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# **The Role of Agricultural Production on Economic Growth in Somaliland**

A Research Paper

Submitted for the partial fulfillment of the requirements for the award of  
B.A Degree in Economics

Under the Guidance of

**Mr. Mohamed Guudle**



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August 2015

## **Certificate**

This is to certify that the project titled “The Role of Agricultural Production on Economic Growth in Somaliland” is a bona-fide work done by

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Moustapha and Mouse

# Dedication

To

Mom & Dad

# TABLE OF CONTENTS

## Table of Contents

COVERPAGES	
ACKNOWLEDGEMENTS	ii
Dedication	iii
TABLE OF CONTENTS	iv
LIST OF TABLES AND FIGURES	vii
CHAPTER ONE	1
1. INTRODUCTION	1
1.1 Background of the study	1
1.2 Statement of the Problem	6
1.3 Objectives of the Study	7
1.4 Research Questions:	7
1.7 Scope of the Study	7
1.8 Significance of the Study:	8
1.9 Limitation of the Study	8
1.10: Research Scheme:	9
CHAPTER TWO	11
2. LITERATURE REVIEW	11
2.1: An Definition of Agricultural Production	11
2.2 Sources of agricultural production	12

2.3 Importance of agricultural production in East Africa	12
2.4 Agricultural production and sustainable development	13
2.5 Empirical Review:	14
Agricultural Production in Somaliland:	14
Potential Surplus Areas	16
2.6 Theoretical Review:	18
Farm Types in Somaliland	18
Rainfed farming	18
Low Input Rainfed Agriculture	18
Medium Input Rainfed Agriculture	18
Irrigated farming	22
2.7 Definition of economic growth	25
2.8 Sources of economic growth	26
2.9 Capital accumulation	26
2.10 Factors affecting Economic Growth	27
Productivity:	27
Business Cycle:	27
Income Equality	28
2.11 Social Benefits Costs of Economic Growth	28
Advantages or Benefits of Economic Growth:	29
2.12 Social Costs of Economic growth:	29

CHAPTER THREE: .....	31
3. METHODOLOGY .....	31
3.1: Research Design: .....	31
3.2 Research sampling.....	32
3.3 Sources and Type of Data .....	32
3.4 Method of Data Analysis .....	32
3.5 Study Area: .....	32
Summary of Government and International Organizations in Somaliland:.....	33
Food and Agriculture Organization (FAO):.....	33
World Food Programme (WFP): .....	34
Ministry of Agriculture: .....	34
FSNAU .....	35
CHAPTER FOUR:.....	36
4. DATA ANALYSIS AND INTERPRETATION.....	36
CHAPTER FIVE: .....	48
5. FINDINGS, CONCLUSION AND RECOMMENDATION.....	48
Findings: .....	48
Conclusion .....	50
Recommendation: .....	51
References .....	53



## LIST OF TABLES AND FIGURES

<b>Table 1:</b>	Estimates10 of area (ha) for Gu 2010	14
<b>Table 2:</b>	The historical area data available to the Mission	15
<b>Table 3:</b>	Estimates of cereal production (t) for Gu 2010	15
<b>Table 4:</b>	Estimates of cereal deficits/ surpluses by district in tonnes	16
<b>Figures 1:</b>	Estimated area harvested, production of Maize & Sorghum during the period of 2009-2013	
<b>Figure 2:</b>	Estimated Yields of Sorghum and Maize during the period of 2009-2013	36
<b>Figure 3:</b>	Estimated total Area & Production of Maize & Sorghum during the period of 2009-2013	37
<b>Figure 4:</b>	Estimation of Area for Gu 2010	37
<b>Figure 5:</b>	Estimation of cereal deficits/ surpluses by district in tonnes	39
<b>Figure 6:</b>	Regional Contribution of 2014 Gu/Karan Cereal Production	40
<b>Figure 7:</b>	Gu-Karan 2014 as % of Gu-Karan 2013	41
<b>Figure 8:</b>	Gu-karan 2014 as % PET Average (2010-2013)	41
<b>Figure 9</b>	Contributions of Agricultural production to Economic Growth in Somaliland	42
<b>Figure 10</b>	Northwest Regions, Estimated Rural Population in Acute Food Insecurity by Livelihood Zone, August-December 2014	45

## **ACRONYMS AND ABBREVIATIONS**

MOA	Ministry of Agriculture
WFP	World Food Programme
FAO	Food & Agriculture Organization
NDP	National Development Plan
SNM	Somali National Movement
WB	World Bank
GDP	Gross Domestic Product
UNDP	United Nations Development Program
FSNAU	Food Security and Nutrition Analysis Unit
SWALIM	Somalia Water and Land Information Management

## **CHAPTER ONE**

### **1. INTRODUCTION**

#### **1.1 Background of the study**

The structure of agricultural production in developing countries has radically changed in the last two decades. Since the late 60s and 70s, the World Bank and its various agricultural research institutes have actively promoted the adoption of industrial (high chemical input) agricultural methods such as the Green Revolution ‘miracle’ seeds, promising landfall yields. These high technology methods were expected to benefit all farmers, including the poor. Since yields would increase, incomes were also expected to increase. (Aileen Kwa, 2001).

In developing countries, agriculture continues to be the main source of employment, livelihood and income for between 50% - 90% of the population. Of this percentage, small farmers make the up the majority, up to 70 – 95% of the farming population. Small farmers are therefore a significant proportion of the population. They have traditionally survived on subsistence production. Many in the last 2 decades have experimented with export crops with occasional initial success but many disastrous failures.(Aileen Kwa,2001)

According to the World Agriculture Report, The agricultural production in USA is higher than China, The share of agricultural production (based on value or volume) sold outside the country indicates the level of U.S. agriculture's dependence on the foreign market as well as the overall size of the market for U.S. agricultural products. Over the past two decades, the share of production based on value rose from 13 percent in 1990 to 18 percent in 2009, while the share based on volume remained relatively stable at around 20 percent over the same period. And while in the china agricultural market, there are inefficiencies in the agricultural market, despite

rapid growth in output; the Chinese agricultural sector still faces several challenges. Farmers in several provinces, such as Shandong, Zhejiang, Anhui, Liaoning, and Xinjiang often have a hard time selling their agricultural products to customers due to a lack of information about current market conditions.<sup>1</sup>

Between the producing farmer in the countryside and the end-consumer in the cities there is a chain of intermediaries. Because a lack of information flows through them, farmers find it difficult to foresee the demand for different types of fruits and vegetables. In order to maximize their profits they therefore opt to produce those fruits and vegetables that created the highest revenues for farmers in the region in the previous year. If, however, most farmers do so, this causes the supply of fresh products to fluctuate substantially year on year. Relatively scarce products in one year are produced in excess the following year because of expected higher profit margins. The resulting excess supply, however, forces farmers to reduce their prices and sell at a loss. The scarce, revenue creating products of one year become the over-abundant, loss-making products in the following, and vice-versa.<sup>2</sup>

Efficiency is further impaired in the transportation of agricultural products from the farms to the actual markets. According to figures from the Commerce Department, up to 25% of fruits and vegetables rot before being sold, compared to around 5% in a typical developed country. As intermediaries cannot sell these rotten fruits they pay farmers less than they would if able to sell all or most of the fruits and vegetables. This reduces farmer's revenues although the problem is caused by post-production inefficiencies, which they are not themselves aware of during price negotiations with intermediaries. These information and transportation problems highlight

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<sup>1</sup>United States Department of Agriculture, Economic Research Service  
[anden.wikipedia.org/wiki/Agriculture in China](https://en.wikipedia.org/wiki/Agriculture_in_China) )

<sup>2</sup>([en.wikipedia.org/wiki/Agriculture in China](https://en.wikipedia.org/wiki/Agriculture_in_China))

<sup>3</sup>[en.wikipedia.org/wiki/Agriculture in Ethiopia and Burundi](https://en.wikipedia.org/wiki/Agriculture_in_Ethiopia_and_Burundi)

inefficiencies in the market mechanisms between farmers and end consumers, impeding farmers from taking advantage of the fast development of the rest of the Chinese economy. The resulting small profit margin does not allow them to invest in the necessary agricultural inputs (machinery, seeds, fertilizers, etc.) to raise productivity and improve their standards of living, from which the whole of the Chinese economy would benefit. This in turn increases the exodus of people from the countryside to the cities, which already face urbanization issues.

According to the Africa Agriculture Report, The agricultural production in Ethiopia is higher than Burundi, Agriculture accounts for 46.3% of the nation's Gross domestic Product (GDP), 83.9% of exports, and 80% of the labor force. Many other economic activities depend on agriculture, including marketing, processing, and export of agricultural products. Production is overwhelmingly of a subsistence nature, and a large part of commodity exports are provided by the small agricultural cash-crop sector. Principal crops include coffee, pulses (e.g. beans), oilseeds, cereals, potatoes, sugarcane, and vegetables. Exports are almost entirely agricultural commodities, and coffee is the largest foreign exchange earner. Ethiopia is also Africa's second biggest maize producer. Ethiopia's livestock population is believed to be the largest in Africa, and in 2006/2007 livestock accounted for 10.6% of Ethiopia's export income, with leather and leather products making up 7.5% and live animals 3.1%. While About 90 percent of the population (Burundi) depends on agriculture for a living. Most agriculture consists of subsistence farming, with only about 15 percent of the total production marketed. An estimated 1,351,000 hectares (3,338,000 acres), or about 52.6 percent of the total land area, is arable or under permanent crops; about 5.5 percent of cropland is irrigated. The average farm family plot is 0.8 hectares (two acres). Agriculture accounted for 51 percent of the GDP in 2004. Coffee and tea exports comprise the majority of foreign earnings; coffee alone accounted

for 39 percent of exports of goods in 2004. Agricultural exports accounted for 48 percent of exports in 2004. Principal crops for local consumption are manioc, beans, bananas, sweet potatoes, corn, and sorghum. Production in 2004 included bananas, 1,600,000 tons, mostly for wine; manioc, 710,000 tons; sweet potatoes, 834,000 tons; beans, 220,000 tons; sorghum, 74,000 tons; corn, 123,000 tons; peanuts, 8,800 tons; and yams, 9,900 tons.<sup>3</sup>

According to the Somaliland Agricultural Report, Economic system of Somaliland has collapsed completely following the 1988 war between SNM and former Somali government troops resulted in mass destruction of local production and citizen livelihood now people recovery from wars effects, somaliland now established development pillars in the coming future sectors creating employment opportunity become necessary to encourage agricultural production to avoid overlapping and wasting, somaliland agriculture always depends on wheatear condition such as rainfall, temperature, location, day light. Although Somaliland country has rich soil and natural resources but Somaliland people didn't care shift of agriculture.

The rain-fed faming is the main agricultural production system in Somaliland, and the most crops grown these areas are cereals especially sorghum which estimated about 70% of the rain-fed agricultural land. Another 25% of the land is used for maize. Other cops such as cowpeas, millet, groundnuts, beans, and barley are grown in scattered marginal land (Somaliland in figures, 2010).

The quarter of world's population, live in some 160 countries collectively referred to as the third world. About two third of the total population of these countries depends on directly or indirectly on agriculture. Agriculture is known to supply the country with food grains, cash crops and milk and dairy products among other things. Beside productive agriculture sector presides relatively

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<sup>3</sup>*en.wikipedia.org/wiki/Agriculture in Ethiopia and Burundi*

abundant food and raw material to increase industry based on urban population productivity in agriculture sector improve the level of income received by rural people. This increase of income is believed to generate demand to the manufactured goods from industrial sector. This is also creates a favorable opportunity to wide domestic market for manufactures (FAO, WFP, 2001)

Those parts of the world where agriculture capital per worker and public investment in agriculture have stagnated are epicenters of poverty and hunger to day. Demand growth over coming decades will place increasing pressure on the natural resource base. Eradicating hunger sustainable will require a significant increase in agricultural investment in Somaliland but also an improvement of their effectiveness.

Agriculture is described as the backbone of the country's economy. This indicates how is important agriculture is to this country. Agriculture contributes to country's economy as whole in the following ways:

- Supplying food to feed nation: most of the country's population lives in the rural area feeding them and they have to produce surplus food for urban areas, the demand for food grows as population increase. Food production must be increased to leave trade deficit.
- Providing employment; agriculture provides direct and indirect employment. Farmers and other people providing farm labor are directly employed others involving processing and marketing agriculture product.
- Earning foreign currency: when agriculture products such as watermelon and other food production into foreign countries and Somaliland government earn foreign agriculture money, the foreign exchange enables the country to buy money essential commodities which are not manufactured in Somaliland.

- Generating money or capital and contributing to national and international trade.

## **1.2 Statement of the Problem**

Farming is currently the second most important economic activity in the country, coming after livestock, with up to 20-25% of population depending on it for their livelihood. Agriculture system is predominantly subsistence in nature. Principle crops are sorghum and maize growing mostly household consumption. Fruit and horticultural farming, which is relatively small, is mainly commercial. Here farmers grow most of the time tomatoes, lettuce, onion, peppers, cabbages, oranges, lemons and papaya. (NDP, 2011)

Somaliland Agriculture currently is undeveloped sector; as such, it has considerable potential, especially for cereals and horticulture production, and creation for employment opportunities, mainly rural areas the majority of Somalilander (about 85%) are either pastoralist or agro-pastoralists who practice rain-fed farming.

The problem of agriculture sector are both natural factors such as unpredictable weather condition, droughts, erosion, and land degradation, man-made factors are such land fragmentation, charcoal production, lack of infrastructures undeveloped rural financial markets and lack of agriculture inputs, agriculture sector is mostly subject to risk and uncertainty this risk Cause, technical Cause and uncertainty. This risk can cause technical courses and special hazards. The technical causes include break down of machinery, defective seeds. (H. Nabhan and et al, 1999)

Agriculture constitutes the main sources of employment of the majority of the world's poor countries. In total, the share of agriculture in total employment in developing countries constitutes 53% of the total workforce in 2004 (WB, 2004).



Agricultural production including food and other crops are determined by the interaction of farmers with: 1-natural resource- (biophysical framework of soils, water, temperature, flora and fauna); 2- Traditional practices; 3- government policies including (land tenure, marketing, animal welfare, labor relations); 4-international trade agreement; 5- environmental fluctuations. (Addeke, et al, 2001)

### **1.3 Objectives of the Study**

This study has three major objectives which are:

- 1 To evaluate rural agricultural performance and productivity
- 2 To study contribution of agricultural sector to food security, income of people and create employment opportunity.
- 3 To forward policy implication to remedy the problem face agricultural sectors.

### **1.4 Research Questions:**

1. How to evaluate rural agricultural performance and productivity?
2. What are the contributions agricultural sector to food security, income of the people and employment opportunity?
3. Can we forward policy implications to remedy the problem face agricultural sector?

### **1.7 Scope of the Study**

Our research essay is the role of agricultural production on economic growth in Somaliland so we collected a secondary data from the ministry of agriculture as well as international organizations starting from 2009 up to 2014.

## **1.8 Significance of the Study:**

Focusing in agriculture improvement for better future coupled with revitalization will provide the largest source of employment and will direct the other economic sectors such as health and education of comparative advantages. Agriculture productivity growth is the single most effective driver of poverty reduction and direct raising farmer's income and reducing food shortage. Moreover, raising agricultural productivity encourages entrepreneurial activities such diversification into new and improved varieties, rural development services and the emergences of agribusiness. Higher agricultural productivity is thus precondition for economic growth and development and increasing yield is essential to raising income and reducing poverty, so 21 century, and agriculture will continue to be fundamental instrument for sustainable development and poverty reduction.

## **1.9 Limitation of the Study**

### **Lack of research units**

There are no research units in government institution in Somaliland which should allow for the researcher to access the facility that he need for his research paper.

For example, traditional approaches to strengthening research capacity in developing countries have focused primarily on honing individual through training at the doctoral level in developed country institutions without preparing the environment at the home institutions for the return of skilled individuals (Sawyerr, 2004). These research capacity-building efforts have been unable to halt the brain-drain from African academic institutions to high-paying non-governmental organizations (NGOs) and institutions in North. A combination of limited career opportunities, lack of institutionalized support for the research and remuneration are major reasons young

African academics do not return their home countries after their training overseas (Sawyerr, 2004).

### **1.10: Research Scheme:**

In Chapter one, this section is about to introduce the reader, about this study, overview of the research paper or what is the problem that is to be solved. It contains background of the study; problem statement is to be solved. Also it contains the different objectives of the study, significance of the study, research questions, hypothesis, scope, problem statement.

In Chapter two, this section is expressed to the previous study about the topic and gives the reader an idea about what has been said about on earlier era. This chapter is body of this study and is where most important aspect of the study are being discussed, reviewed and compared. In addition this part is where the reader can see deeply what is the topic about, why it is important for and how other parties may involve.

In Chapter three, this section is allowing us to using the following research Design approach and includes an outline of what the researcher will do from writing or formulating the hypothesis to the final analysis of data.

In Chapter four, this section show how the information has been gathered is analyzed. The information is usually shown in graphs, charts, and so on. Every single of these charts or graphs represented or explains different phenomena.

In chapter five, this section summarizes the whole research paper. Here it will state the findings and answers of research question. It will provide recommendation to the problem in which we researched about. It will give important discovery and revealing for any beneficiary.

This part also is a center for research review and cancelling for the outcome. Any how this part is where you can get the researchers exhibitions.

## **CHAPTER TWO**

### **2. LITERATURE REVIEW**

#### **2.1: Definition of Agricultural Production**

Agricultural production is measured as the ratio of agricultural outputs to agricultural inputs. (Lal Mervin Dharmasiri 2006)

Singh and Dhillon (2000) suggested that the “*yield per unit*” should be considered to indicate agricultural production. Many scholars have criticized this suggestion pointing out that it considered only land as a factor of production, with no other factors of production. Agricultural production is frequently associated with the attitude towards work, thrift, industriousness and aspirations for a high standard of living, etc., (Singh and Dhillon, 2000)

Agricultural production may be defined as the “ratio of index of local agricultural output to the index of total input used in farm production” (Shafi, 1984).

Dewett and Singh (1966) defined "agricultural efficiency as productivity expressing the varying relationship between agricultural produce and one of the major inputs, like land, labor or capital, while other complementary factors remaining the same".

While individual products are usually measured by weight, their varying densities make measuring overall agricultural output difficult. Agricultural production may also be measured by what is termed total factor productivity (TFP). This method of calculating agricultural productivity compares an index of agricultural inputs to an index of outputs. This measure of agricultural productivity was established to remedy the shortcomings of the partial measures of productivity; notably that it is often hard to identify the factors cause them to change. Changes in TFP are usually attributed to technological improvements.

## **2.2 Sources of agricultural production**

- 1) Some sources of agricultural production are:
- 2) Mechanization
- 3) High yield varieties, which were the basis of the Green revolution
- 4) Fertilizers: Primary plant nutrients: nitrogen, phosphorus and potassium and secondary nutrients such as sulfur, zinc, copper, manganese, calcium, magnesium and molybdenum on deficient soil
- 5) Liming of acid soils to raise pH and to provide calcium and magnesium
- 6) Irrigation
- 7) Herbicides
- 8) Pesticides
- 9) Increased plant density
- 10) Animal feed made more digestible by processing
- 11) Keeping animals indoors in cold weather

## **2.3 Importance of agricultural production in East Africa**

The production of a region's farms is important for many reasons. Aside from providing more food, increasing the productivity of farms affects the region's prospects for growth and competitiveness on the agricultural market, income distribution and savings, and labour migration. An increase in a region's agricultural productivity implies a more efficient distribution

of scarce resources. As farmers adopt new techniques and differences in productivity arise, the more productive farmers benefit from an increase in their welfare while farmers who are not productive enough will exit the market to seek success elsewhere.

As a region's farms become more productive, its comparative advantage in agricultural products increases, which means that it, can produce these products at a lower opportunity cost than can other regions. Therefore, the region becomes more competitive on the world market, which means that it can attract more consumers since they are able to buy more of the products offered for the same amount of money.

Increases in agricultural productivity lead also to agricultural growth and can help to alleviate poverty in poor and developing countries, where agriculture often employs the greatest portion of the population. As farms become more productive, the wages earned by those who work in agriculture increase. At the same time, food prices decrease and food supplies become more stable. Laborers therefore have more money to spend on food as well as other products. This also leads to agricultural growth. People see that there is a greater opportunity earn their living by farming and are attracted to agriculture either as owners of farms themselves or as laborers.

However, it is not only the people employed in agriculture who benefit from increases in agricultural productivity. Those employed in other sectors also enjoy lower food prices and a more stable food supply. Their wages may also increase.

## **2.4 Agricultural production and sustainable development**

Increases in agricultural production are often linked with questions about sustainability and sustainable development. Changes in agricultural practices necessarily bring changes in

demands on resources. This means that as regions implement measures to increase the productivity of their farm land, they must also find ways to ensure that future generations will also have the resources they will need to live and thrive.

## **2.5 Empirical Review:**

### **Agricultural Production in Somaliland:**

According to the Somaliland Final PET Mission Report states that in their findings:

A total of approximately 3,800 independent scores of fields or parts of fields were collected by teams during vehicle transects, a total of around 400 independent scores of fields or parts of fields were obtained during the walking transects, a total of 26 independent case studies were conducted using the proven checklist and sampling techniques, Area calculations are provided in UNDP (2005) population figures alone provided an incomplete picture of the cultivated area, suggesting that a total of c. 17,000 ha (14,030 ha sorghum + 3540 ha maize) had been cultivated in Awdal and W. Galbed districts, Including WHO data to replace missing UNDP data and mission estimates of urban farmers (Hargeisa Town 5%; Gebiley Town 90% and Baki (Dila) 90% and Borama Town 20%<sup>8</sup>) are added, the broad estimates of area farmed to cereals this year is noted at 46,989 ha being 36,869 ha sorghum and 10,120 ha<sup>9</sup> maize, A breakdown of the original area data by locality and crop is presented in Annex 5; and a summary of area by district is given in Table 1 below. Table 1 Estimates<sup>10</sup> of area (ha) for Gu 2010.



District	HH farming	Sorghum ha	Maize ha	Cereal ha
Borama	8,301	9,962	2,642	12,603
Baki	3,745	4,494	1,202	5,696
Hargeisa	7,357	8,829	2,742	11,301
Gebiley	11,321	13,585	3,804	17,388
<b>Total</b>	<b>30,724</b>	<b>36,869</b>	<b>10,120</b>	<b>46,989</b>

**Source: Ministry of Agriculture (2010)**

MoA FSNAU collected key informant data a month before the mission. The data provided by elders and tractor drivers suggest that the cultivated area is likely to be around 44,000 ha for the Gu cultivation season (Borama 7,500 ha; Baki 1,500 ha; Hargeisa 10,000 ha and Gebiley 25,000 ha). Table 2: The historical area data available to the Mission indicate that:

District	Years	Maize Ha	Sorghum Ha
Baki-Borama	1982-1988	503	8500
	1988-2009	1620	3700
W.Galbed	1982-1988	6600	60600
Gebiley	1988-2009	3030	17000
Hargeisa	1988-2009	1400	2500

**Source: Ministry of Agriculture (2010)**

Table 3 Estimates of cereal production (t) for Gu 2010

<b>District</b>	<b>HH farming</b>	<b>Sorghum t</b>	<b>Maize t 13</b>	<b>Cereal t</b>
Borama	8,301	13,972	3,170	17,142
Baki	3,745	6,514	1,643	8,257
Hargeisa	7,357	12,538	3,556	16,095
Gebiley	11,321	19,521	6,210	25,732
<b>Total</b>	<b>30,724</b>	<b>52,546</b>	<b>14,579</b>	<b>67,126</b>

**Source: Ministry of Agriculture (2010)**

### **Potential Surplus Areas**

A simple comparison between estimated local cereal requirement for food placed at 135 kg/ head/ annum; storage losses estimated at 10%; and seed use estimated at 15 kg per ha and local production. The balance between requirement and production is incomplete as stocks from previous years are not included. It does, however, indicate that the zone has a requirement of 128,929 t of which just over half 67,126 t is estimated to have been produced locally this year, leaving a deficit of 61,803 t due to the presence of cereal purchasing, non-farming populations of Hargeisa and Borama and pastoralist hh also buying cereals.

Baki and Gebiley districts show surpluses as most of the populations have been assumed to be farming this year<sup>15</sup>. Table 4 describes the situation by district but does not include existing stocks kept in underground stores.

Table 4: Estimates of cereal deficits/ surpluses by district in tonnes.

<b>District</b>	<b>Food Req.t</b>	<b>Losses at 10%</b>	<b>Seeds at 15Kg/ha</b>	<b>Total Req.t</b>	<b>Cereal Prod 2010 t</b>	<b>Local gu Def/Surp.t</b>
Borama	29,025	1,714	210	30,940	17,142	-13,798
Baki	3,510	828	98	4,436	8,157	3,721
Hargeisa	78,773	1,609	176	80,558	16,095	-64,463
Gebiley	10,153	2,573	269	12,995	25,732	12,737
<b>Total</b>	<b>121,461</b>	<b>6,724</b>	<b>744</b>	<b>128,929</b>	<b>67,126</b>	<b>-61,803</b>

**Source: Ministry of Agriculture (2010)**

In the figure deficit areas are noted by stars which show that substantial deficits exist in the towns of Borama and Hargeisa and that Hargeisa accounts for most of the cereals deficit needed, deficits are noted in 3 rural localities in Hargeisa District and 2 rural localities in Gebiley District<sup>16</sup>.

Given the zonal deficit, the well-ordered roads and the advanced trading capacity of the traders and larger farmers, local surpluses are likely to disappear given favorable terms of trade. At the same time, such surpluses may be kept on-farm, for it is likely that some farmers, with large extended family responsibilities<sup>17</sup> throughout the more productive areas of the zone, to restock such stores rather than sell providing hh/ clan strategic reserves for future use.

## **2.6 Theoretical Review:**

### **Farm Types in Somaliland**

#### **Rainfed farming**

This land use involves rain-dependent crop production, and is practiced around the Southern parts of Gebiley, Borama and Hargeisa. Given that rainfall in the study area is low (average  $\pm 400$  mm/annum), this land use class is characterized by water harvesting (Through surface dams, soil bunding and berkeds) as improvement systems associated with it. However, water from berkeds and surface dams is particularly used for domestic and animal use. Crop production is based purely on rainfall or harvesting of rain water by soil bunds built around fields, without supplementary water being used. The most common crops grown in this category are maize and sorghum, as well as Qat (*miraa*), Millet and cowpea. In the study area, Rainfed Agriculture can be classified into two categories: Low Input Rainfed farming and Medium Input Rainfed farming. ‘Input’ here refers to material input such as seeds, fertilizer, pesticides, etc.

#### **Low Input Rainfed Agriculture**

Tractor use is not as extensive as in medium input rainfed agriculture. Intercropping of Maize and sorghum is very common. Bunding is less extensive than in the medium input category. In both cases, the use of local seeds for planting is widely practiced.

#### **Medium Input Rainfed Agriculture**

Tractor use is more extensive, with all those interviewed acknowledging their use in the fields. Intercropping is not popular. Seed is mainly local in variety, but a few farmers have imported

improved seeds from the Ministry of Agriculture. Fields are larger than 2 ha in average size. Soil bunding is more widespread. The use of fertilizer and manure is negligible in this category.

The following is a general characterization of Rainfed agriculture in the area under

Observation:

**Land Improvement** – consists of soil water harvesting (bunding, *berkeds*, check dams, diversion furrows). Water is a very limited resource in this area and therefore farmers always try to devise ways of conserving the little water that is available. Drought is a common phenomenon in the area.

**Input levels** – input levels to agricultural production range from low to medium. However, inputs are limited in this land use class with local seed being widely used. The late maturing Elmi Jama sorghum variety is widely used, for example.

**Mechanization** – in most cases, tractor use is common. Oxen are also used to provide power for ploughing on the farm, but more rarely.

**Farm Management** – the most common form of farm management is fencing around fields to protect crops against animals. Fences are cut from live trees, which together with charcoal burning cause an increase in deforestation. Other forms of farm management include soil bunding to control soil erosion by water.

**Types of Crops** – crops grown are mainly maize and sorghum (see Plate 3), but also include cowpeas, millet, sesame and *Catha edulis*(*qat*, *khat*, or *miraain* Kiswahili. Crops varieties planted are always local. The Ministry of Agriculture is contemplating introducing an early maturing sorghum variety, as the currently used variety of sorghum takes close to six months before harvesting.

**Intercropping** – intercropping is common in the low input category of Rainfed farming and includes maize and sorghum, maize and cowpea.

**Purposes of Crop Production**– crops are produced for food, market and fodder for animals. In most cases, post-crop residues are cut and stored as animal feed (see Plate 2) and fed to animals during fodder scarcity in the dry season. Crops that have failed to mature due to moisture stress are also harvested and used as animal feed.

**Crop Condition and Limitations to Agricultural Production**– performance of maize in this area is not as good as that of sorghum. There were more reported cases of maize crop failure than for sorghum. These cases of crop failure did not follow any pattern, but were spread across the study area. Drought, for example, is experienced across the area. Crop failures are attributed mostly to the harsh climatic conditions of low rainfall and very high evapotranspiration rates, in addition to pests, weeds and diseases, late planting due to lack of investment capital and poor farming techniques attributed to lack of training. The most notorious weed is called *kalinoolein* in the Somali language, while pests include maize stalk borer.

**Agronomic Aspects**– yields fall far below potential levels, which may be as high as 2 700 kg/ha (FAO, 1968). For example, in some cases maize yield is only 55 kg/ha, which may be regarded as a crop failure. Low yields are attributed to low input levels that characterize this land use class. Other causes of low yields include moisture stress, poor farming techniques that are a consequence of limited farm training, pests and diseases and inappropriate seeds. An early maturing sorghum variety, for example, would be more reliable instead of the late-maturing Elmi

Jama variety that takes six months to mature in areas that receive low rainfall and high rates of evapotranspiration.

**Farm Training**– The majority of farmers have not received any farm training, resulting in the applied farming techniques not being of the required levels in most cases. Weeding, for example, is done at the wrong time or not at all. Inappropriate seed varieties are planted because of this fact and timing of planting is in most cases wrong. Soil bunding to conserve or harvest rainwater is poorly done, leaving bunds susceptible to rain erosion. A few farmers have received some training from NGOs, however.

**Constraints to Agricultural Production**– constraints include lack of tillage capacity, soil erosion, pests, drought, poor seed varieties (e.g. of sorghum), lack of capital, lack of technical knowledge and lack of farm power. Lack of tillage capacity is due to lack of finance, which is in return attributed to lack of credit facilities. Soil erosion is due to deforestation through charcoal burning, fencing and vegetation clearing by overgrazing. Soil conservation activities are fairly limited. As a result, exposed and loosened soils are washed downstream, resulting in gully formation and (occasionally) badlands.

Tractors and ox-ploughs are limited both in terms of numbers and accessibility, resulting in late planting in some cases. Stalk borer is a menace to maize production, and weeds have invaded farms. Pesticide use is hampered by unavailability and low purchasing power. Migration to better areas may not be possible, as most of the farmers have more or less adopted permanent settlement. In some cases, land has been demarcated and this also makes migration to better grounds difficult. Families with school-going children may be unwilling to move to places where there are no schools. Clan lineage may also not allow easy migration.

**Opportunities** – future opportunities for farmers include provision of farm power, soil and water conservation measures, training, migration to better areas, pest and weed control, provision of food relief, introduction of early-maturing sorghum varieties and improved water harvesting techniques.

### **Irrigated farming**

Irrigated orchards are found in river valleys and are characterized by the use of supplementary water from dams and shallow wells, the extensive use of farm manure and, in some cases, fertilizer. Crops grown are mostly fruit trees, intercropped with vegetables. Other characterizations include water harvesting (soil bunding, surface dams, shallow wells and berkedes) as associated improvement systems. Other improvements associated with irrigated orchards include diversion furrows which, in some cases, are cemented. The following is a detailed characterization of irrigated agriculture in the area under observation:

**Land Improvement**– consists of diversion furrows, wells and dams. All these are water harvesting techniques aimed at maintaining soil moisture. They require high initial investment costs, so most farmers have not been able to establish their own irrigation activities.

**Inputs and their Levels of Application**– Seedlings are not of an improved variety, but are locally raised. Input levels for agricultural production are mostly medium in range, including manure, pesticides and in certain cases, fertilizer. However, application of these inputs is suboptimal due to lack of adequate funds.



**Mechanization**– in most cases, tractors and oxen are used to provide farm power, mainly during the preparatory stages of ploughing and construction of irrigation infrastructure. However, due to high costs of machinery purchase and hire, most farmers cannot afford their use. The result is that only a few farmers have been able to invest in irrigated farming. Other machinery includes water pumps, used to pump water from the shallow wells and dams into fields.

**Farm Management**– the most common form of farm management consists of fencing around fields, either with barbed wire or tree branches, to protect crops against animals. Other farm management activities include construction of river bank embankments to check flooding from rivers when in spate. On some farms, crops have been separated by type, with citrus crops on one side of the field and papaya on the other.

**Types of Crops**–crops are mostly fruits and vegetables grown for commercial purposes, i.e. citrus, guava, papaya, watermelon, tomato and vegetables. Farmers rarely plant cereals such as maize and sorghum under irrigated conditions.

**Intercropping**– intercropping is a common practice, with fields comprising a mixture of crops such as, for example, citrus and guava, papaya and custard apple, tomato and water melon.

**Field Sizes**–Generally, irrigated farms require high investment costs and are mostly less than 2 ha in size. Field observation indicated that most of these fields are recently established.

**Purposes of Crop Production**—crops are produced mostly for sale at market, but some produce is consumed at home. However, long distances to markets coupled with poor roads puts farmers in a difficult position when it comes to selling farm produce.

**Crop Condition**— crop condition within irrigated fields is in most cases good. However, in some cases poor yields are attributed to incidences of pests and diseases, as was observed in most citrus trees. Shortage of water is also a limitation to crop production in some irrigated fields.

**Agronomic Aspects**— yields were found to be much better than in Rainfed fields. Use of fertilizer and pesticide is recorded in irrigated fields, as is use of improved seed varieties. Farm labor is drawn mainly from family members, but hired labor has been recorded in the irrigated farming.

**Farm Training**— some farmers have not received any training at all, whereas others have received some training from NGOs. Poor farmer training has resulted in some being unable to apply adequate, appropriate farming techniques. Water, for example has been used wastefully. Earth dams have been poorly lined in an attempt to retain water for longer periods. The fields are then flood-irrigated, another wasteful method of irrigation when rated against existing water scarcity and high rates of evapotranspiration.

**Constraints to Agricultural Production**— constraints include low tillage capacity (labour shortage, limited access to ox-ploughs, implements and tractors), market Inaccessibility, flash flooding, water scarcity, loss of irrigation infrastructure, poor roads, pests, drought, lack of capital, lack of technical knowledge, and herbivore damage (e.g. monkeys and pigs). Damaged or lost irrigation infrastructure has to be reconstructed, which is expensive. When expenses are combined with the limited purchasing power of farmers, it is in some cases impossible to revive irrigation projects. Wild animals reduce yields further by feeding on produce while it is still in the fields. Market inaccessibility demoralizes farmers, as they are unable to sell their produce.

**Opportunities** – opportunities for farmers include exploitation of ground water for irrigation, borrowing cash from relatives, building soil and water conservation structures such as check dams, gabions and bunds, use of pesticides for pest control, improving soil fertility through use of animal manure, water trucking, training, upgrading of roads and reducing numbers of monkeys and pigs.

However, farmers require assistance to be able to exploit ground water and construct water conservation structures such as check dams, gabions and bunds. Pesticides are also in most cases beyond farmers' financial means.

## **2.7 Definition of economic growth**

Economic growth is the increase in the market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP

Economic growth can be defined as the quantitative increase in national income or increase per capita income of a country from one period to another, i.e., an increase in the real output (actual goods and service) produced over two periods. it does not matter who produced these goods and services or how they produced.

Economic growth involves an increase in productive capacity of an economy resulting from total increase in resources and/or efficiency.

Economic growth can be measured by the rate of growth of real national income or the rate of growth of per capita income, refers the rate of increase in gross national income over and above the rate of growth of population.

## **2.8 Sources of economic growth**

Economic growth of any country is a function of several factors. This include availability of natural and physical resources, level of country's capital stock, labor force, and the state of technology. in additional, macroeconomic and political stability, and organizational structure of productive agencies do effect the rate of growth of economy. Any increase in the productive capacity of an economy will eventually promote growth. The source of growth can be looked at using production function,  $Q=F(L,K,T,N;a)$  we note that output,  $Q$  is a function of labor force,  $L$ , capital stock,  $K$ , state of technology,  $T$  and state of natural resources,  $N$ ,  $a$  represent other factors such as macroeconomic stability and organizational structure. (Okwi, Matovu. mpugu, 2001)

## **2.9 Capital accumulation**

One of the major sources of economic growth is capital accumulation. Capital accumulation occurs as a result of saving out of past incomes. These savings are then channeled into productive investment through banking system. Productive investment including investment in machinery, land, requirement and materials. With an increase in the physical k-stocks of a nation, it makes it possible for expanded output levels to be achieved. Direct investments should be supplemented by social and economic infrastructures such as roads, electricity, and communication transport facilities.

Another form of capital accumulation is through investment in human capital: i.e., improvement in productivity and quality of labor force, formal schools, vocational trainings, and on-the-job training (in-service) programmers and other forms of informal education should be made more effective to improve human skill to increase efficiency and output.

## **2.10 Factors affecting Economic Growth**

### **Productivity:**

Increases in productivity have historically been the most important source of real per capita economic growth. Increases in productivity lower the real cost of goods. Over the 20th century the real price of many goods fell by over 90%

### **Business Cycle:**

Economists distinguish between short-run economic changes in production and long-run economic growth. Short-run variation in economic growth is termed the *business cycle*. The business cycle is made up of booms and drops in production that occur over a period of months or years. Generally, economists attribute the ups and downs in the business cycle to fluctuations

in aggregate demand. In contrast, economic growth is concerned with the long-run trend in production due to structural causes such as technological growth and factor accumulation. The business cycle moves up and down, creating fluctuations around the long-run trend in economic growth.

## **Income Equality**

According to International Monetary Fund economists, inequality in wealth and income is negatively correlated with subsequent economic growth. A strong demand for redistribution will occur in societies where much of the population does not have access to productive resources. Rational voters have to internalize this dynamic problem of social choice. 2013 Economics Nobel prize winner Robert J. Shiller said that rising inequality in the United States and elsewhere is the most important problem faced in the U.S. and elsewhere. High levels of inequality prevent not just economic prosperity, but also the quality of a country's institutions and high levels of education.

According to economists David Castells-Quintana and Vicente Royuela, increasing inequality harms economic growth. High and persistent unemployment, in which inequality increases, has a negative effect on subsequent long-run economic growth. Unemployment can harm growth not only because it is a waste of resources, but also because it generates redistributive pressures and subsequent distortions, drives people to poverty, constrains liquidity limiting labor mobility, and erodes self-esteem promoting social dislocation, unrest and conflict. Policies aiming at controlling unemployment and in particular at reducing its inequality-associated effects support economic growth

## **2.11 Social Benefits Costs of Economic Growth**

Economic growth brings about both positive outcomes and negative outcomes .positive include increased goods and services, improvement in quality, etc.

### **Advantages or Benefits of Economic Growth:**

Economic growth makes available more goods and services in the economy in terms of high quality and variety of goods produced. It therefore increases the range of human choice. There are better social services like health care, education and thus life is freed from nature's menaces such as diseases. The core values include;

1. Basic function of all economic activities is to provide as many people as possible with means of overcoming the misery arising from lack of basic needs (shelter and clothing, education) economic development is necessary condition for the improvement and sustenance of life.
2. Self-esteem; this refers to a sense of worth and respect, of not being used as a tool by others for their own objective. High value and esteem have increasingly been confined to only those countries which possess economic wealth and technological power.
3. Freedom; through the expanding range of economic and social choices of individuals and development of society, and the minimum of external constraints in pursuit of social goals.

### **2.12 Social Costs of Economic growth:**

However economic growth carries with it social costs. The major social costs include the negative impact that growth can have on the environment; e.g., air and water pollution as a result of increased industrial activity; emergence of slums; and rural-urban migration. It also brings with it undesirable nature of attitudes and institutions which are necessary for economic growth; e.g. Self-interest tendencies (growth individualism), a departure from

altruism and reciprocity tendencies, characteristic of peasant/subsistence societies growth may also result into negative consumption habits such as drug abuse, prostitution, etc.



## **CHAPTER THREE:**

### **3. METHODOLOGY**

#### **3.1: Research Design:**

According to Shajahan (2006), a research design is a logical and systematic plan prepared for directing a research study. It specifies the objectives of the study, and the methodology and techniques to be adopted for achieving the objectives. It constitutes the blueprint for the collection, measurement and analysis of data

The research will take the form of a Comparative descriptive design, and the reason for this is because it is aimed at describing the current situation so that it can be understood clearly so that the gaps identified in it can be addressed in order the role of agricultural production and economic growth in Somaliland, and the information obtained from there will be treated as representative of the entire country at large. The design is appropriate because it involves drawing small samples in order for in depth analysis to be made.

The study will be both qualitative and quantitative. The quantitative data will be obtained using structured questionnaires from different officials of the Ministry of Agriculture and officials from other affiliate departments, while the qualitative data will be obtained from annual reports which were prepared by international organizations such as FAO and Swalim.

### **3.2 Research sampling**

According to Amin (2005), the population is the complete collection (or universe) of all the elements (units) that are of interest in a particular investigation. The population of the study in this research will comprised of the reports and the statistics which were done by the ministry of Agriculture and The international organizations for the period of 2009 till 2014.

### **3.3 Sources and Type of Data**

This data is conducted by the ministry of agriculture and international organizations such as FAO and Swalim and the data type is secondary data from the annual statistical reports which prepared by the above organizations to indicate the agricultural development in the Somaliland economy.

To obtain adequate about role of agricultural production on economic growth, the researcher uses several sources including, text books, articles made by scholars, international journals, and also government institutions like Ministry of Agriculture.

### **3.4 Method of Data Analysis**

The study used qualitative data analysis at the end of each section; the data summarized major appropriate standards. The data displayed in calculate table, graphs and percentages as statistics approaches the method of analyze the research strongly show descriptive relationship between the variable of the study and the researcher used is excel.

### **3.5 Study Area:**

This study area that the reports is conducted by FAO, FSNAU, WFP and MoA Somaliland joint assessment mission in North –West/ Toghdeer Agro- Pastoralist zone to assess crop performance in North-west agro-pastoral livelihood zone; determine approximate levels of surplus in Borama, Baki, Hargeisa and Gebiley districts and the levels of local procurement that may be appropriate; and, to sensitize farmers on the local procurement process and to seek their input for future efforts.

## **Summary of Government and International Organizations in Somaliland:**

### **Food and Agriculture Organization (FAO):**

FAO was established on 16 October 1945, in Quebec City, Quebec, Canada. In 1951, its headquarters were moved from Washington, D.C., United States, to Rome, Italy. The agency is directed by the Conference of Member Nations, which meets every two years to review the work carried out by the organization and to approve a Programme of Work and Budget for the next two-year period. The Conference elects a council of 49 member states (serve three-year rotating terms) that acts as an interim governing body, and the Director-General, that heads the agency.

FAO has outlined the following priorities in its fight against hunger:

Help eliminate hunger, food insecurity and malnutrition – contribute to the eradication of hunger by facilitating policies and political commitments to support food security and by making sure that up-to-date information about hunger and nutrition challenges and solutions is available and accessible.

Make agriculture, forestry and fisheries more productive and sustainable – promote evidence-based policies and practices to support highly productive agricultural sectors

(crops, livestock, forestry and fisheries), while ensuring that the natural resource base does not suffer in the process.

Reduce rural poverty – help the rural poor gain access to the resources and services they need – including rural employment and social protection – to forge a path out of poverty.

Enable inclusive and efficient agricultural and food systems – help to build safe and efficient food systems that support smallholder agriculture and reduce poverty and hunger in rural areas.

### **World Food Programme (WFP):**

WFP is part of the United Nations system and is voluntarily funded.

Born in 1961, WFP pursues a vision of the world in which every man, woman and child has access at all times to the food needed for an active and healthy life. We work towards that vision with our sister UN agencies in Rome -- the Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD) -- as well as other government, UN and NGO partners.

On average, WFP reaches more than 80 million people with food assistance in 75 countries each year. About 11,500 people work for the organization, most of them in remote areas, directly serving the hungry poor.

### **Ministry of Agriculture:**

The ministry of Agriculture is a Government institutions that working and making activities in charge of the agricultural sector and successful reconstruction of the agriculture sector specially crop production requires partnership between the ministry and

local communities, private sector, civil society and development international community towards the revival of the sector.

## **FSNAU**

FSAU which is re-named the Food Security and Nutrition Analysis Unit (FSNAU) to reflect the full integration of the nutrition surveillance project within one overall project framework is currently in its sixth funding phase. It provides a broad range of information users with timely and relevant information and analysis for better decision-making relating to short-term food insecurity and malnutrition, as well as informing development planning to address underlying causes of food and livelihood insecurity, and malnutrition. FSNAU has developed the Food Security and Nutrition Analysis System (FSNAS) which integrates both the conceptual and operational frameworks that the unit utilises for analysing food security and nutrition information through a livelihoods-based analysis. The information contributing to the FSNAS is collected by a team of FSNAU field team of enumerators and analysts and is entered and processed through an integrated database and information management system. The unit draws on reliable and appropriate secondary information at all levels, as well as rigorous analysis of the FSNAU field data. FSNAU operates a communications strategy for the dissemination of its information products and to advocate for timely and informed response

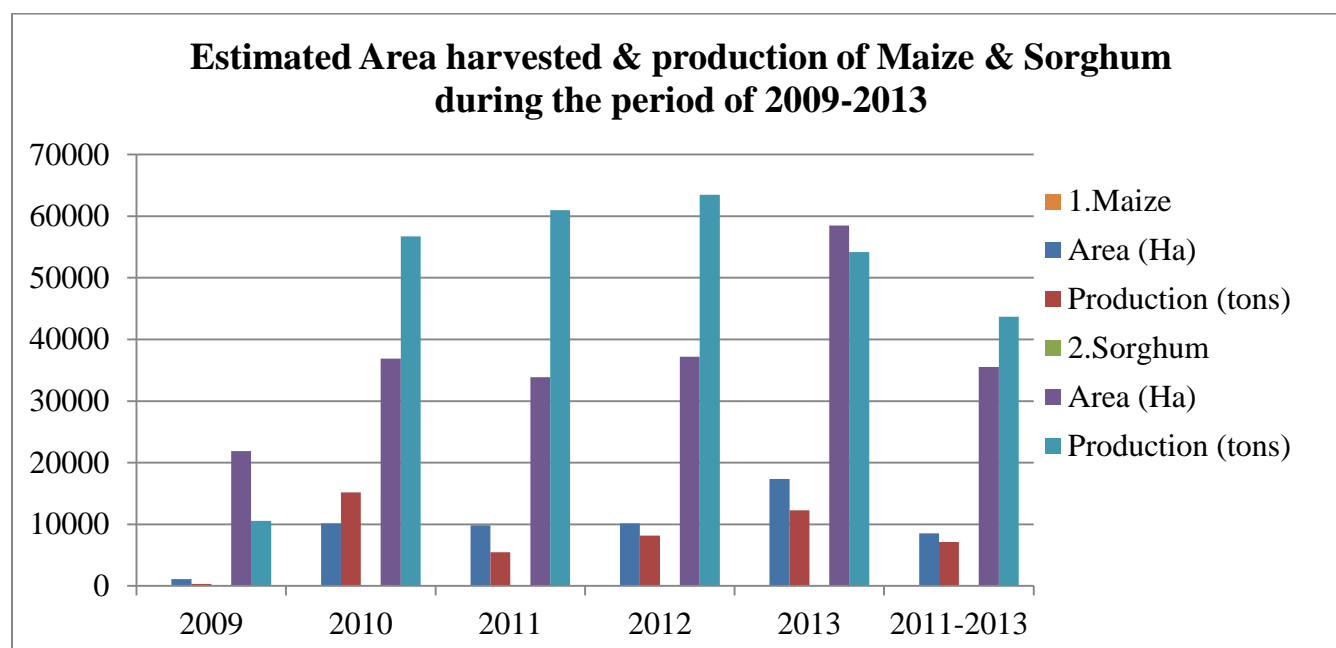
## CHAPTER FOUR:

### 4. DATA ANALYSIS AND INTERPRETATION

**Figure 1: Estimated area harvested, production of Maize & Sorghum during the period of 2009-2013**

Selected Indicators	Years					Average
1. Maize	2009	2010	2011	2012	2013	2011-2013
Area(ha)	1,075	10,120	9,832	10,129	17,350	8,531
Production (Tons)	330	15,195	5,454	8,180	12,245	7,109
2. Sorghum	2009	2010	2011	2012	2013	2011-2013
Area (Ha)	21,870	36,869	33,958	37,172	58,500	35,520
Production (Tons)	10,526	56,745	60,997	63,483	54,160	43,698

Source: Ministry of Agriculture (2013)



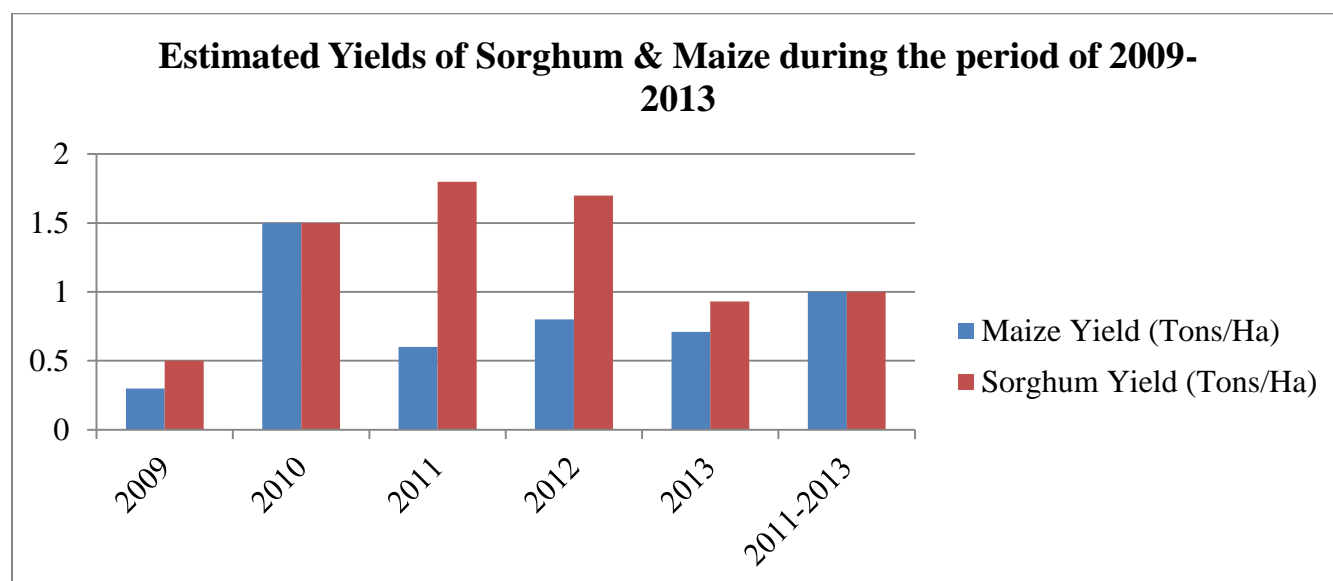
Source: Ministry of Agriculture (2013)

Harvest in Somaliland normally occurs three times a year. The 2011GU/Karan result was only two harvests (sorghum in GU and maize in Karan). The Average cereal harvest area especially maize of Somaliland has been estimated at ha 8,531 with an Average maize production of 7,109 of tons as well as The Average cereal harvest area especially Sorghum of Somaliland has been estimated at ha 35,520 with a Average maize production of 43,698 of tons (91.8% sorghum and 8.2% maize) according to the Ministry of Agriculture.

**Figure 2: Estimated Yields of Sorghum and Maize during the period of 2009-2013**

Selected Indicators	Years					Average
	2009	2010	2011	2012	2013	2011-2013
Maize Yields	0.3	1.5	0.6	0.8	0.71	1
Sorghum Yields	0.5	1.5	1.7	1.8	0.93	1

Source: Ministry of Agriculture (2013)

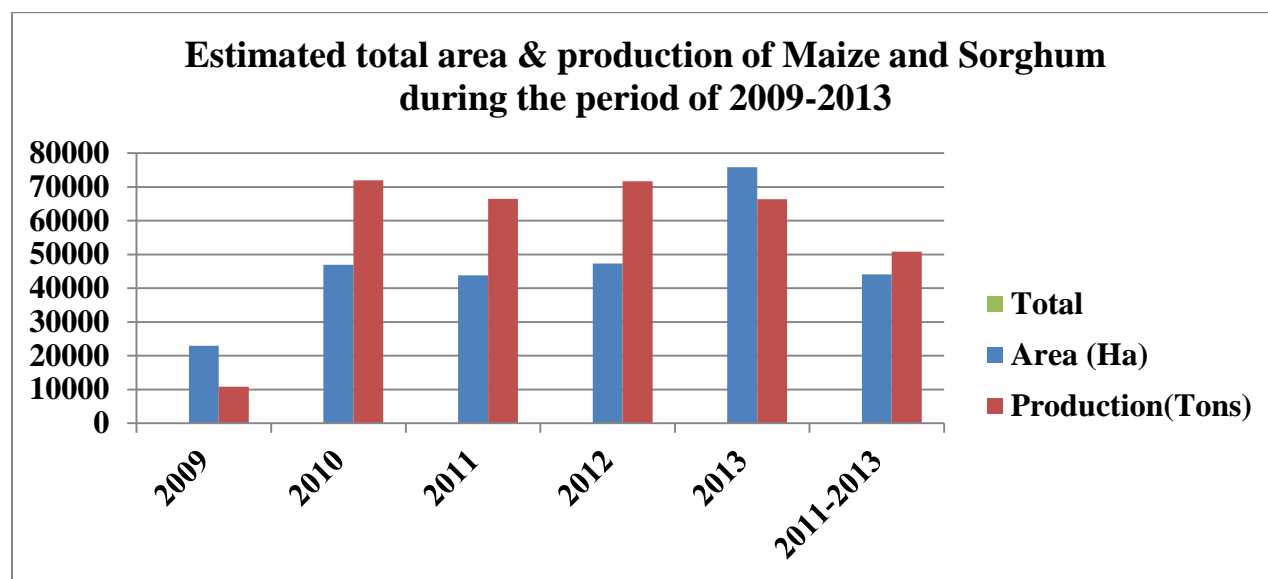


Source: Ministry of Agriculture (2013)

**Figure 3: Estimated total Area & Production of Maize & Sorghum during the period of 2009-2013**

Selected Indicators	Years					Average
Total	2009	2010	2011	2012	2013	2011-2013
Area (Ha)	22,945	46,989	43,790	47,301	75,850	44,050
Production(Tons)	10,856	71,940	66,451	71,662	66,405	50,807

Source: Ministry of Agriculture (2013)



Source: Ministry of Agriculture (2013)

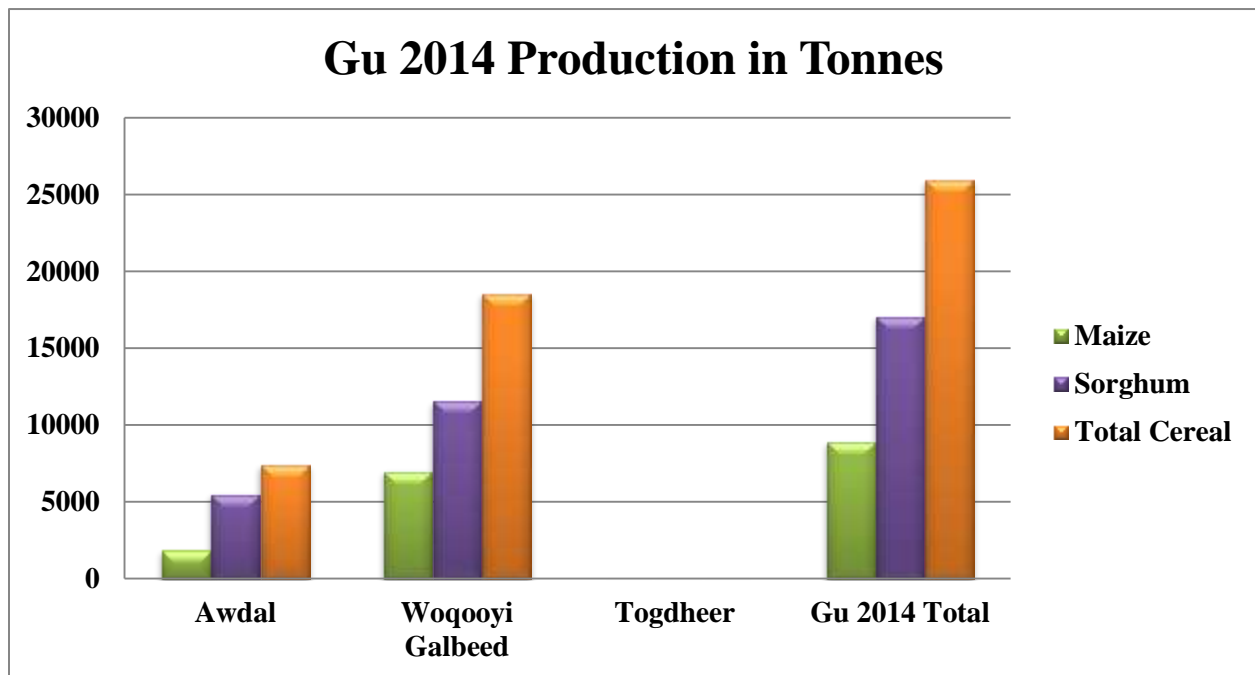
**Figure 4: Estimation of Area for GU 2010**

District	HH Farming	Sorghum Ha	Maize Ha	Cereal Ha
Hargeisa	8,301	9,962	2,642	12,603
Borama	3,745	4,494	1,202	5,695
Baki	7,357	8,829	2,472	11,301
Gebiley	11,321	13,585	3,804	17,388
Total	30,724	36,829	10,120	46,989

Source: Ministry of Agriculture (2013)



This show that the broad estimation of urban farmers (Hargeisa Town 5%; Gebiley Town 90% and Baki (Dila) 90% and Borama Town 20%8) are added, the broad estimates of area farmed to cereals this year is noted at 46,989 ha being 36,869 ha sorghum and 10,120 ha maize cultivated by 30,724 farming HH.



**Source: Ministry of Agriculture (2013)**

MoA FSNAU collected key informant data a month before the mission. The data provided by elders and tractor drivers suggest that the cultivated area is likely to be around 44,000 ha for the Gu cultivation season (Borama 7,500 ha; Baki 1,500 ha; Hargeisa 10,000 ha and Gebiley 25,000 ha). Although the total is remarkably similar to the theoretical estimate, the distribution between districts of the local knowledge-based estimate of area sown and that of the theoretically-calculated area farmed is different and deserves further investigation.

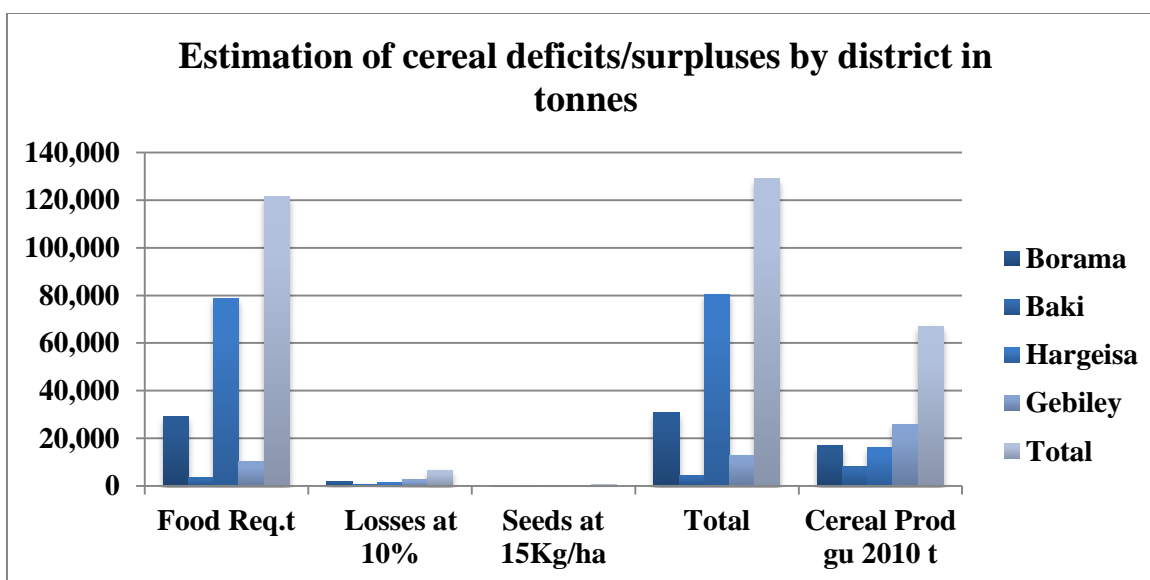
**Figure 5: Estimation of cereal deficits/ surpluses by district in tonnes**

District	Food Req.t	Losses at 10%	Seeds at 15Kg/ha	Total	Cereal Production 2010 t
Borama	29,025	1,714	201	30,940	17,142
Baki	3,510	828	98	4,436	8,157
Hargeisa	78,773	1,609	176	80,558	16,095
Gebiley	10,153	2,573	269	12,995	25,732
Total	121,461	6,724	744	128,929	67,126

**Source: Ministry of Agriculture (2013)**

The balance between requirement and production is incomplete as stocks from previous years are not included. It does, however, indicate that the zone has a requirement of 128,929 t of which just over half 67,126 t is estimated to have been produced locally this year, leaving a deficit of 61,803 t due to the presence of cereal purchasing, non-farming populations of Hargeisa and Borama and pastoralist hh also buying cereals.

Baki and Gebiley districts show surpluses as most of the populations have been assumed to be farming this year<sup>15</sup>. Figure 6 describes the situation by district but does not include existing stocks kept in underground stores.



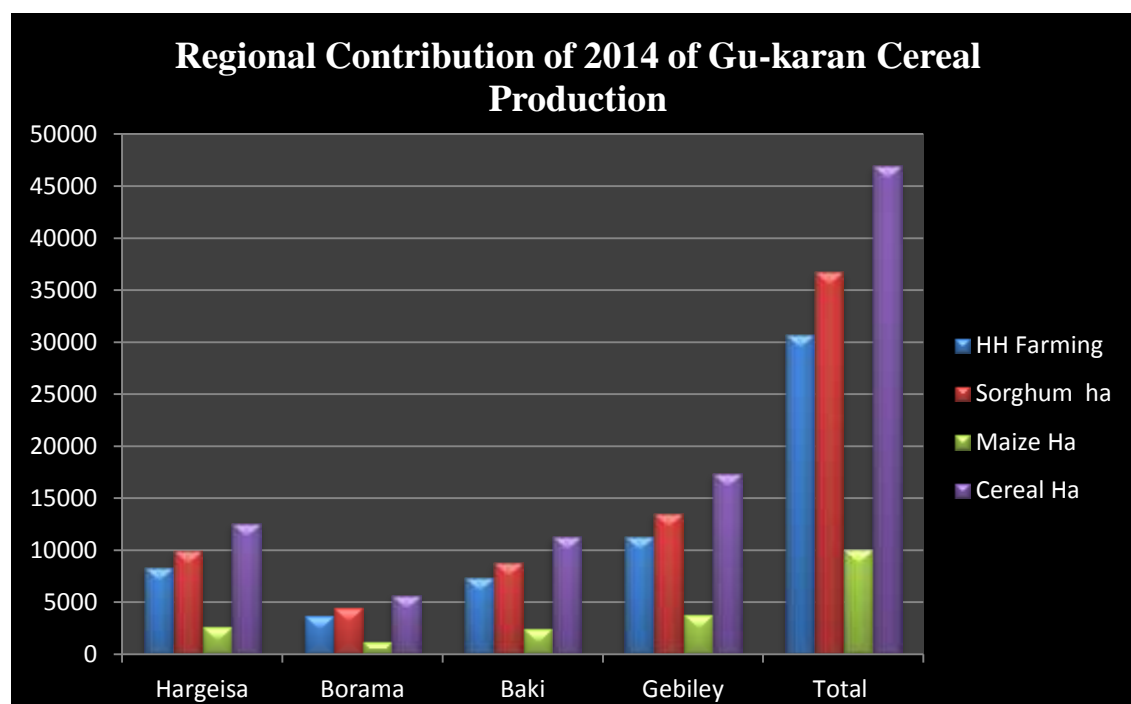
Source: Ministry of Agriculture (2013)

**Figure 6: Regional Contribution of 2014 Gu/Karan Cereal Production**

Regions	Gu 2014 Production in Tonnes			Gu-Karan 2014 as % of Gu-Karan 2013	Gu-Karan 2014 as % PET Average (2010-2013)
	Maize	Sorghum	Total		

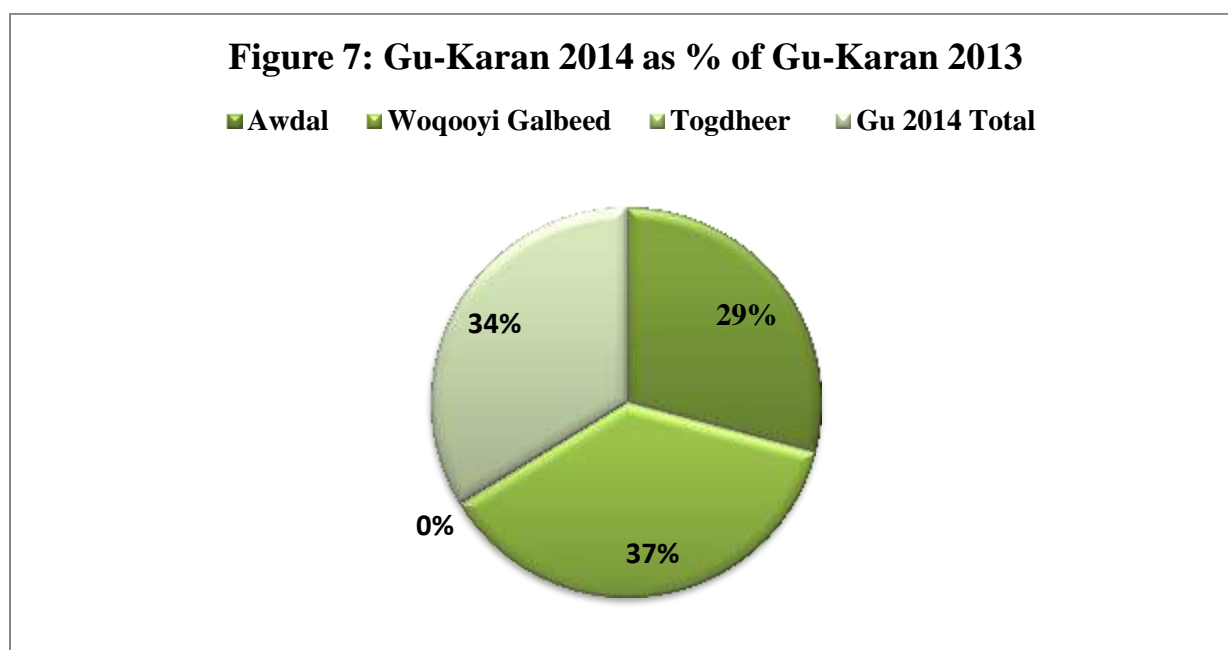
	Maize	Sorghum	Total		
Awdal	1,900	5,500	7,400	51%	42%
Woqooyi Galbeed	7,000	11,600	18,600	65%	32%
Togdheer	0	0	0	0%	0%
Gu 2014 Total	8,900	17,100	26,000	59%	41%

Source: FSNAU-Gu-2014 Food Security Technical Report



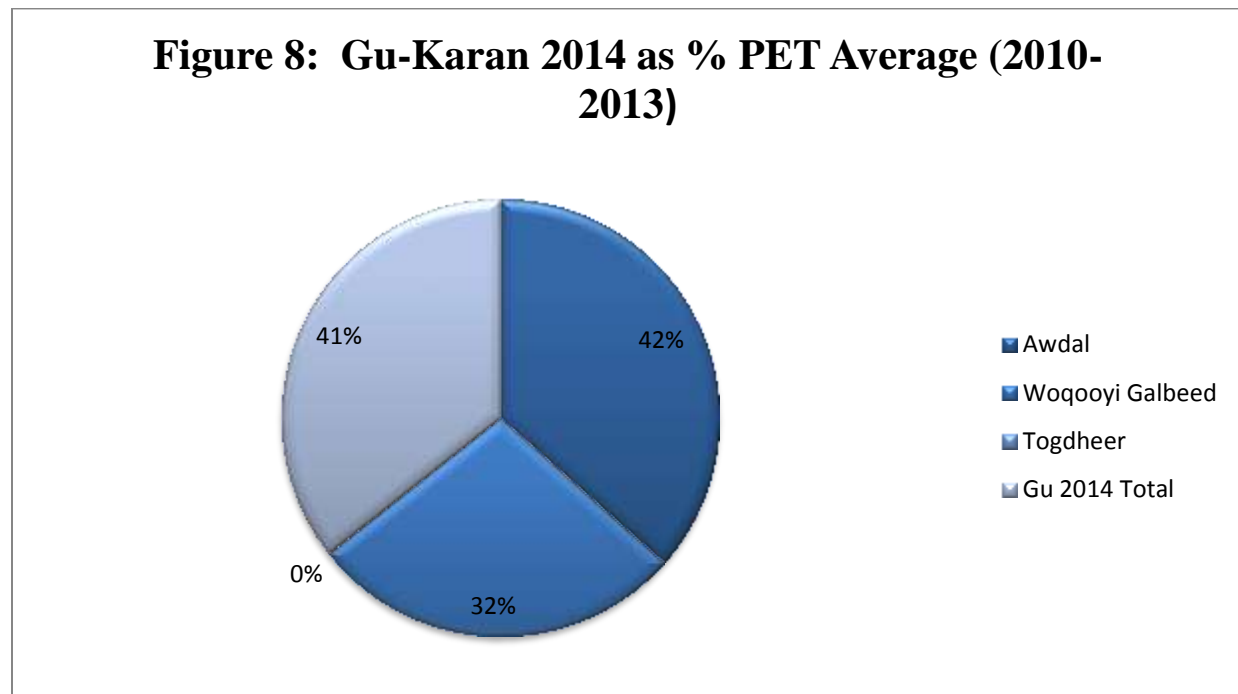
**Source: FSNAU-Gu-2014 Food Security Technical Report**

This figure shows that the Woqooyi Galbeed region has the highest yield of total production of Somaliland in Gu-Karan 2014 production starting from 2013 up to 2014.



**Source: FSNAU-Gu-2014 Food Security Technical Report**

This figure shows that the total percent of the production in Somaliland that the Woqooyi Galbeed region has the highest percent which is 65% of the total production at this period comparing to other regions like Awdal and Togdheer.



**Source: FSNAU-Gu-2014 Food Security Technical Report**

This figure show that the total percent of production in somaliland when it's comes to the Gu-karan 2014 as % PET Average from 2010 up to 2013 that the Awdal has the highest percent of total production in Somaliland at that period.

### **Figure 9: Contributions of Agricultural production to Economic Growth in Somaliland**

There are surveys made by ministry of planning in 2013 in order to know the contributions of agricultural production on Economic Growth in Somaliland and these surveys are three surveys have been crucial for the estimates of GDP and they as follows:

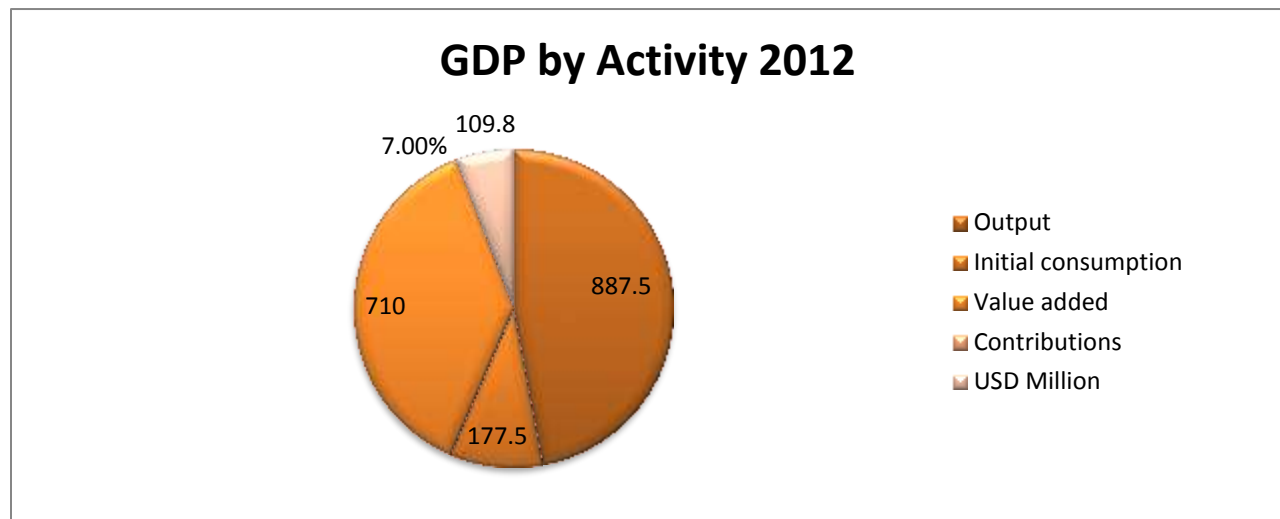
- The Somaliland Business Survey (SBS)
- The Somaliland Household Survey (SHS)

➤ The Population Estimation Somaliland Survey (PESS)

## GDP by Activity 2012

Description	Output	Initial consumption	Value added	Contributions	USD Million
Growing of Crops	887.5	177.5	710	7.00%	109.8

Source: Somaliland in Figures (2013)



Source: Somaliland in Figures (2013)

This shows that the agricultural production contribute to the economic growth (GDP) with 7% which means that it's contribute very less to the country's economy.

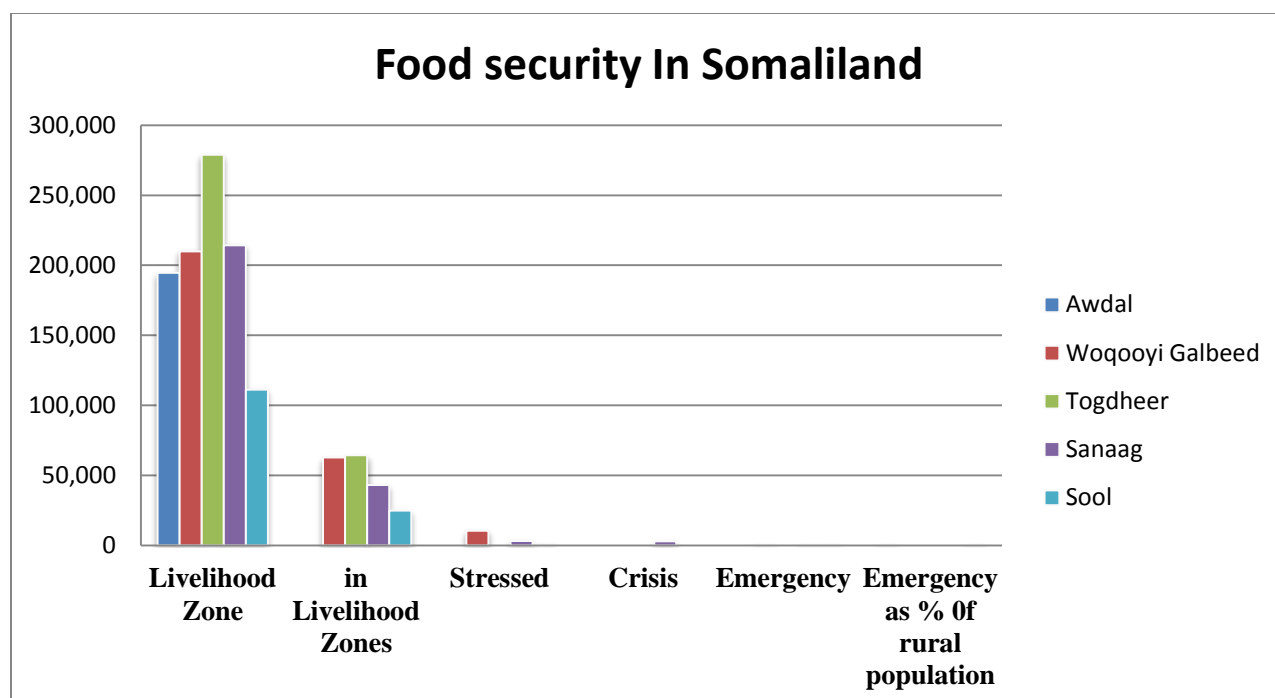
**Figure 10: Northwest Regions, Estimated Rural Population in Acute Food Insecurity by Livelihood Zone, August-December 2014**

Livelihood Zone	in Livelihood Zones	Stressed	Crisis	Emergency	Emergency as % of  Rural population
<b>Awdal</b>					
NW Agro-pastoral	76,159	30,000	11,300	0	15
Fishing	1,149	0	0	0	0
Golis Pastoral	74,592	14,900	0	0	0
Guban Pastoral	42,612	22,300	0	0	0
<b>*Regional Total</b>	<b>194,513</b>	<b>67,200</b>	<b>11,300</b>	<b>0</b>	<b>6</b>
<b>Woqooyi Galbeed</b>					
Fishing	1,437	0	0	0	0
West Golis Pastoral	50,209	11,300	0	0	0
Golis-Guban pastoral: Goats, camel	17,246	7,500	0	0	0
Hawd Pastoral	70,830	15,900	0	0	0
NW Agro-pastoral	70,191	28,100	10,500	0	15
<b>*Regional Total</b>	<b>209,913</b>	<b>62,800</b>	<b>10,500</b>	<b>0</b>	<b>5</b>
<b>Togdheer</b>					
West Golis Pastoral	23,698	5,300	0	0	0
Hawd Pastoral	223,347	50,300	0	0	0
Nugal Valley Pastoral: Sheep & camel	11,984	2,700	0	0	0

Togdheer Agro-pastoral: Sorghum, cattle	19,864	6,000	0	0	0
<b>*Regional Total</b>	<b>278,893</b>	<b>64,300</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Sanaag</b>					
Fishing	15,193	0	0	0	0
East Golis Pastoral	37,823	9,900	0	0	0
Kakaar pastoral: sheep & goats	30,415	6,800	0	0	0
Nugal Valley Pastoral: Sheep & camel	37,396	8,500	0	0	0
Potato Zone & Vegetables	7,052	0	0	0	0
Sool-Sanag Plateau Pastoral	61,347	13,800	0	0	0
West Golis Pastoral	18,773	4,200	0	0	0
Destitute pastoralists	6,289	0	3,300	3,000	100
<b>*Regional Total</b>	<b>214,288</b>	<b>43,200</b>	<b>3,300</b>	<b>3,000</b>	<b>3</b>
<b>Sool</b>					
Hawd Pastoral	30,108	6,800	0	0	0
Nugal Valley Pastoral: Sheep & camel	72,608	16,300	0	0	0
Sool-Sanag Plateau Pastoral	7,697	1,700	0	0	0
West Golis Pastoral	0	0	0	0	0
Destitute pastoralists	730	0	700	0	96
<b>*Regional Total</b>	<b>111,143</b>	<b>24,800</b>	<b>700</b>	<b>0</b>	<b>1</b>
<b>N.W. GRAND TOTAL</b>	<b>1,008,750</b>	<b>262,300</b>	<b>25,800</b>	<b>3,000</b>	<b>3</b>

Source: FSNAU-Gu-2014 Food Security Technical Report





**Source: FSNAU-Gu-2014 Food Security Technical Report**

Recent nutrition assessment (June 2014) results indicate mixed trends in the pastoral livelihood zones when compared to the *Deyr* 2013 season. Nutrition situation in Hawd, and EastGolis/Karkar livelihoods has deteriorated to ***Critical*** (Hawd-GAM rates of 17.3%; East Golis-GAM rates of 15.8%) from *Serious*; Addun livelihood is in sustained ***Alert*** (GAM rates of 9.7%) level; Coastal *Deeh* livelihood is in sustained ***Serious*** (GAM rates of 12.7%); Nugal valley improved to ***Alert*** (GAM rates of 7.9%) from *Serious* while Sool Plateau deteriorated to ***Serious*** (GAM rates of 12%) from *Alert*. The deterioration of nutrition situation in Hawd livelihood is mainly attributed to outbreak of measles and high morbidity, while in East Golis it is related to a seasonal heat stress as well as low camel milk availability for consumption. Reduced nutrition interventions such as outpatient therapeutic program (OTP), supplementary feeding program (SFP) in MCHs and stabilization centre in the main hospitals in most regions in the 2014 *Gu* season compared to *Deyr* 2013 season is among the aggravating factors.

## **CHAPTER FIVE:**

### **5. FINDINGS, CONCLUSION AND RECOMMENDATION**

#### **Findings:**

- ❖ Agricultural Production is measured as the ratio of agricultural outputs to agricultural inputs.
- ❖ Economic Growth can be defined as the quantitative increase in national income or increase per capita income of a country from one period to another, i.e., an increase in the real output (actual goods and service) produced over two periods. It does not matter who produced these goods and services or how they produced.
- ❖ The objective of this study is to evaluate rural agricultural performance and productivity, to study contribution of agricultural sector to food security, income of people and create employment opportunity, to evaluate rural agricultural performance and productivity.
- ❖ Because of the illiteracy of the respondent, the researcher using a secondary data from different sources in order to make a data analysis.
- ❖ Limitations that the researcher faced were lack of research units in Somaliland and the illiteracy of the respondent.
- ❖ After the data collected, it was used a tables, charts, percentages and explanations.
- ❖ The method of analysis and the interpretations were descriptive.
- ❖ The significance of the study is to focusing in agriculture improvement for better future coupled with revitalization will provide the largest source of employment and will direct the other economic sectors such as health and education of comparative advantages. Agriculture productivity growth is the single most effective driver of poverty reduction and direct raising farmer's income and reducing food shortage. Moreover, raising agricultural productivity encourages entrepreneurial activities such diversification into new and improved varieties,

rural development services and the emergences of agribusiness. Higher agricultural productivity is thus precondition for economic growth and development and increasing yield is essential to raising income and reducing poverty and sustainable development.

❖ Lastly, the researcher presented the following findings:-

- 1 There is a strong relationship between the agricultural production and economic growth.
- 2 Area farmed to cereals this year is estimated at 46,989 ha being 36,869 ha sorghum and 10,120 ha maize cultivated by 30,724 farming hh.
- 3 Cereal production is estimated at 67,126 t comprising 52,546 t sorghum and 14,579 t maize.
- 4 Zonal cereal requirement is estimated at 128,929 t suggesting a deficit of 61,803 t due to the presence of non-farming, cereal purchasing populations of Hargeisa and Borama and a substantial number of pastoralist hh also buying cereals.
- 5 Surpluses are estimated to exist in all localities in Borama and Baki; and in almost all rural localities in Hargeisa and Gebiley districts.
- 6 Farmers in surplus areas store grains in underground stores as strategic reserves.
- 7 Farmers are familiar with prices and trading techniques.
  - a) When the cereal production is low traders (small scale traders) buy directly from farmers at the farm gate.
  - b) When production is high farmers transport their cereals to the main markets by their own means and sell it to traders.
- 8 Commercial storage facilities were only found in major towns and farmers are not presently adding value (cleaning, grading, packaging or milling) products.

- 9 Out of the total area planted, estimated at 61 000 hectares, 35 500 hectares are expected to be harvested. Based on early estimates, the Gu-Karan cereal harvest is expected to amount to 26 000 tonnes, which is 41 percent of the average harvest of the past four years (2010-2013).
- 10 Recent nutrition assessment shows that the deterioration of nutrition situation in Hawd livelihood is mainly attributed to outbreak of measles and high morbidity, while in East Golis it is related to a seasonal heat stress as well as low camel milk availability for consumption. Reduced nutrition interventions such as outpatient therapeutic program (OTP), supplementary feeding program (SFP) in MCHs and stabilization centre in the main hospitals in most regions in the 2014 *Gu* season compared to *Deyr* 2013 season is among the aggravating factors.

## **Conclusion**

In the conclusion, the absence of land-use policy and planning has led to unplanned and inappropriate use of scarce resources, resulting in resource-use inefficiency and environmental problems in many countries. These include expansion of urban centers in highly productive agricultural land and land clearing for cultivation in highly fragile uplands. The government should formulate sound land-use policies and plans.

Most countries of the region have high illiteracy rates which have led to very low per capita availability of cultivated land and suitable technology for the agricultural production and their uses. In order to mitigate the situation, the government should formulate, when necessary, like for example, providing education and investment in rural education and increase the knowledge of our farmers at the side of level of production by using the modern technology.

The role of agricultural production is one of the routes to income generation, which may help all vulnerable people. This also will effect overall economic growth by resulting exportation of domestic products to neighboring countries as well as From study indicates that agriculture sector plays high role for the economic growth in terms of principle source of food consumption raw material for use industries and providing income and employment for rural population with increasing economic growth of the country.

The population can further contribute to increasing production through expanding the potential size of the domestic markets although there is main challenges of local farmer to produce sufficient food such as low rainfall, poor government back up, unskilled labor, high similar products on imports either for business purpose or donation, migration of people from rural to cities (skilled labor), illegal land occupation, insufficient investment into research and technology and so many others.

### **Recommendation:**

How the agricultural production increased?

- 1 Motivation of local farmers improvement the knowledge of agriculture and develop the local production in order to reach self-sufficient.
- 2 Encourage investment towards agriculture by restricting imported goods which makes more competition to the local farmers.
- 3 To create training institutions for the farmers to earn high skills so as to increasing the level of productivity.
- 4 To increase income at the farm level, agroprocessing and related enterprises need encouragement needed in product innovation and marketing.

5 Government should consider devising and implementing programmes to provide security of tenancy to encourage farmers to participate in productivity-enhancing and environment-friendly technologies.

- Food security program
- Resettlement program
- Environmental rehabilitation
- Livestock resource development
- Improving water resource utilization
- Strengthening agricultural input/output marketing system
- Improving the provision of market information
- Expand and strengthening cooperation
- Focus on export commodities
  
- Expanding rural infrastructures
- Improving provision of potable water
- Strengthening rural roads and transportation service
- Expanding education and health service
- Expanding irrigation infrastructures
- Rural energy development
  
- Capacity building
- Strengthening agriculture research
- Strengthening and widening agricultural extension

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