ji}^{R} is the revealed comparative advantage index for exports of product j from country i into region R, and

X_{ji}^{R} = Exports for product j from country i to region R

X_{i}^{R} = Exports of country i to region R (Africa)

X_{ji} = Total exports of product j from country i

....(2)

If RCA_{ji} exceeds one, then we conclude that the country i has a comparative advantage in the export of product j to the reference market R. This is so because a value of this index is greater than unity implies that the share of product j in country i's exports to region R exceeds the share of product j in the country's total exports.

Further to compute the RCA index for the disaggregated product at the four-digit level of harmonized system of classification. Equation 1 is modified to become:

$$RCA_{ji} = (X_{ji}/X_{jw})/(X_i/X_w) \qquad\qquad (3)$$

Where:

X_{ji} = exports of product j from country i

X_{jw} = African exports of the product j

X_i = Exports of country i

X_w = Total African exports

The *RCA* index ranges from 0 to infinity with 1 as the break-even point. That is, *RCA* value of less than 1 means that the product has no export comparative advantage, while a value above 1 indicates that the product has a "revealed" comparative advantage. It should be noted that the *RCA* index is not symmetrical in the sense that one cannot compare both sides of the break-even point.

The conceptual *RCA* index defined above is quite flexible in terms of both product definition and geographic coverage of the markets considered. Various definitions of the 'product' can be used to compute the value of the index. For the purposes of this paper, the Harmonized System of Classification was used because it allows products to be defined at various levels of aggregation. Moreover, the flexibility of the index with respect to geographic coverage means that relative export performance can be studied at global or at regional levels.

4.2   Data and Measurement

The analysis in this paper spans a 5-year period from 2017 to 2021 and the data was obtained from the International Trade Centre database. The obtained values are then computed using the equations (2) and (3) respectively to realize the study objectives. Equation 2 is used to compute the first objective while equation 3 is used to compute the second objective.

5.   Results and Discussion

5.1   Kenya's RCA in the AfCFTA Market

5.1.1   Meat and edible offal (HS-02)

Kenya enjoys a comparative advantage of over 1 in 8 African countries as far as export of meat and edible offal is concerned in Table 4 below. Southern Sudan tops the list with an RCA index of 34.43 in the last five years, this is attributed to its proximity with Kenya sharing a border and enjoys a cordial bilateral relation. Tanzania comes second at a distance with an RCA of 19.84. Despite this, the RCA for has been reducing over the years, from 36.4 in 2017 to 9.1 in 2021. This can be attributed to strained trade relations between Kenya and Tanzania over the period under review. Tanzania is closely followed by Democratic Republic of Congo (DRC) with an RCA of 17.02 over the period. DRC being a new ready market joining the East Africa Community deriving a positive deviation which can be leveraged in the AfCFTA for maximum return realization.

Notably countries that Kenya has showed a positive deviation are Seychelles despite having a lower index of 1.54, the trend has been improving from 0.7 in 2017 to 2.67 in 2021. Kenya being an open market and the ratification of this treaty has resulted in realization of these new markets and deviations.

Table 4: Kenya's RCA for meat and edible offal in the AfCFTA market

	Southern Sudan	Tanzania	DRC	Uganda	Somalia	Rwanda	Sudan	Seychelles	Ethiopia	Ghana
2017	21.61	36.40	22.5	15.97	12.47	1.61	3.15	0.70	0.37	0.63
2018	33.48	25.84	16.37	15.96	11.97	2.76	2.51	1.30	0.63	0.70
2019	43.16	18.56	4.87	11.42	1.76	2.30	0.06	1.35	0.44	0.31
2020	42.23	9.31	13.78	11.67	1.14	5.45	3.85	1.65	0.73	0.47
2021	31.67	9.10	27.56	14.1	0.87	2.90	0.00	2.67	0.37	0.28
Average	34.43	19.84	17.02	13.82	5.64	3.00	1.91	1.54	0.51	0.48

Source: Authors' computation based on data from ITC Trade Map

5.1.2   Kenya's Dairy and egg Products in the AfCFTA Market

Although dairy and egg products are some of the largest agriculture sub-sectors in Kenya, the products do not enjoy a comparative advantage across the African market. The dismal performance can be explained by sizeable domestic demand and low productivity of the products due to weather conditions. Increase in

demand, hence little is left out for export is highlighted in Table 5. Kenya only enjoys a comparative advantage in Uganda, as shown by the RCA index of 58.582. This can be attributed to its proximity and good bilateral ties with the neighbouring country.

Table 5: Kenya's RCA of dairy products in various African market

	Uganda	Rwanda	Egypt	Tanzania	Zambia	South Africa
2017	50.55	0.67	0.18	0.04	1.52	0.02
2018	54.15	0.18	0.21	0.03	0.95	0.06
2019	39.60	0.01	0.15	0.12	0.40	0.01
2020	69.72	0.35	0.56	0.18	0.47	0.00
2021	78.90	0.40	0.34	0.31	0.08	0.00
Average	58.58	0.32	0.29	0.14	0.68	0.02

Source: Authors' computation based on data from ITC Trade Map

The other markets in this classification gives an index which is less than one hence Kenya has no revealed comparative advantage to export to these markets in the AfCFTA.

5.1.3   RCA for Kenya's Leather Products in AfCFTA Market

Table 5.3 indicates the leather products (HS-41). Kenya enjoys a comparative advantage of over 5 points in 6 African markets, and over 1 point in 8 markets. The highest RCA index is Uganda with 66.68. it closely followed by Nigeria with an RCA of 63.89. This value has grown from 0.71 in 2017 to 152.75 in 2021, a demonstration of a vibrant and promising market. At a distant third is Tanzania with 22.34 and closely tying with Ethiopia with 22.34. It worth noting however, that Kenya did not record exports in 2018 and 2021, a factor that reduced Ethiopia's average RCA which also has an established leather industry in Africa.

Table 6: RCA of leather products in various African markets

	Nigeria	Congo	South Africa	Uganda	Tanzania	Ghana	Rwanda	Togo	Ethiopia
2017	0.71	0.00	12.42	39.82	7.42	0.29	0.14	0.00	51.66
2018	19.05	0.36	0.00	90.94	4.67	1.08	7.91	1.80	0.00
2019	39.32	0.29	1.30	126.64	6.22	5.06	0.72	1.30	10.84

2020	107.59	0.00	27.67	40.52	62.32	5.03	1.96	0.00	49.19
2021	152.75	89.32	49.37	35.46	31.12	4.64	2.09	0.45	0.00
Average	63.89	17.99	18.15	66.68	22.35	3.22	2.56	0.71	22.34

Source: Authors' computation based on data from ITC Trade Map

5.2 Kenya's Livestock Products Competitiveness in the AfCFTA

5.2.1 Meat and edible offal products (HS-02)

Kenya has a competitive edge of 3 livestock products HS-0210, HS-0202 and HS-0203 with the highest RCA from Meat and edible offal, salted, in brine, dried or smoked; edible flours and meals of meat (HS-0210) of 18.67, 3.17 and 1.77 respectively. There has been a steady performance over the years in the specific classification over the years with a relatively positive trend. The year 2020 notably had a lower index this is because of Covid-19 pandemic which was realized and the closing of borders and the cessation of movement of people, good and services. In addition to this some products recorded zero index majorly in the 2020 year due to the pandemic stated. Under the same category Kenya had a dismal performance competitively under this classification in the HS-0201 and HS-0206 with an RCA of 0.01 and 0.02 respectively. In HS-0206 there was a drop of the index as previously captured in the year 2018 because of losing the market to neighbouring countries in the AfCFTA.

Table 7: The RCA indices for Meat and edible offal products (HS-02) in the AfCFTA market

Year	2017	2018	2019	2020	2021	Average
HS-0210: Meat and edible offal, salted, in brine, dried or smoked; edible flours and meals of meat	15.07	15.47	18.42	16.42	27.95	18.67
HS-0202: Meat of bovine animals, frozen	3.04	3.20	3.34	2.69	3.60	3.17
HS-0203: Meat of swine, fresh, chilled or frozen	4.62	2.12	0.65	0.56	0.90	1.77

HS-0204: Meat of sheep or goats, fresh, chilled or frozen	1.04	0.73	0.15	0.19	0.61	0.54
HS-0207: Meat and edible offal of fowls of the species Gallus domesticus, ducks, geese, turkeys	0.06	0.05	0.04	0.11	0.17	0.09
HS-0201: Meat of bovine animals, fresh or chilled	0.01	0.01	0.00	0.00	0.00	0.01
HS-0208: Meat and edible offal of rabbits, hares, pigeons and other animals, fresh, chilled or frozen	0.00	0.45	0.01	0.00	0.05	0.10
HS-0206: Edible offal of bovine animals, swine, sheep, goats, horses, asses, mules or hinnies, fresh	0.01	0.11	0.00	0.00	0.00	0.02

Source Author's computation based on Data from ITC Trade Map

5.2.2 Dairy and egg products in various African markets (HS 04)

This category the highest RCA was of the products under this was from HS-0409 (Natural honey) meaning that the country has a competitive edge of the product in the AfCFTA market with an index of 2.40. This was followed with HS-0405 which is a valued added dairy product illustrating how the products that are value added builds on the competitiveness in the AfCFTA market. HS-0407 gave the least RCA of 0.05 which is of fresh or cooked product.

Table 8: RCA index for Kenya's dairy and Egg Products (HS 04) in the AfCFTA market

Year	2017	2018	2019	2020	2021	Average
HS-0409: Natural honey	0.17	1.57	5.45	1.93	2.87	2.40

HS-0405: Butter, incl. dehydrated butter and ghee, and other fats and oils derived from milk; dairy	1.37	2.33	0.66	0.65	3.67	1.74
HS-0401: Milk and cream, not concentrated nor containing added sugar or other sweetening matter	0.92	0.33	0.05	0.03	0.20	0.31
HS-0403: Buttermilk, curdled milk and cream, yogurt, kephir and other fermented or acidified milk	0.53	0.20	0.18	0.31	0.26	0.30
HS-0402: Milk and cream, concentrated or containing added sugar or other sweetening matter	0.02	0.08	0.18	0.06	0.04	0.08
HS-0407: Birds' eggs, in shell, fresh, preserved or cooked	0.02	0.07	0.04	0.04	0.06	0.05
HS-0406: Cheese and curd	0.04	0.07	0.09	0.08	0.11	0.08

Source Author's computation based on Data from ITC Trade Map

5.2.3 Kenya's leather products (HS 41) in the AfCFTA market

The computations from the RCA of the products in the HS-41 indicate that the country has dismal revealed competitive advantage in the livestock products under this broad classification. This is exhibited in all the specific products computed, none had RCA equaling to 1. This indicates untapped potential in the value addition of the livestock products despite the great potential that exists explaining the existing wastages in the value chain in agro-processing. The agro-processing accelerates manufacturing sector and increasing employment opportunities, hence addressing unemployment. HS-4103 with an index of 0.74 which is less than 1 reveals that Kenya's leather products are uncompetitive in the

AfCFTA export market. This implies that either most of the leather products are used locally in addition to little effort for their utilization or little export from the category.

Table 9: RCA Index for Kenya's Leather Products (HS 41) in the AfCFTA Market

Year	2017	2018	2019	2020	2021	Average
HS-4103: Other raw hides and skins, fresh, or salted, dried, limed, pickled or otherwise preserved, whether or not dehaired or split (excluding those of bovine animals, equine animals, sheep and lambs, those with wool on and those of goats or kids from Yemen, Mongolia or Tibet and tanned, parchment-dressed or further prepared)	0.00	0.05	1.50	0.56	1.60	0.74
HS4105: Tanned or crust skins of Sheep or lambs, without wool on,whether or not split, but not further prepared	0.22	0.00	0.14	0.00	0.91	0.25
HS-4106: Tanned or crust hides and skins of goats or kids, pigs, reptiles and other animals, without wool on, and leather of hairless animals, whether or not split (excluding further prepared and leather of bovine and equine animals, sheep and lambs)	0.20	0.00	0.00	0.66	1.43	0.46
HS-4104: Tanned or crust hides and skins of bovine "incl. buffalo" or equine animals, without hair on, whether or not split (excluding further prepared)	0.01	0.04	0.01	0.04	0.25	0.07

HS-4107: Leather further prepared after tanning or crusting "incl. parchment-dressed leather", of bovine "incl. buffalo" or equine animals, without hair on, whether or not split (excluding chamois leather, patent leather and patent laminated leather, and metallized leather)	0.11	0.09	0.13	0.41	0.19	0.18
HS-4115: Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip, whether or not in rolls; parings and other waste of leather or of composition leather, not suitable for the manufacture of leather articles; leather dust, powder and flour	0.25	0.1	0.07	0.28	0.23	0.19
HS-4101: Leather further prepared after tanning or crusting "incl. parchment-dressed leather", of bovine "incl. buffalo" or equine animals, without hair on, whether or not split (excluding chamois leather, patent leather and patent laminated leather, and metallized leather)	0.03	0.03	0.28	0.04	0.03	0.08
HS-4113: Leather further prepared after tanning or crusting "incl. parchment-dressed leather", of goats or kids, pigs, reptiles and other animals, without wool or hair on, and leather of hairless animals, whether or not split (excluding leather of bovine and equine animals, sheep and lambs, and chamois leather, patent leather and patent laminated leather, and metallized leather)	0.12	0.06	0.04	0.00	0.00	0.04

Source: Authors' computations

Notably the RCA index of the products under this broad category in the year 2020 was still a dip in most of the products under this broad classification specifically as compared to those of 2021.

6.   Conclusion and Policy Recommendations

6.1   Conclusions

The study draws conclusions with regards to the objective that aimed to analyze how Kenya can enhance trading in the recently established AfCTA market through its livestock products. The key findings of the study are as follows:

1. Kenya's competitiveness of livestock products where the competitive edge of 3 livestock products HS-0210, HS-0202 and HS-0203 with the highest RCA from Meat and edible offal, salted, in brine, dried or smoked; edible flours and meals of meat (HS-0210) of 18.67, 3.17 and 1.77 respectively.

2. Kenya enjoys significant comparative advantage in meat and edible offal under broad HS classification 02 across 8 markets in the AfCFTA. The strongest RCA is with Southern Sudan, followed by Tanzania, the DRC, Uganda, Somalia, Rwanda, Sudan, and Seychelles. Pastoralist communities in South Sudan revere cattle and discourage cattle slaughtering, potentially explaining why the country registered the strongest RCA in the region. Broadly, increased value addition to the products relatively increases their returns from the foreign exchange earned from increased products from motivated farmers and the entire chain.

3. In the second broad classification Kenya in HS-0409 (Natural honey) with an index of 2.40 hence a competitive edge of the product in the AfCFTA market under this category. This was followed with HS-0405 which is a valued added dairy product illustration how value addition to products strengthens the competitiveness of the products in the AfCFTA market

4. Kenya has a dismal revealed competitive advantage in the HS-41 (livestock leather products). This is exhibited where all the specific products computed, none had RCA equaling to 1. This revealed the untapped potential in the value addition of the livestock leather products despite the great potential that exists from the existing wastages in the value chain in agro-processing. The agro-processing accelerates manufacturing sector and increasing employment opportunities, hence addressing unemployment. HS-4103 with an index of 0.74 less than 1 reveals that Kenya's leather products are uncompetitive in the AfCFTA export market

5. In the leather products (HS-41) broad classification, Uganda had the highest RCA index, followed by Nigeria which is arguably a new market based on the RCA trend. Other markets with a sizeable RCA index include Congo, South Africa, Tanzania, Ghana, Rwanda and Ethiopia.

6. Kenya has no widespread comparative advantage in dairy and egg products category (HS-04) across Africa. It only enjoys a significant advantage in Uganda which is a close neighbour. Most of the livestock products in this category are consumed locally leaving little for export. Revamped production may lead to surplus which can be exported to Rwanda, Egypt, Tanzania, South Africa.

6.2   Policy Recommendations

To enhance Kenya's livestock trading, the following are recommended:

1. The Government to continuously train local livestock farmers to meet the standards to access new and traditional markets. As countries launch the AfCFTA, some partners are likely to introduce strict standards to protect their industries. Supporting local livestock farmers and traders to embrace these standards will improve Kenya's competitiveness in the AfCFTA market. Drafting of policies that helps tighten the adherence to export requirements such as in the AfCFTA, food safety and phytosanitary regulations and conformity enhances Kenya's competitiveness in other international markets. These calls for a deployment of skilled extension workers to build capacity of institutions/individual farmers who dealing with the livestock products.

2. The Kenya Livestock Commercialization Program to structure farmers into groups unlocking the unexploited potential through diversification in the honey products such as: Honey, Wax, Pollen, Propolis, Royal Jelly, and Bee Venom. Formation of cooperative societies will also help to create a honey value-chain and limit exploitation from the middlemen.

3. Revamp mass production of dairy and egg products to boost export in the AfCFTA market. Dairy and egg production require less space to manage and are less exposed to environmental shocks. Upscaling the uptake of agricultural technology may support farmers by increasing their production of dairy and egg products.

4. The State Department for Livestock and the private sector institutions to organize individual middle value chains under micro and small enterprises. These will boost proper management of the hides and skin sector. It will bring essential additional employment for people in the poverty-stricken areas who rely on the sector as their main source of livelihood. Their worksites should be improved considerably as this will ensure their operating conditions are up to the required standards providing an enabling environment for the sector to thrive. This can be done by putting up model factories of leather tanneries for small and medium enterprises.

5. Facilitate farmers through capacity building on ways to improve the quality of raw hides and skins. This will qualify the products for next stage of agro-processing thus generate higher revenues. Capacity building can be enhanced by bringing on board veterinary and agriculture extension personnel to assist farmers to adopt modern livestock management techniques in addition to manufacturing of effective animal feeds. If these works successfully, it would be possible to launch leather-specific projects in the agro-processing sub-sector. Consequently, the sector will benefit from a comparative advantage and therefore realize the full potential of maximizing the returns.

6. Creating an enabling environment to accelerate industrial development by establishing industrial parks and zones for different livestock products and therefore make it easier for livestock farmers and traders to engage in business activities.

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