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Agricultural Structure in Somalia

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Abstract

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Agriculte is an indispensable sector of Somalia due to the survival of the country's population, its contribution to national income and employment, providing raw materials and capital to other sectors, its direct and indirect impact on exports, imports, and also its contribution to biological diversity and ecological balance. This literature evaluated The Agricultural Structure in Somalian. Farmers in Somalia faced many challenges that affected their livelihoods, such as drought, lack of agricultural extension service and farmer knowledge, lack of quality seeds, and lack of appropriate irrigation systems. The main material of the literature was obtained from secondary data sources, the researchers also collected information from the literature and were carried out using all kinds of printed research, statistics, books, and journals related to Agricultural structure in Somalia. The finding of the literature reveals that farmers are not producing enough products for the country due to the continuation of their traditional practices as they cannot find adequate technical and support services from the government and other institutions. Also, the finding of the literature reveals that there are challenges and constraints that have a bad effect on whole the production for a long time. Since then, several types of research have been conducted in various different countries focusing on challenges facing crop production. For this reason, agricultural production is low. If these issues and challenges are not met in their true perspective, Somalia's economy in general and the rural economy, in particular, cannot sustain.

EURASIAN JOURNAL OF AGRICULTURAL ECONOMICS
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1.Introduction

Agriculture is an indispensable sector and has played a key role in the development of human civilization. Until the Industrial Revolution, the majority of the human population worked in agriculture. The development of agricultural techniques has steadily increased agricultural productivity. The widespread use of these techniques over a period of time is often referred to as the agricultural revolution (Mendali & F, 2013). In parallel with the increasing population in the world, there is a significant increase in agricultural products. The beginning of the problems in the agricultural sector in Africa is the fact that more traditional methods are still used in agriculture - mostly with simple tools and equipment - and many obstacles are encountered in the transition to modern agriculture (Qureshi & Ismail, 2016). The main problems experienced in the agricultural sector, which has the potential to develop in Africa, can be listed as Low efficiency, advanced scarcity of inputs (seed, fertilizer, etc.), lack of Modern irrigation, infrastructure deficiencies, and costs in bringing the product to the market, trade barriers and taxation issues, concerns about investment due to political instability, insufficient Education Given to Farmers, droughts, and Floods (Debrat, J. M. 2011).

Mc Calla, A. F Spring, 2001, USA, talks about challenges to World Agriculture in the 21st Century. He not found only drought, but also other challenges, such as insecurity, environmental degradation, and a lack of knowledge and skills. In Somalia, the territory of most of the farms was controlled by the terrorist group Al-Shabab. Many farmers are afraid to visit their farms and grow naturally due to the state of insecurity. The main and threatening challenge was the drying up of rivers, which in some seasons can automate the loss of crops already and recently cultivated, awakening the general low morality of farmers for that planting and reconciling low yields for that season (Abdi-Soojeede, 2018).

Somali farmers continue their traditional practices as they cannot find adequate technical and support services from the government and other institutions. For this reason, agricultural production is low. Also, the link between the institution and the farmers is not strong. The biggest problems are lack of investment, limited technical knowledge, and skills, inefficient farming system, and lack of advanced irrigation methods suitable for agro-climatic and post-

2.Agricultural sector in Somalia

Somalia's total land area is 637,540 km2, of which 30% is classified as desert land unsuitable for agricultural production, 45% is covered by rangelands suitable for livestock grazing, 14% is covered by forest or woodland, and the remaining 11% is classified as arable land (FAO 2014). Agriculture is one of the major employment activity and is the largest backbone of the economic sector in Somalia. As we see (Table 1) agriculture contributed 60.1% of GDP of the country (FAO 2020). Economic growth is at the center of economic development of every country. When national income increases, real people also will benefit. Also the table shows economic indicators and sectoral distribution of gross domestic product, the GDP of the country was 4.9 billion dollars in 2020. It also includes indicators that represent factors known to be relevant to economic growth, such as GDP growth, GDP per capita, inflation rate, unemployment rate and also sectoral distribution of GDP of the country like services 32.5%, fishing industry 4.9%, agriculture 60.1%and manufacturing 2.5%.

Table 1 Economic indicators in Somalia

2020	Somali
GDP	$4.9 billion
Real GDP Growth	-1.5 %
GDP Per Capita	320 dolar
Inflation rate	4.1%
Unemployment rate	19.7%
Sectoral Distribution Of GDP	
Services	32,5%
Fishing industry	4.9%
Agriculture	60,1%
Manufacturing	2.5%

Source: Compiled by the Statistics Section, DFAT, using the latest data from the IMF and various international sources 2020.

a. GDP: Gross domestic product

b. Real GDP Growth: Real Gross domestic product Growth

c. GDP Per Capita: Gross domestic product Per Capita

d. DFAT: Department of Foreign Affairs and Trade

e. IMF: International Monetary Fund

There are two long rivers in Somalia: - The Jubba River is 1004 km long and the Shabelle River is 1130 km long. The climate in Somalia is semi-arid and arid, with an average annual temperature of 27ºC. The average annual precipitation is <100-700 mm (FAO 2005).

2.1.Crop production sector

Somalia's agricultural products can be divided into two main groups: food products produced for home consumption and export products. According to the World Bank's development indicators statistics, farmers are not producing enough products for the country while there is a lot of arable land in Somalia, which is a country with high agricultural potential. On the other hand, the soil is very suitable for agriculture, and it is even possible to harvest many crops 3-4 times a year. Despite this, the country's agricultural production is not enough to feed 15.9 million people. Farmers in Somalia were facing many challenges affecting their livelihoods such as drought, insufficient agricultural extension service, farmer knowledge, lack of quality seeds, lack of proper irrigation system, lack of mechanization, inadequate storage facilities, and lack of agricultural marketing (Abdi, 2018).

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Academic Journal

2.1.1.Major agricultural products of Somalia

These are some major agricultural products in Somalia: - Grains: Sorghum, corn, and rice. Legumes: - Black-eyed peas and mung beans. Oil crops: - Sesame and sunflower: Commercial crops: - Bananas, citrus fruits, vegetables, sugarcane, cotton, and myrrh. There is an incredible difference between the harvested area in hectares and the yield per hectare. For example, less than one ton of corn is produced in one hectare (Gavin R, Hussein H, Jelinski N, Porter P in press). Inadequate technical and support services, insufficient infrastructure, lack of quality seeds, lack of credit system, and lack of appropriate irrigation system cause low yields as shown (Table 2).

Table 2. Harvested Area in Somalia

Crops	Area harvested (Thousand Ha)		Yield (Kg/ Ha)		Production (Thousand ton)	
	2019	2020	2019	2020	2019	2020
Sorghum	250,000	250,000	500	400	125,000	100,000
Corn	100,000	100,000	570	750	57,000	75,000
Cotton	17,815	17,901	400.4	400.1	7,133	7,163
Wheat	2,612	2,615	398.2	398.9	1,040	1,043
Banana	1,355	1,350	17,063.5	17,055.6	23,121	23,025
Paddy	1,317	1,651	975.7	716.5	1,285	1,183

Source: FAOSTAT - Production Statistics - Crops, Processed Crops, 2020.

Source: FAOSTAT - Production Statistics - Crops, Processed Crops, 2020.

a. FAOSTAT: Food and Agriculture Organization Corporate Statistical Database

b. Ha: hectare

c. Kg: Kilogram

As we see the following (Figure1), before the civil war in 1991, Somali farmers produced hundreds of thousands of tons of crops and fruits, but after the fall of the central government in 1991, crop and fruit production in Somalia declined as illustrated in the (Figure1). The decline in grain production has been so dramatic over the last three decades that recently (pre-drought) food aid and food imports have exceeded domestic grain production.

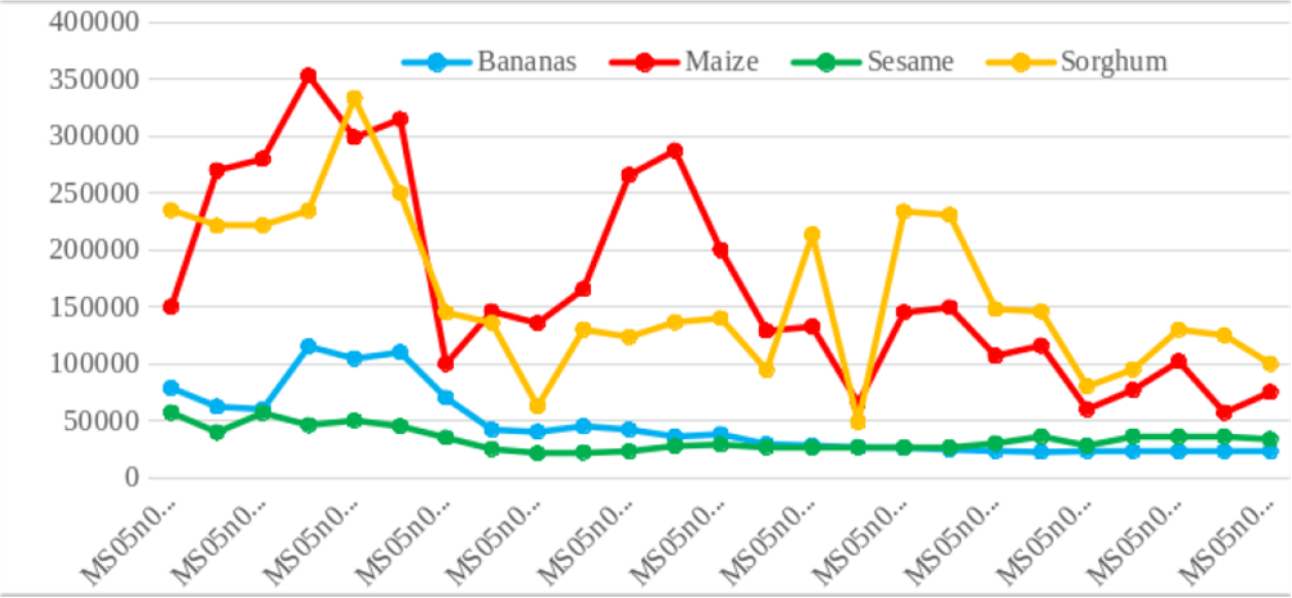

Figure1. Production of Cereals in Somalia (ton)

Source: FAOSTAT, 2020.

According to the FAOSTAT (2020), maize production totaled about 353,000 tons in 1988. During the 1995-2015 period, it decreased by an average of 63% to 120,000 tons. In the more recent drought years (2010–15), average corn production fell to about 110,000 tons, falling to 63,251 tons in 2016 as a result of below-average rainfall as shown in (Figure1). In 1988–90, sorghum production averaged 275,000 tons and increased to 330,000 tons in 1989. It decreased to 78,801 tons in 2016 as shown in the (Figure1). Somalia has been the second largest sesame producer in the world and plays an important role in the global sesame trade to the country. Despite major constraints such as civil strife, lack of investment, and lack of policy and regulation, sesame production in Somalia has increased sevenfold since 1991. It drops to 45,000-50,000 tons in the 1989-90 period just before the civil war begins (Figure1). “Each year, sesame income in Somalia is estimated at 300 Million USD 2017, accounting for 5.25% of the country's total GDP of 5.71 billion USD”.

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Academic Journal

2.2. Livestock sector

Livestock has been one of the backbone of the Somali economy for centuries. Livestock provides a source of income and domestic consumption of meat and other animal products is an important source of food security. It was also one of the few production systems that remained unaffected during the civil war due to the relative mobility that livestock could easily move from conflict zones to more stable environments. The most important animals of the country are Camels, Cattle, Sheep and Goats. The country has 34.5 million head of animals, including 11.5 million goats, 11 million sheep, 7.2 million camels and 4.8 million cattle (FAOSTAT 2020). According to FSNAU, Goats are much larger than camels and cattle. Even after the death of the last drought, Somalia has the world's largest camel population, more than double the camel population of Kenya and Ethiopia combined in early 2010 (Mahmoud 2013).

Table 2. Number of Livestock in Somalia by Type (Heads)

Year	Camel	Cattle	Goats	Sheeps
1961	2,900,000.00	3,150,000.00	11,800,000.00	6,200,000.00
1980	5,800,000.00	4,358,000.00	17,000,000.00	10,300,000.00
1985	6,411,000.00	4,494,000.00	19,000,000.00	11,800,000.00
1990	6,700,000.00	4,000,000.00	18,500,000.00	13,000,000.00
2000	7,001,600.00	5,139,000.00	12,300,000.00	13,808,000.00
2010	7,000,000.00	4,800,000.00	11,500,000.00	12,000,000.00
2016	7,226,140.00	4,850,000.00	11,541,747.00	10,652,498.00
2017	7,222,181.00	4,800,000.00	11,524,496.00	11,000,000.00
2018	7,295,295.00	4,7388,92.00	11,6408,56.00	10,6352,36.00
2019	7,2952,95.00	4,7388,92.00	11,6408,56.00	10,6352,36.00
2020	7,2952,95.00	4,7388,92.00	11,6408,56.00	10,6352,36.00

Source: FAOSTAT, 2020.

Periodic droughts have serious effects on the livestock sub-sector. The livestock economy of the north-western regions was affected by the drought. The lack of rain at the end of 2016 resulted in a significant drought affecting all regions, reduced water and pasture availability for livestock, high animal mortality, and a large reduction in the yield of surviving animals.

2.2.1 Milk production

Milk is an important food source for pastoralists, who tend to increase their household consumption during dry seasons (Center, 2019). Milk production in different ecological regions of the country provides employment and income in both rural and urban areas, especially for women who traditionally trade. In 2014, Somalia produced more than 1.1 million tons of camel milk, with a gross market value of 1.65 USD. Camels can produce more milk from poor forage than other animal species and yield an average of 2.5-3.5 liters per day. Milk production is inversely proportional to the season; production is high (wet seasons in Gu and Deyr); Low production Hagaa and Jilaal during dry seasons.

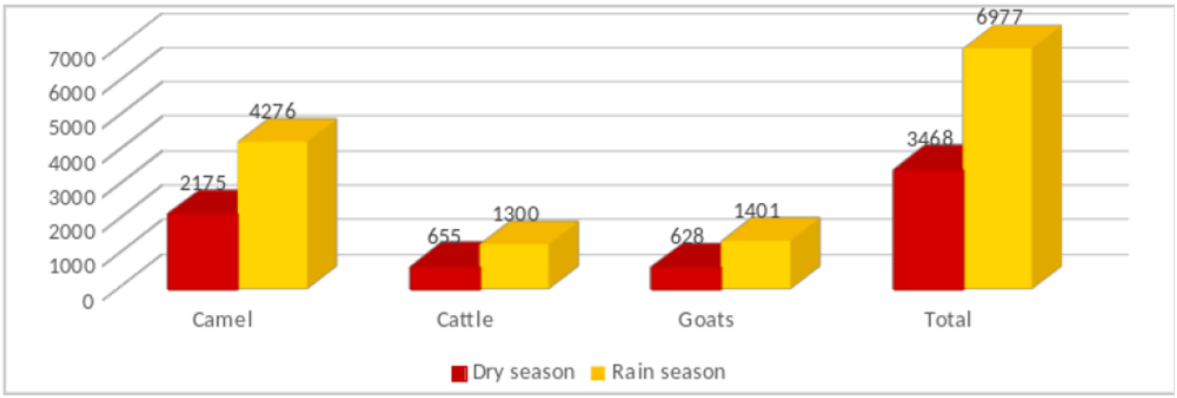

Figure 2. Milk production in Somalia (ton) (2017)

Source: FAOSTAT, 2017.

Milk prices, is inversely proportional to the level of production; prices are low when production is high, and when during dry seasons, as animals move in search of pasture and water, milk is less available and its price increases (Muse, 2017).

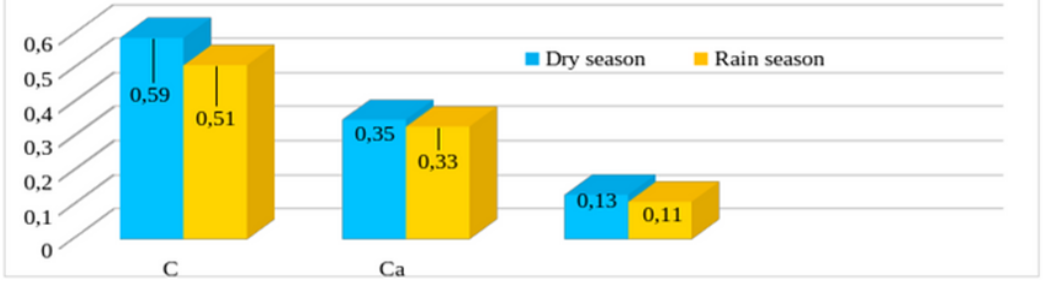

Figure 3. Milk Prices in Somalia (dollar/liter)

Source: FAOSTAT, 2017

3. Agricultural trade sector

Somalia's foreign trade was mainly in agricultural products. The agricultural sector is not only the engine of Somalia's economy but also a source of livelihood for the majority of the Somali people. In the pre-war period, the second-largest export item was fruit, mostly bananas (Somalia also exported grapefruit and papaya), which was shipped mostly to Italy.

In recent years, fruit exports to the Gulf countries have been limited by some tests. Agricultural exports represented 93 percent of total exports in early 2010 (slightly below about 95% before the war). Much has changed over the past three decades, but Recorded export performance (estimated from partner country customs data) has been outstanding (Table 3). As we can see, there is an incredible difference between the country's exports and imports, which results in a negative export balance

Table 3. Foreign trade in Somalia (Million USD)

	1996-2000	2001-05	2006-10	2011/14	2015
Total Agricultural Exports	112.3	141.1	208.9	518.1	634
Total Exports	119.9	169.5	282.5	559.1	688.5
	1996-2000	2001-05	2006-10	2011-14	2015
Total agricultural imports	122	201.9	525.9	1,217.90	1,496.80
Total imports	167.1	288.1	719.7	1,674.90	2,358.00

Source: FAOSTAT, 2016.

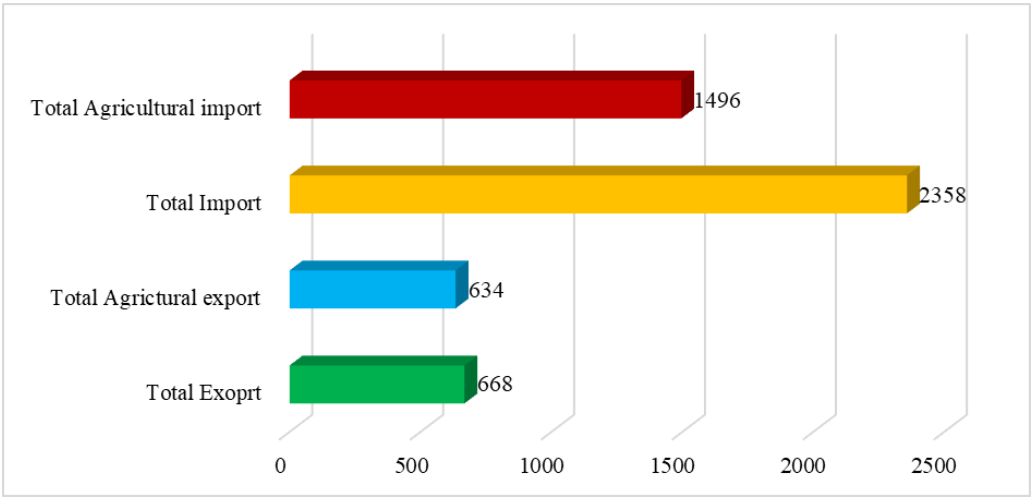

Figure 4. Foreign trade in Somalia (Million USD) (2015)

Source: FAOSTAT, 2020.

Somalia exported $195,4 million and received $2,1 billion in 2020, resulting in a negative trade balance of 2.04 billion USD in shown (Table 4). In 2020, Somalia's GDP was 4.9 billion USD and GDP per capita was 320 USD. In the pre-war period, the second largest export item was fruit, mostly bananas, which were mostly shipped to Italy (Somalia also exported grapefruit and papaya).

Table 4. Imports and exports of Somalia (dollars)

	2015	2016	2017	2018	2019
Exports	688.5 Million	631,3 Million	425,8 Million	488,2 Million	195,4 Million
Imports	2,3 Billion	2,8 Billion	3,3 Billion	3,4 Billion	2,1 Billion

Source: Ankara Chamber of Commerce, 2020.

Among the most exported products from Somalia; While there are live sheep and goats, cattle, gold, oilseeds and fruits, electronic integrated circuits, products imported from Somalia include; cane, beet sugar, rice, palm oil, wheat flour, milk cream.

The country is now recovering from the effects of a long civil war and repeated famines and droughts. Under a less influential government over the past 25 years, the economy was not doing well, and international trade was part of the economic sectors that suffered. The following graph shows the negative trade impact between export and import of the country.

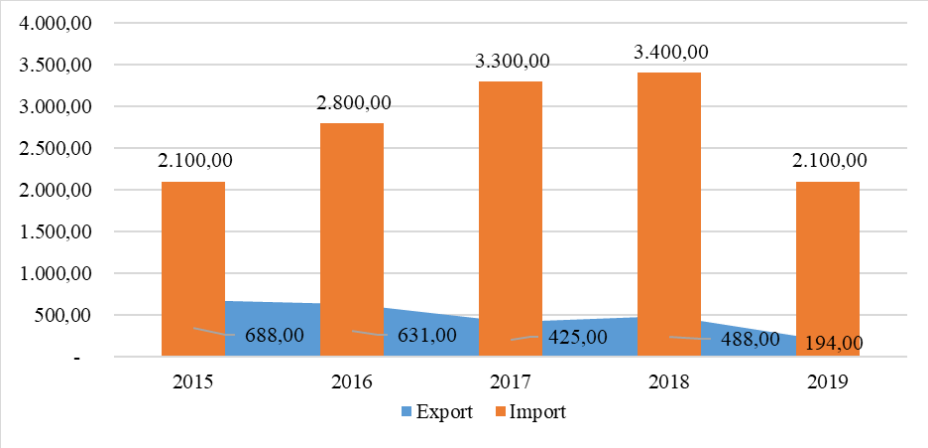

Figure 5. Export and import of Somalia (Million dollars)

Source: Ankara Chamber of Commerce, 2020.

Exports were small and only livestock played a crucial role. however, it failed to stabilize the country's trade balance account when other sectors did not have an export surplus.

However, the economy has been in steady growth over the past six years, but this has not affected the country's role in international markets. Somalia's integration into international markets is very weak. due to the absence of an effective government, lack of banks and financial institutions with international standards, weak infrastructure and lack of quality standards and controls to control exported products.

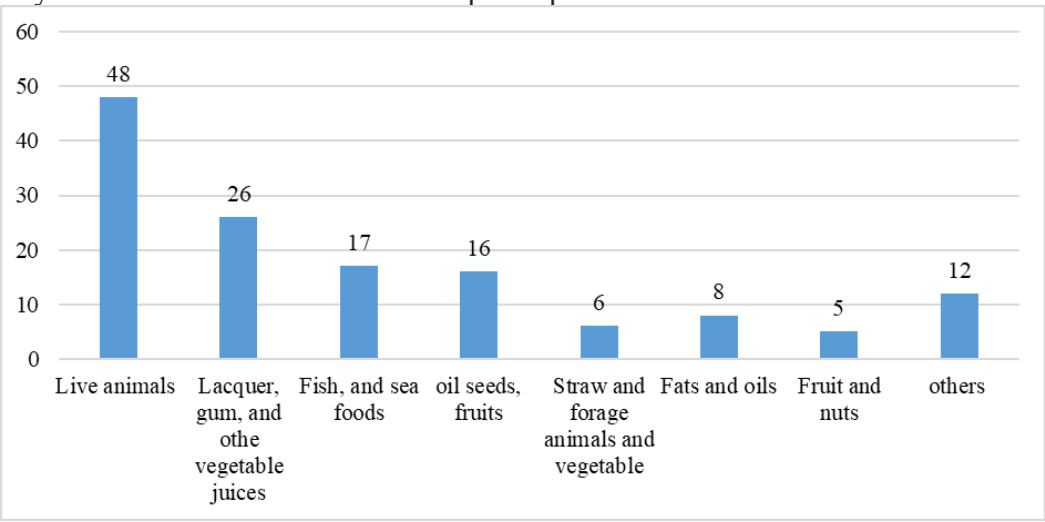

Figure 6. Major Product Groups in Somalia's Exports (million dollars) (2020)
Source: Trademap, 2021

Somalia's main exports are livestock, including goats, sheep, camels, and cattle; hides and skin; banana; Sesame; fish; main export partners are Saudi Arabia, United Arab Emirates, Oman, Yemen, and Brazil.

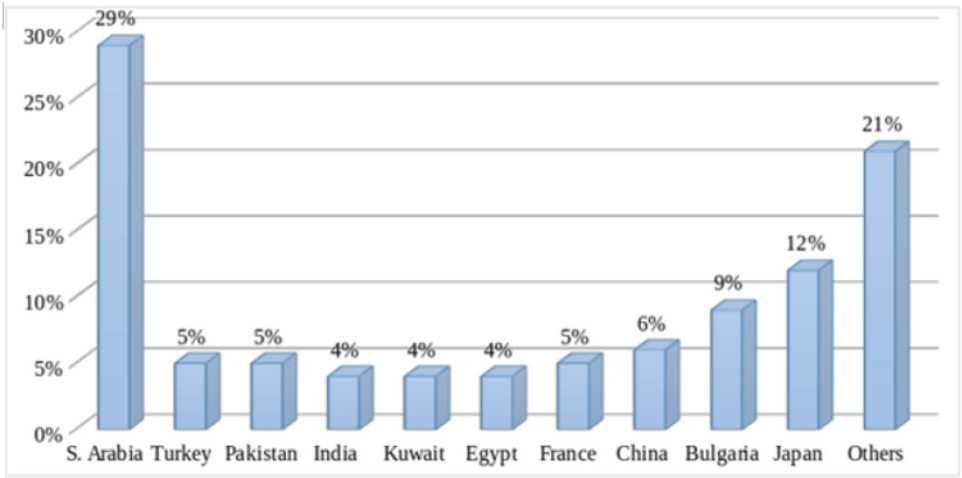

Figure 7. Somalia's Exports by (Country 2020)

On the other hand, the main import items are, food (sugar, wheat, flour, rising edible oil, etc.), manufactured goods (clothing, electronics, automobiles, etc.) and construction materials and khat. It is the second largest import after sugar, so the following (Figure 8) shows some products in Somalia's import Saeed, A. A. J., & Hussain, M. A. (2015)

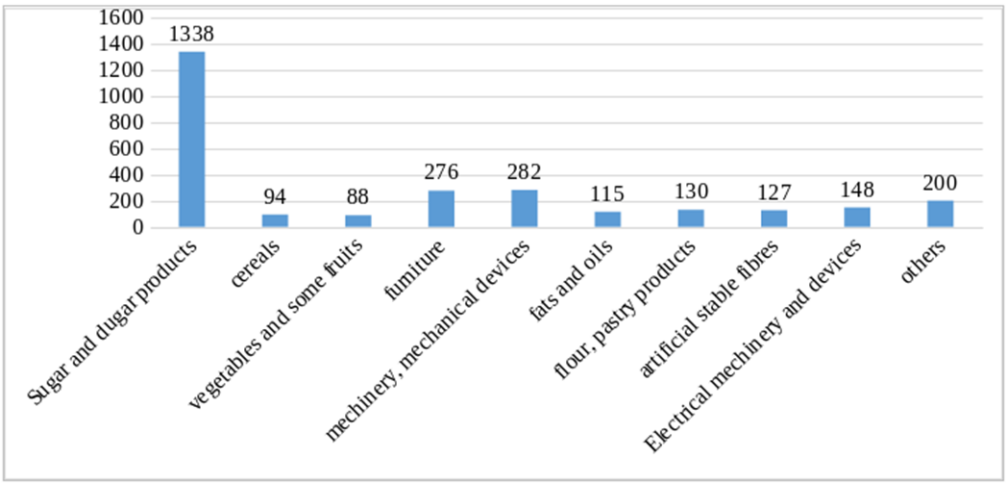

Figure 8. Major Product Groups in Somalia's Imports (million dollars) (2020)
Source: Trademap, 2021

Somalia's import partners are the United Arab Emirates, which imports almost all Somali goods through the Dubai International Market; Oman; Djibouti; Sweetcorn; Ethiopia; Chinese; Kenya; Pakistan; and India are shown in (Figure 9)

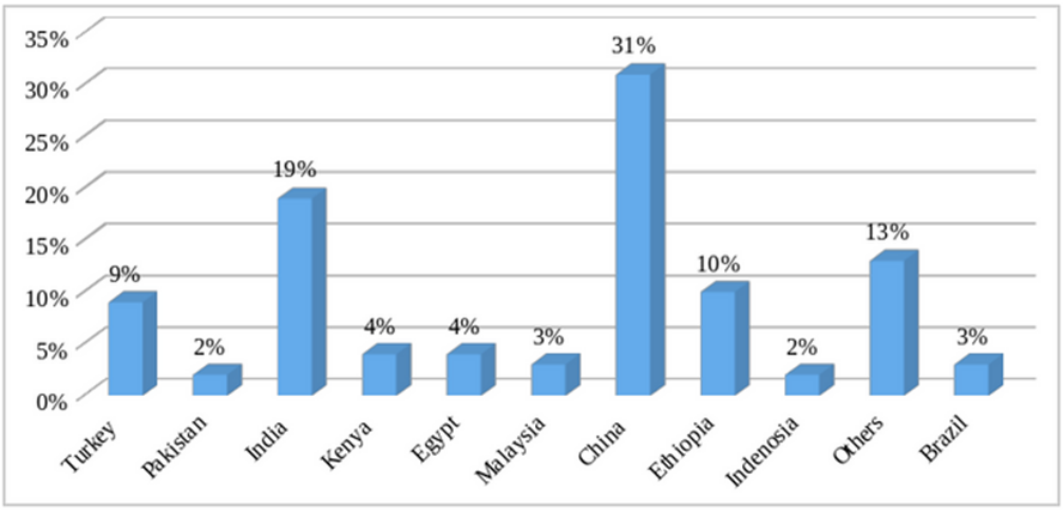

Figure 9. Somalia's Imports by Country
(2020) Source: Trademap, 2021.

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4. Conclusion and suggestion

The findings of the literature reveal that the problems had a long-standing negative impact throughout the entire production. Since then, several studies have been conducted in different countries focusing on major and minor issues with crop production. While the country's production depended on rural farmers.

Our farmers continue traditional practices because they cannot find sufficient technical and support services in the country because there is no strong central government in the country and there is very little work done by the Ministry of Agriculture as rural areas are unsafe and not controlled by the government the territory of most of the farms are controlled by the terrorist groups Al-Shabab.

Many farmers are afraid to visit their farms and grow naturally due to insecurity. Therefore, there is very little communication between the ministry of agriculture and the farmers. Since the Ministry does not have direct contact with farmers, it offers projects to local non-governmental organizations and these organizations deliver projects to farmers, for this reason, agricultural production is low.

Somalia's integration into international markets is very weak. due to the absence of an effective government, lack of banks and financial institutions with international standards, weak infrastructure, and lack of quality standards and controls to control exported products and these resulted in negative trade impact between export and import of the country.

If these issues and challenges are not met in their true perspective, Somalia's economy in general and the rural economy, in particular, cannot sustain.

1) The government should establish Agricultural extension agencies that encourage farmers to adopt new and improved farming methods.

2) Farmers should attend all training and workshops related to crop production.

3) Farmers should use certified drought-resistant seeds.

4) Farmers should use appropriate irrigation systems that are beneficial to farmers to increase water use efficiency by minimizing non-useful water use.

5) NGOs and local state governments should raise awareness of the usability and usefulness of e-Agriculture through the organization of local seminars and training programs for farmers.

6) The government should conduct continuous research to find a solution for the farmer’s problems in order to increase the farmer's productivity.

EURASIAN JOURNAL OF AGRICULTURAL ECONOMICS
Academic Journal

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