ÇUKUROVA UNIVERSITY
INSTITUTE OF NATURAL AND APPLIED SCIENCE

MSC THESIS

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AGRICULTURAL STRUCTURE AND PRODUCTION PROBLEMS FACED IN MIDDLE SHABELLE REGION OF SOMALIA

DEPARTMENT OF AGRICULTURAL ECONOMICS

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ABSTRACT

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The purpose of the study was to identify agricultural structure and production problems faced in Middle Shabelle region of Somalia with the reference of Jawhar and Bal'ad districts. These problems can be categorized into agronomic and socio-economic problems. The study was employed descriptive survey research design. A sample of 138 farmers selected from Jawhar and Bal'ad districts in Middle Shabelle region of Somalia. The main instrument used for primary data collection was questionnaire. The collected data was analyzed by proper statistical program by using frequencies and percentages. This study discovered that lack of proper and good quality hybrids, pests and disease, shortage of water and lack of irrigation channels was the main agronomic problems faced in farmers of Jawhar and Bal'ad districts in Middle Shabelle of Somalia. The socio-economic problems influencing agricultural structure and production of the farmers are financial problems, lack of government incentives and lack extension and research services. This study thus recommended that government agencies and NGO's should be assist the farmer's ways to deal these problems and should provide farmers incentives to enhance their agricultural production.

Keywords: Agricultural production, agricultural structure, agronomic problems, socio-economic problems, Somalia.

ÖZ

YÜKSEK LİSANS TEZİ

SOMALİ'NİN ORTA SHABELE BÖLGESİNDE TARIMSAL YAPI VE ÜRETİMDE KARŞILAŞILAN SORUNLAR

Fuad Mohamed ABDULLAHI

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Bu çalışmanın amacı Somali'nin Orta Shabelle bölgesinde tarımsal yapı ve üretimde karşılaşılan sorunları Jawhar ve Bal'ad ilçeleri referans alınarak belirlemektedir. Bu sorunlar agronomik ve Sosyoekonomik olarak kategorize edebilir. Bu çalışmada tanımlayıcı bir anket araştırma tasarımı kullanılmıştır. Somali'nin Orta Shabelle bölgesindeki Jawhar ve Bal'ad ilçelerinden seçilen 138 çiftçilri ulaşan bir örnektir. Birincil veri toplamak için kullanılan ana araç ankettir. Toplanan veriler uygun bir istatistik programıyla analiz edildi ve verilen yazılımın frekansları ve yüzdeleri kullanılarak analiz edildi. Bu çalışmada Somalının örta Shabelle bölgesindeki Jawhar ve Bal'ad ilçelerindeki çiftçilerin karşılaşılan agronomik sorunların uygun ve kaliteli melezler eksikliği., Zararlılar ve hastalıklar sorunları, Su sıkıntısının ve sulama kanalların eksikliği olduğunu ortaya çıkardı. Çiftçilerin tarımsal yapının ve üretimini etkileyen sosyoekonomik sorunlar finansal sorunlar, devlet teşviklerinin olmaması, yayım ve araştırma hizmetlerinin olmamasıdır. Be nedenle bu çalışmada devlet kurumları ve STKları çiftçilere bu sorunları çözme yollarında yardımcı olması ve çiftçilere tarımsal üretimlerin artırması için teşvikler sağlamaları gerektiği önerilmektedir.

Anahtar Kelimeler: Tarımsal üretim, tarımsal yapı, agronomik sorunlar, sosyoekonomik sorunlar, Somali

EXTENDED ABSTRACT

The history of agricultural production and rural development since the end of World War II in 1945 is characterized by changing concerns and priorities. Immediately after the Second World War and the well-known experience of serious starvation, there was a determined effort to increase agricultural production in the developed world (Reimund et al., 2007).

75% of Africans live in rural areas, most of them depend on agriculture as their main source of employment and income. Luckily, Africa has undergone continuous agricultural development over the last decade. However, much of the growth has been attributed to the expansion of the area rather than to the increase in agricultural productivity. Future sustainable agricultural growth in most countries would require greater focus on productivity growth, as a suitable area for new cultivation decreases, mainly due to increasing concerns about climate change and deforestation (IFPRI, 2012).

IFPRI (2012) , stated weak resource endowments, limited use of inputs (improved seeds, fertilizers, and irrigation) and poor policies that have persisted for a long time have been recognized as the primary causes of low and declining agricultural production in sub-Saharan Africa. Africa's agricultural sector also faced many constraints, such as environmental degradation, rapid population growth and weak infrastructure combined with limited resources.

Somalia has potential agricultural resources that can feed its people (15 m) and even produce export surpluses. It consists of agricultural land (44mha), forest land (6.6mha), surface water (179.7km3 / annum) and potential unspecified groundwater, livestock population (> 40 m heads), sea and inland fishery resources (3333 km long coast) and forestry. Gross Agricultural Products (GAP), contributed an average of 62 per cent to national GDP between 1977 and 1987. 25% of the GAP is of plant origin, while 75% comes from the livestock market. Agriculture commodities are the only exports to the Somali economy. Almost 70% of people

live in rural areas, agriculture being their primary source of livelihood. These statistics clearly demonstrate how important the agricultural sector is to the national economy. According to data from the Ministry of Agriculture in 1989, before the outbreak of the civil war, the tilled area was divided into 564,600 hectares of rain-fed and 113,000 hectares of irrigated land and approximately 360,300 was under fallow. Crop production in Somalia relies primarily on the rainfed system, while the irrigated area has reached a limit of 200,000 ha. Thus, the implementation of water harvesting techniques in rain-fed agriculture, the effective use of available water for irrigation, the availability of proper agricultural services and the availability of farm labour are key factors in the success of crop production (Jeilani, 2016).

The Middle Shabelle region is a very productive area, with heavy rainfall (492–545 millimetres a year), also in the Shabelle River basin, crops are irrigated mainly by flood recession along the river. Water can flood the low-lying lands close to the river; crops are then planted in the newly exposed soil as the flood water recedes. Before the civil war, this area had large sugarcane and rice plantations.Today, the main crops are sesame, maize, beans, peas, watermelons, vegetables, groundnuts, and sugarcane. The most productive areas in this region are Jawhar and Bal'ad districts, where riverine agriculture based on pumped irrigation produces onions and tobacco for the major urban markets of Mogadishu, Kismayo, and Baidoa.

One of the most vital agricultural production areas of Somalia is Middle Shabelle region. Over the past decades, diverse agricultural production systems existed in this region. Over the past two decades, since the collapse of the Central Government in Somalia, irrigated farming has significantly declined in Middle Shabelle and at present primarily subsistence farming is practiced on small land parcels. A significant part of the arable land is not currently cultivated which is due to the combination of several factors. They include insecurity (which increases farming costs), erratic and highly variable rainfall, lack of farming inputs, lack of

credit facilities and extension services, poor irrigation and transport infrastructure, and limited efforts to rehabilitate irrigation infrastructure because of inaccessibility. While these factors are relatively well known, very little is known about their impact on agricultural structure and production in middle Shebelle and the extent to which they affect the development of the production system in the region (SWALIM and FAO, 2010).

Middle Shebelle region of Somalia, which is the study area, has high agricultural potential and receives good rainfall for both of rainy seasons; it is one of the regions that are expected to produce its own food to feed its people and even can produce surplus to feed people in other parts of the country. However, agricultural productions in Middle Shebelle region of Somalia like the rest of other region in country faced many agronomical and socio-economic problems that hindering agricultural production in the country. Therefore, this study addresses agricultural structure and production problems faced in middle Shebelle region of Somalia especially Jawhar and Bal'ad districts (SWALIM and FAO 2010).

The main purpose of the study is to identify agricultural structure and production problems faced in Middle Shebelle region of Somalia and to make relevant recommendation with the specific reference of Jawhar and Bal'ad districts.These problems can be categorized into agronomic and socio-economic problems. The study was employed descriptive survey research design. A sample of 138 farmers selected from Jawhar and Bal'ad districts in Middle Shabelle region of Somalia. The main instrument used for primary data collection was questionnaire. The collected data was analyzed by a proper statistical program by using frequencies and percentages. This study discovered that lack of proper and good quality hybrids, pests and disease, shortage of water and lack of irrigation channels was the main agronomic problems faced in farmers of Jawhar and Bal'ad districts in Middle Shabelle of Somalia. The socio-economic problems influencing agricultural structure and production of the farmers are financial problems, lack of government incentives and lack extension and research services. This study thus

recommended that government agencies and NGO's should be assist the farmers ways to deal these problems and should provide farmers incentives to enhance their agricultural production.

GENİŞLETİLMİŞ ÖZET

1945'te II. Dünya Savaşı'nın sona ermesinden bu yana tarımsal üretim ve kırsal kalkınma tarihi, değişen yaklaşım ve önceliklerle karakterize edilir. II. Dünya Savaşı sonrasında yaşanan ciddi açlık yüzünden gelişimiş ülkelerde tarımsal üretimi artırmak önemli bir hedef olmuş ve tarımsal üretimi artırmak için kararlı bir çaba gösterilmiştir (Reimund et al., 2007).

Afrikada nüfusun %75'i kırsal alanlarda yaşamakta, çoğu istihdam ve temel gelir kaynağı olarak tarım sektörüne bağlıdır. Afrikada son on yılda sürekli bir tarımsal büyüme yaşanmıştır. Ancak bu gelişme, tarımsal verimlilik artışından çok tarımsal alanlarının genişlemesinden kaynaklanmıştır. Çoğu ülkede, gelecekteki sürdürülebilir tarımsal büyüme, çoğunlukla iklim değişikliği ve ormansızlaşma ile ilgili artan endişeler göz önüne alındığında, ekim için uygun alan azaldıkça, verimlilik artışına daha fazla vurgu yapılmasını gerektirecektir (IFPRI, 2012).

IFPRI'ye (2012) göre yetersiz kaynak varlığı, sınırlı girdi kullanımı (gelişmiş tohumlar, gübre ve sulama) ve süregelen yetersiz politikalar, Sahra altı Afrika'da düşük ve azalan tarımsal üretimin başlıca nedenleri olarak kabul edilmektedir. Afrikada tarım sektörü de çevresel bozulma, hızlı nüfus artışı ve sınırlı kaynaklarla birlikte zayıf altyapı gibi birçok kısıtlama ile karşı karşıyadır.

Somali, halkını (15 milyon) besleyebilecek ve hatta ihracat için fazla üretebilecek potansiyel tarımsal zenginliğe sahiptir. Bu, tarım arazisi (44 mha), orman arazisi (6.6 mha), yüzey suyu (179.7 Km^3/yıl) ve belirlenemeyen potansiyel yeraltı suyu, hayvancılık varlığı (> 40 milyon baş), deniz ve iç su ürünleri kaynaklarından (3333 km uzunluğundaki sahil) oluşur. Brüt Tarımsal Üretim Değeri (BÜD), 1977 ve 1987 yılları arasında ulusal GSYH'ye yüzde 62 ortalama katkıda bulunmuştur. Tarımsal BÜD'ün %25'i bitkisel menşeli, %75'i ise hayvancılıktan gelmektedir. Tarım ürünleri, Somali ekonomisinin tek ihraç ürünleridir. Halkın %70'i kırsal alanda yaşamakatadır ve ana gelir kaynağı tarımdır. Bu istatistikler, tarım sektörünün ülke ekonomisi için ne kadar önemli

olduğunu açıkça gösterir.1990 yılında Tarım Bakanlığı verilerine göre, iç savaş öncesinde, işlenen alanının 564,600 hektarı kuru tarım arazisi, 113,000 hektarı sulanan arazi ve yaklaşık 360.300 hektar alan da nadasa ayrılmıştı. Somali'deki bitkisel üretim esas olarak yağmurla beslenen kuru tarım sisteme bağlıyken, sulanan alan 200.000 hektar sınırına ulaştı. Bu nedenle, yağmurla beslenen tarımda su hasadı tekniklerinin benimsenmesi, mevcut suyun sulama için verimli kullanılması, uygun tarım hizmetlerinin sağlanması ve tarım işçiliğinin varlığı, bitkisel üretimin başarısı için temel belirleyici faktörleri oluşturmaktadır (Jeilani, 2016).

Orta Shabelle bölgesi yoğun yağışlarla (yılda 492-545 milimetre) çok verimli bir alandır, ayrıca Shabelle Nehri havzasında da ürünler esas olarak nehirden sulanarak yetiştirilmektedir. Su nehrin yakınındaki alçak arazileri bazen sular altında bırakabilir; Sel suyu geri çekildikçe yeni açığa çıkan toprağa ekim yapılır. İç savaştan önce bu alanda büyük şeker kamışı ve pirinç tarlaları var. Günümüzde , ana ürünler susam, mısır, fasulye, bezelye, karpuz, sebze, yerfıstığı ve şeker kamışıdır. Bu bölgede en verimli alanlar, Cevher ve Bal'ad ilçelerindedir. Pompajla sulanan nehir kıyısındaki tarım alanlarında Mogadişu, Kismayo ve Baidoa gibi başlıca kentsel pazarlar için soğan ve tütün üretilmektedir. Somali'nin en önemli tarımsal üretim alanlarından biri Orta Shabelle bölgesidir. Geçtiğimiz on yıllarda, bu bölgede çeşitli tarımsal üretim sistemleri vardı. Son yirmi yılda, Somali'deki Merkezi Hükümet'in çöküşünden bu yana, Orta Shabelle'de sulamalı tarım önemli ölçüde azalmış ve şu anda temel olarak küçük arazi parsellerinde geçimlik tarım yapılmaktadır. Ekilebilir arazinin önemli bir kısmı, çeşitli nedenlerle şu anda ekilmemektedir. Bu nedenler arasında güvenlik sorunları (tarım maliyetlerini artıran), düzensiz yağışlar, üretim girdilerinin eksikliği, kredi olanakları veya hizmetlerinin eksikliği, yetersiz sulama ve ulaşım altyapısı ve erişilemezlik nedeniyle sulama altyapısını iyileştirmek için sınırlı çabalar yer alıyor. Bu faktörler nispeten iyi bilinmesine rağmen, Orta Shebelle'deki tarımsal

yapı ve üretim üzerindeki etkileri ve bölgedeki üretim sisteminin gelişimini ne ölçüde etkiledikleri hakkında çok az şey bilinmektedir (SWALIM ve FAO ,2010)

Çalışma alanı olan Somali'nin Orta Shebelle bölgesi yüksek tarım potansiyeline sahiptir ve her iki yağışlı mevsimde de iyi yağış almaktadır; halkını doyurmak için kendi besinini üretmesi beklenen ve hatta ülkenin diğer bölgelerindeki insanları doyurmak için fazlalık üretebilen bölgelerden biridir. Bununla birlikte, Somali'nin Orta Shebelle bölgesindeki tarımsal üretim, ülkenin diğer bölgeleri gibi, ülkede tarımsal üretimi engelleyen bir çok agronomik ve sosyo-ekonomik sorunla karşı karşıyadır (SWALIM ve FAO, 2010). Bu nedenle, bu çalışma Somali'nin orta Shebelle bölgesinde, özellikle Jawhar ve Bal'ad ileçelerinde karşılaşılan tarımsal yapı ve üretim sorunlarını ele almaktadır

Bu çalışmanın amacı Somali'nin Orta Shabelle bölgesinde tarımsal yapı ve üretimde karşılaşılan sorunları Jawhar ve Bal'ad ilçeleri referans alınarak belirlemektedir. Bu sorunlar agronomik ve sosyoekonomik olarak kategorize edebilir. Bu çalışma ankete dayalı tanımlayıcı bir alan araştırmasıdır. Somali'nin Orta Shabelle bölgesindeki Jawhar ve Bal'ad ilçelerinden seçilen 138 çiftçiden oluşan örnekten anketle birincil veriler toplanmış, toplanan veriler uygun bir istatistiksel programla analiz edilmiştir. Bu çalışma ile, Somali'nin Orta Shabelle bölgesindeki Jawhar ve Bal'ad ilçelerindeki çiftçilerin karşılaştığı başlıca tarımsal sorunların uygun ve kaliteli tohumluk, zararlı ve hastalıklar, su sıkıntısı ve sulama altyapısı eksikliği olduğu belirlenmiştir. Bölgenin tarımsal yapısını ve çiftçilerin üretimini etkileyen sosyo-ekonomik sorunlar ise finansal sorunlar, devlet teşviklerinin olmaması, yayım ve araştırma hizmetlerinin olmamasıdır. Be nedenle bu çalışmada, kamu kurumlarına ve STKlara; çiftçilerin bu sorunlarının çözümünde yardımcı olmaları ve çiftçilere tarımsal üretimlerini artırması için teşvikler sağlamaları gerektiği önerilmektedir.

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LİST OF ABBREVİATİONS

GDP	: Gross Domestic Product
M	: Million
Km^3	: Kilometer cubic
GAP	: Gross Agricultural Product
NGO	: Non Governmental Organizations
PPP	: Purchasing Power Parity
Mt	: Metric tons
SSA	: Sub Saharan Africa

1. INTRODUCTION

Changing concerns and priorities have characterized the history of agricultural production and rural development since the end of World War II in 1945.Immediately after the Second World War and the well-known experience of extreme hunger, a determined attempt was made to increase agricultural production in the developed world (Reimund et al., 2007).

75% of Africans live in rural areas, most of them depend on agriculture as their main source of employment and income. Luckily, Africa has undergone continuous agricultural development over the last decade.However, much of the growth has been attributed to the expansion of the area rather than to the increase in agricultural productivity.Future sustainable agricultural growth in most countries would require greater focus on productivity growth, as a suitable area for new cultivation decreases, mainly due to increasing concerns about climate change and deforestation (IFPRI, 2012).

Sub-Saharan Africa is one of the poorest regions in the world.Its population and land area are approximately three times that of the United States.The economies of the region are heavily dependent on agriculture, accounting for two-thirds of the labor force, 35% of GDP and 40% of foreign exchange earnings.Production performance in the agricultural sector is therefore important for improving the overall economic well-being of sub-Saharan Africa (Lilyan et al., 2004).

IFPRI (2012), stated that weak resource endowments, limited use of inputs (improved seeds, fertilizers and irrigation) and poor policies that have persisted for a long time have been recognized as the primary causes of low and declining agricultural production in sub-Saharan Africa.Africa's agricultural sector also faced many constraints, such as environmental degradation, rapid population growth and weak infrastructure combined with limited resources.

Somalia has potential agricultural resources that can feed its people (15 m) and even produce export surpluses. It consists of agricultural land (44mha), forest land (6.6mha), surface water (179.7km3 / annum) and potential unspecified groundwater, livestock population (> 40 m heads), sea and inland fishery resources (3333 km long coast) and forestry. Gross Agricultural Products, GAP, contributed an average of 62 per cent to national GDP between 1977 and 1987.25% of the GAP is of plant origin, while 75% comes from the livestock market. Agriculture commodities are the only exports to the Somali economy. Almost 70% of people live in rural areas, agriculture being their primary source of livelihood. These statistics clearly demonstrate how important the agricultural sector is to the national economy. According to data from the Ministry of Agriculture in 1989, before the outbreak of the civil war, the tilled area was divided into 564,600 hectares of rain-fed and 113,000 hectares of irrigated land and approximately 360,300 was under fallow. Crop production in Somalia relies primarily on the rainfed system, while the irrigated area has reached a limit of 200,000ha. Thus, the implementation of water harvesting techniques in rain-fed agriculture, the effective use of available water for irrigation, the availability of proper agricultural services and the availability of farm labour are key factors in the success of crop production world (Jeilani, 2016).

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Middle Shabelle region. Over the past decades, diverse agricultural production systems existed in this region. Over the past two decades, since the collapse of the Central Government in Somalia, irrigation farming has significantly declined in Middle Shabelle and at present primarily subsistence farming is practiced on small land parcels. A significant part of the arable land is not currently cultivated which is due to the combination of several factors. They include insecurity (which increases farming costs), erratic and highly variable rainfall, lack of farming inputs, lack of credit facilities and extension services, poor irrigation and transport infrastructure, and limited efforts to rehabilitate irrigation infrastructure because of inaccessibility. While these factors are relatively well known, very little is known about their impact on agricultural structure and production in middle Shebelle have been established and the extent to which they affect the development of the production system in the region (SWALIM and FAO,2010).

Middle Shebelle region of Somalia, which is the study area, has high agricultural potential and receives good rainfall for both of rainy seasons; it is one of the regions that are expected to produce its own food to feed its people and even can produce surplus to feed people in other parts of the country. However, agricultural productions in Middle Shebelle region of Somalia like the rest of other region in country faced many agronomical and socio-economic problems that hindering agricultural production in the country. Therefore, this study addresses agricultural structure and production problems faced in middle Shebelle region of Somalia especially Jawhar and Bal'ad districts (SWALIM and FAO 2007).

The main purpose of the study is to identify agricultural structure and production problems faced in Middle Shebelle region of Somalia and to make relevant recommendation with the specific reference of Jawhar and Bal'ad districts.

Objectives of the study

- To identify agronomic problems hindering agricultural structure and production in middle Shebelle region of Somalia.
- To examine socio-economic problems influencing agricultural structure, and production in middle Shebelle region of Somalia.

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2. LITERATURE REVIEW

A study conducted in sub-Saharan Africa indicates that countries in the region showed some advancement towards development in the 1960s, but in in late 1970s they suffered a failure in, but later the mid-1980s improved to realize a reason fairly strong rate of improvement of the productivity at the end of that century. According to the last decades the total average rate of the productivity growth was estimated 0.9% per year, (Lilyan et al., 2004)

Another study that was carried out in sub-Saharan regions states that the effects of road infrastructure investments on agricultural production and the productivity is in Sub-Saharan Africa is so important for the coming three reasons. Number one is that the sector of agriculture contributes to a large share of GDP of the most Sub-Saharan Africa countries. The second reason is that poverty is so much in the areas where rural people dwelling. The last reason, the relative lack of good roads and traveling long distance results in increasing the transaction costs for the agricultural outputs and inputs sells, and for the sake of this reason it limits agricultural production and its growth. Thus, investments in roads and to the related transport services can have an important result on areas where rural people live and even the national incomes through their effects on agriculture (Paul et al., 2012).

The World Bank noted that from the 1980s to the mid-1990s, crops from agricultural lands in Sub-Saharan Africa were characterized by large fluctuations and weak growth in total production, with grain production increasing at an annual rate of 1.37% and population growth was 2.9%. (World Bank, 2004).

Another study by the World Bank shows wide fluctuations and weak growth in total agricultural production, from the 1980s to the mid-1990s, when grain production increased at an annual rate of 1.37% compared to an annual population growth of 2.9% (World Bank, 2004).

Despite widespread expansion efforts since the mid-1990s, agricultural production has remained weak over the past decade; production gains were mainly from air and area expansion and weak yield gains were limited to maize. There are many factors that explain this poor performance; high precipitation variability, lack of irrigation investment, poor rural institutions limited modern varieties, lack of animal traction, lack of mechanization, inadequate investment in agricultural research, poor rural infrastructure and demand-side skills, poor market links, high transaction costs leading to weak and volatile markets purchasing power makes agriculture riskier and reduces production incentives (World Bank, 2004).

Investments in productivity increase further up the food value chain through marketing and transport infrastructure, increasing the prices farmers are getting for output while at the same time exerting downward pressure on urban food prices. Higher producer prices will create incentives for farmers to invest in productivity-enhancing technologies because output increases will bring significant gains (Kate and Leigh, 2010).

For the sake of various agro-ecological regions, topography, and natural vegetation, Ethiopian small farmers have developed complex farming methods and crop patterns. According to the study, different cereal crops, legumes, oilseeds, and several different other and tree crops are grown in Ethiopia. Diversification has encouraged farmers to cope with droughts or irregular rains but identifying the right technological package for various ecologies and crops has posed a significant challenge for researchers and extension systems (Mulat et al., 2004).

Somalia is said to have the largest animal population in Africa. Livestock is considered food security for farmers in Somalia during crop scarcity, investment, and additional income. It is a source of traction for livestock, crop production, raw material input for industry (eg hides and skins, wool, etc.) and manure for fertilization. Horses are the main source of transport services in rural areas. The role of livestock as a food source is critical to both upland and lowland residents. The basic food additives of livestock include meat and meat products, milk and

dairy products, eggs, and honey, among other things. While 26% of livestock production is used as food in mixed farming systems in the plateaus, this rate rises to 61% in pastoral areas where animal husbandry is the main source of income.

The livestock sub-sector in Somaia is not developed to its potential. contributes up to 30 percent of agricultural GDP, on average.

Mulat et al., (20), stated the main problem of this sector as follows:

Diseases: Diseases have been identified as one of the main factors of the low productivity of the livestock subsector. Approximately 30-50% of the total value of livestock products is lost each year due to diseases such as rinderpest, trypanosomiasis, foot and mouth disease, liver parasite.

Feed scarcity: Malnutrition and malnutrition are among the main constraints of livestock production in Somalia. Nutritional stress has led to low growth rates, low fertility, and high mortality rates. High population growth and increased density have led to the expansion of cultivated areas at the expense of grazing land on which small livestock production depends. It is believed that permanent pastureland has decreased by about 60% in the last thirty years. It should be noted that crop residues have become the main source of animal feed in areas where breeding is concentrated.

Demand restriction: underdevelopment of roads and other infrastructure prevented animals from taking off. It was stated that livestock products were first selected or removed from the menu by most consumers, due to the decrease in income for various reasons. In addition, during the Christian fasting seasons (most) livestock products are not part of the daily menu, meaning that they negatively affect the demand for the product as it is not consumed completely.

Institutional and political constraints: There are also institutional and policy-related problems, such as the lack of institutional stability that could stimulate the sub-sector, the lack of appropriate policies to stimulate and increase the production and productivity of the sub-sector. Insufficient capital and repeated

budget allocations to the livestock subsector also contributed to its low productivity.

The agricultural sector continues to face great difficulties. As food production is mostly rain-fed, rural livelihoods remain extremely vulnerable to meteorological shocks. Despite the improvements, efficiency levels are still very low, and the marketing infrastructure is also weak, resulting in high transaction costs. The limited use of farming practices developed by most small farmers is an important factor contributing to low productivity (AfDB, 2012).

The increasing cost of important agricultural inputs (eg chemical fertilizers) is another challenge in promoting modern technology packages to increase productivity. In addition, soil erosion in certain agro-ecological regions is an obstacle to sustainable agricultural production growth due to over-cultivation and limited investment in land reclamation. There has been an overall decline in per capita food production as high population growth rates contributed to the decline in farm size. Thus, approximately 4.5 million people depend on food aid (AfDB, 2012).

Soil erosion is one of the biggest agricultural problems in Ethiopia's mountainous regions. Deforestation, overgrazing and cultivation of unsuitable slopes, along with farming practices that do not involve conservation measures, are the main causes of soil erosion in most of Somali's mountainous areas. Degraded soils are also the biggest constraints on agricultural production and food security in the mountainous regions of Southern Somalia (Abay, 2011).

Land degradation is one of the main causes of low and many places in Somalia, agricultural productivity and ongoing food insecurity and rural poverty. As noted by Berry (2002), the main interacting causes of land degradation in Ethiopia are; The influence of natural conditions, especially the periodic drought, the inaccessibility of rural areas due to topographic constraints, the continuous increase in population and animal aggregates without changes in agricultural and other economic systems, the historical patterns of feudal land ownership and

subsequent changes in state ownership and policy, the uncertain state of land ownership, institutional overlap, duplication of efforts and lack of financial resources, lack of rural infrastructure and markets, lack of stakeholder participation in government decisions, especially at local level, poor extension services and low-tech agriculture The risk of reluctance and reliance on cattle as wealth.

Direct causes of land degradation are mainly deforestation, overgrazing and over-cutting, shifting planting and poor agricultural management of soil and water resources: lack of adoption of soil and water conservation practices, improper crop rotation, marginal land use inadequate and / or excessive use of fertilizers, irrigation mismanagement of their plans and excessive pumping of groundwater. Indirect causes of land degradation are mainly population growth, land scarcity, short-term or insecure land tenure, and poverty and economic pressure (FAO, 2001).

Soils in most SSA regions naturally have low fertility and do not get enough nutritional supplements. Soil fertility in SSA is also limited by drought (low rainfall) and acidity. Although there was little production increase, this was achieved by planting poor and marginal lands while the productivity of most of the available lands was falling (FAO, 2001).

Soil erosion is one of the main agricultural problems in the mountainous regions of Ethiopia. Deforestation, overgrazing and cultivation of unsuitable slopes, along with farming practices that do not involve conservation measures, are the main causes of soil erosion in most of Somali's mountainous areas. Degraded soils are also the biggest constraints on agricultural production and food security in the southern Ethiopian highlands. Low and decreasing soil fertility is one of the main causes of inefficient fertility, and the loss of fertile topsoil as a result of erosion and desertification has severely reduced the production potential of previously fertile soils. Opportunities to increase yields and increase land and labor productivity through improved soil management and water conservation depend

largely on the use of external (productivity enhancing) inputs (Reimund et al., 2007).

In arid, semi-arid and semi-humid regions, animals are an important part of the food production system. The value of animal manure in crop production has long been widely recognized and is essential for sustainable crop production in most low and medium input systems. If the cattle population increases without restriction, the pressure on grazing lands leads to the loss of edible vegetation and the dominance of shrub species, as well as desertification (FAO, 2001).

Deforestation and desertification are both causes and symptoms of productivity deterioration as the problems are cyclical: intensive land use - caused by the need to produce more - causes soil degradation and lower yields, which requires more land clearing for planting (FAO, 2001). Deforestation is the indiscriminate cutting or overharvesting of trees for lumber or pulp, or the clearing of land for agriculture, farming, construction, or other human activities. Deforestation in Ethiopia is caused by local people clearing forests for personal needs such as fuel, hunting, agriculture, and sometimes for religious reasons. The main causes of deforestation in Ethiopia are agriculture, livestock production and fuel shifts in drier regions. Desertification occurs on every continent except Antarctica, but international attention is mostly focused on Africa, particularly the region known as the Sahel, the northern African region just south of the Sahara Desert.

Samuel (2003), Somalia peasants show little interest in agricultural credit due to their livelihood-oriented production style, limited use of purchased farm inputs, unreliable weather conditions, low output prices, and uncertainties associated with policies. The only exception is fertilizer loans. This is partly due to the high government interest in promoting the use of fertilizers, which is seen by Ethiopian policymakers as a strategic input to increase grain production, and partly from the interest of farmers to offset the decline in soil fertility due to a steady single crop. Practices of Ethiopian villagers. Even the fertilizer loan market has

faced many issues that have serious implications for the sustainability of the market and farmers' interest in fertilizers.

Production in the rural non-agricultural sector is very flexible. This is because there is normally a large amount of underemployed labour supply or, at very low productivity levels, labour productivity can be increased with little or no investment. This contrasts with agriculture, which is inelastic in supply due to land constraint. Production is increased with the technological change that changes the production function in agriculture. The demand for agricultural production is highly flexible because agricultural products can be traded, including on international markets. Of course, other sources of rural income growth may have a similar multiplier effect on the rural non-agricultural sector. However, they are all very small compared to agriculture (John & Paul, 2010).

Numerous constraints on yield and productivity growth have been identified, including relatively low levels of input use (fertilizers, pesticides, and improved seeds), low levels of irrigation, soil degradation and soil erosion, inadequate agricultural research and expansion, and restrictions on market development (Alemayehu et al., 2011).

Agricultural Production System in Somalia has five main topographic regions could be categorized: 1) the north Golis mountain range; 2) the large limestone-sandstone region covering the whole southern and central Somalia; 3) north-eastern coastal plains; 4) the Juba and Shabelle rivers’ vast floodplains; and 5) central coastal plains. It is 288,000 square kilometres out of the country's 637,540 square kilometres. or 45% grassland, 14% forest and 13% agricultural land. More than 29% of Somalia regions are categorized as arid and is not suitable for any agricultural products.The climate in Somalia is normally arid and semi-arid. Precipitation ranges from 400-600 mm in most agricultural areas of southern Somalia, with two rainy seasons each year (Deyr from October to early December and G season from late March to July). Nearly 59% of precipitation occurs during the Gu season. Coastal showers ('Haggai' rains) substantially increase precipitation

in July and August in coastal and inland areas, up to about 50 km. An especially striking characteristic of the distribution of rainfall is that immediate inland rain accumulates rapidly (e.g., Sablaale 374 mm, Baraawe, 636 mm; Jilib 380 mm, J Kismaayo 630 mm). Per year, the central grasslands receive around 150-250 mm. The average long-term rainfall varies from 450 to 550 mm in the agro-pastoral regions of northwestern Somalia, while the northern highlands usually receive 200-300 mm per year. The long, harsh season of Jilal (December to March / April) is the worst time for food insecurity (Unruh, 1991).

In northwestern Somalia, the precipitation distribution is slightly distinct. Rains intensify between March and September in agro-pastoral areas (Rose Karan rains account for around 90 percent of annual rainfall) while remaining relatively dry from October to February.

Due to the high unpredictability of precipitation, rain-fed crop production is especially at risk, and localized droughts happen every four to five years and five or six major droughts every century. In the Juba and Shabelle Rivers, flooding is also normal. Average daily temperatures range from 16-37 ° C, in the 20s, on average. The relative humidity is relatively high in the valleys of Shabelle and Jubba usually 60-76 percent (Unruh, 1991)

The Somalia economy is primarily depending on livestock and agricultural production. Before the civil war statistics shows that 68% of the country’s gross domestic product (GDP) came from livestock, fishing, and agriculture. The Somali economy is largely based on agriculture and livestock production. Pre-war figures show that 67% of the country's GDP came from livestock, agriculture, and fishing. Real Gross Domestic Product (GDP) per capita dropped from $ 835 in 2016 to $ 794 (1985-1990). The purchasing power parity (PPP) between the rural population of the poor and the highly poor is assumed to be US$ 301 and US$ 202, respectively. The lack of regulatory frameworks for the export-oriented production of cash crops and the small manufacturing sector hinders sustainable development in the agricultural sector (world Bank, 2004).

The key variable affecting crop production is the hard climate of Somalia, usually associated with low precipitation and highly variable precipitation patterns. Floods and droughts are common problems in major agricultural areas, and the civil war has also had a significant impact on agricultural production over the last 15 years through the disruption of normal agricultural activities. In Somalia, there are two distinct irrigated and rain-fed plant growing systems, with 85% of grain production occurring in southern Somalia. Subsistence-based (i.e., low input and labour intensive) small-scale farmers dominate production, while before the war, large-scale commercial farms existed. Corn (irrigated areas, mainly the Central Shabelle Area) and sorghum (rainfed areas, especially the Bay Area) are the most important food products in Somalia (Omar, 2018)..

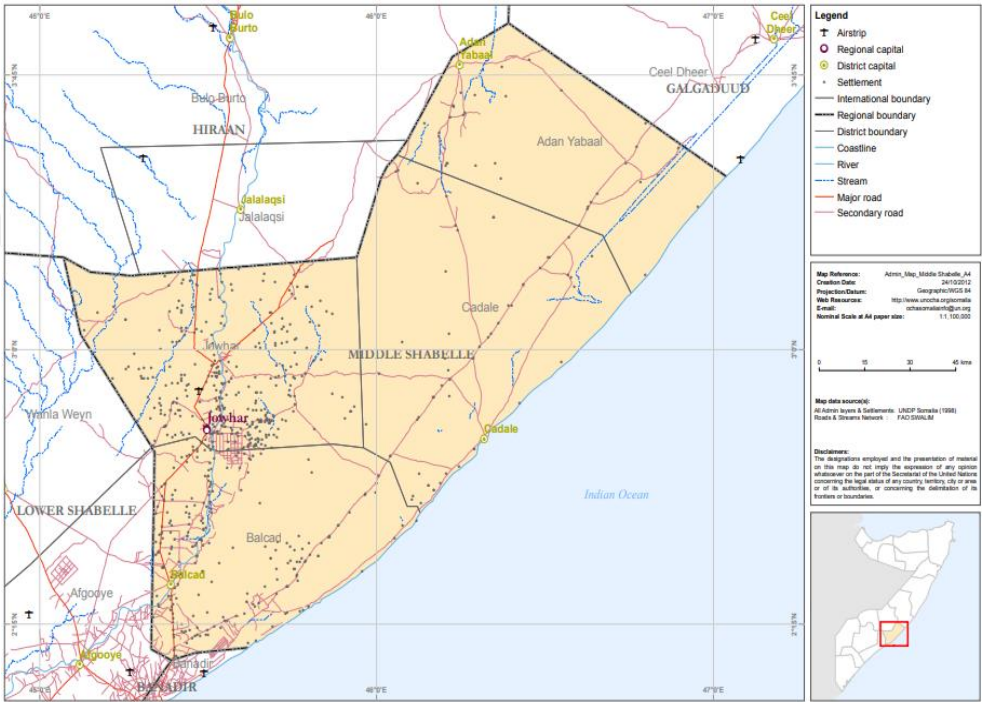
Before the war (1982-88), annual cereal production was around 490,000 metric tons (MT), and this has now dropped to around 283,000 MT (1995-2003), with around half sorghum and half maize (together with Gu and Deyr). The annual estimated requirements are approximately MT12 590,000. food aids and Commercial imports are covered by the food production deficit.

During the Gu season, cultivated land decreased from approximately 541,000 ha to 392,000 ha during the same time, while cultivated land increased from an average of 181,000ha to 240,000 ha in the Deir season. In addition to the decrease in cultivated areas during the Gu season, the substantial decrease in the production of grain can be attributed to the lower yield of maize (sorghum yield was already low).In the northern regions, where grazing is dominant, the spread of rainfed agriculture is extremely limited, but crop farming is possible in natural oases where groundwater is available. Feed production is as critical for minority farmers as the production of grain. Most northern pastoralists are dependent on the production of southern grain and food such as wheat imported internationally. This import is correlated with exports of livestock. However, due to a lack of certification requirements and a regulatory system, problems in international trade in livestock mean that exports of livestock are unregulated (Omar, 2018).

Sojede (2018), stated in recent years, there have been various agricultural production systems in Somalia, especially in the Central Shabelle region. In the past two decades, since the collapse of the Central Government in Somalia, irrigation agriculture has declined significantly in Central Shabelle, and subsistence farming is currently practiced mainly on small land plots. A significant part of the arable land is not currently cultivated, because of poor natural resource management, lack of proper and good quality hybrids, poor integration of agricultural and livestock production, poor of agricultural infrastructure, lack of agricultural inputs, services, and information, lack of technical capacity, lack of agricultural research and limited access to information, unresolved land tenure issues and land expropriation cases, Inadequate protection of minorities and the effect of improper assistance responses.

3. MATERIAL AND METHOD

3.1. Area of the Study



Figüre 3.1. Map of showing districts of Middle Shabelle region of Somalia

Middle Shabelle is situated on the north east side of Mogadishu and is closely related to the dynamics of the capital.The Middle Shabelle region has an estimated population of 350,901 (UNDP, 2005). Agriculture (riverine and rainfed), pastoralists, fisheries and trade are the main economies of the region. The riverine farming benefits from a river higher than the field making the risk of floods high, but also allows for irrigation, which can be achieved without an irrigation pump.

This study focused on the Jawhar and Bal'ad districts in Middle Shebelle region of Somalia. These two districts were chosen as area of the study because 80% of the peoples are engaged in various forms of agricultural activities.

Jowhar is the capital city of Hirshabelle state of Somalia.The city lies 90 km (50 mi) along a major road north of the national capital of Mogadishu and found between latitude of 2°46'51.13" N and longitude of 45°30'1.73" E.

Balad district Balad is in Middle Shabelle located 36km northeast of Mogadishu capital city of Somalia. Bal'ad district is found between latitudes 2.3584 ° N and between longitudes 45.3863° E.

3.2. Materials

The instrument used for the study was a set of questionnaires for agricultural structure and production problems faced in Middle Shebelle region of Somalia with the reference of Jawhar and Bal'ad. Kerlinger (2003), defined questionnaire as a research tool consisting of a series of questions and other facts for the purpose of gathering information from participants and realize that the questionnaire is one of the widely used instrument for collecting data in many research fields because it is very effective for securing information about practices and conditions of which the respondents are presumed to have knowledge.

The questionnaire was divided in to two parts. First part was demographic information of the respondents while the second part was consisting of two sections which each section included several questionnaires. The basic structure of the questionnaire was based on the liker scale format, which was the simplest but equally efficient approach for studies in science research (Willis,2004). Respondents indicated the extent to which each statement best described their response on the occurrence of each of them on a 5 -point liker – types of scale from strongly disagree to strongly agree and neutral. The respective weights for the responses were as follows:

1. Indicated strongly disagree
2. Indicates disagree
3. Neutral
4. Agree
5. Indicates strongly agree

3.3. Methods

This study descriptive survey research design was used. Ogula (2005), defined descriptive research design as strategy, plan, and structure of investigation the nature of the situation and usually answers research questions "what and how". The researcher used this research method because researcher is seeking insights into the general nature of problems facing the farmers and possible solution to overcome these problems.

The target population of this study was made up of small scale and large-scale farmers in Jawhar and Bal'ad districts in Middle Shebelle region of Somalia.

The accessible population was consisted total of 215 small scale and large farmers from Jawhar, and Bal'ad districts in Middle Shebelle region of Somalia.

The sample size was consisted of 138 small scale and large-scale farmers selected from farmers in Jawhar and Bal'ad districts in Middle Shebelle region of Somalia. 78 farmers from Jawhar district and 60 farmers from Bal'ad district. The sample size was determined by using statistical formula called Slovene's formula. Here is the calculation of sample size by using Slovene's formula with the maximum acceptable error of (0.05)

$$\boldsymbol{n = \frac{N}{1 + N(e)^2}}$$

key terms:

n: sample size

N: target population

E: standard for error or coefficient

1: Variation

$$\boldsymbol{n = \frac{215}{1 + 215(0.05)^2} = 138}$$

The sampling technique is a procedure for selecting sample members from a population. In this study was used probability sampling to select a reasonable

number of participants, or cases that represent the target population. And technique was used is simple random sampling to select the sample size. The simple random sampling involves giving a number to every subject or member of the accessible population, placing the numbers in a container, and then picking any number at random. The researcher wrote ‘Yes’ and ‘No’ on papers for participant. The number required was written ‘Yes’ the rest ‘No’. The papers were shaken to mix well and then passed around. Those picked papers with ‘Yes’ were are one’s included in the sample. The researcher consciously decided who will include the sample, the main objective of simple random sampling it is designed to collect target information. It is preferred for this study because to get accurate information and fairly about target population.

After the collection of data, normally it was organized and analysed. For the analysis of closed-ended questions a proper statistical program was used. Descriptive statistics were used for questionnaire analysis by using frequency, mean, percentage, and cumulative percentage. Numerous tables and charts were used in this study to identify agricultural structure and production problems faced in farmers of Middle Shebelle region in Somalia.

4. RESULTS

4.1. Demographic İnformation of the Respondents

4.1.1. Age of the Respondents

Table 4.1. Age of the respondents

Age	Frequency	Percent	Cumulative Percent
less than 20	25	18.1	18.1
21-30	56	40.6	58.7
31-40	31	22.5	81.2
41-50	15	10.9	92.0
bove 50	11	8.0	100.0
Total	138	100.0	

Table 4.1. Reveals the age of the respondents. This table indicates that 18.1% of respondents are aged less than 20, it also shows Most of the respondents aged between 21-30 years 40.6% which had greater than the percentage of respondents, aged 31-40 years 22.5%, 41-50 years 10.9%, while50 and above years 8%. This shows that most of the farmers are young.

4.1.2. Gender of the Respondents

Table 4. 2. Gender of the Respondents

gender	Frequency	Percent	Cumulative Percent
Male	78	56.5	56.5
Female	60	43.5	100.0
Total	138	100.0	

Table 4.2. Reveals the gender of the respondents. This table shows that 56.5% of the respondents were male, while 43.5% of the respondents were female. This indicates male and female farmers participating in this study were almost are same.

4.1.3. Marital Status of the Respondents

Table 4. 3. Marital Status of the Respondents

Marital Status	Frequency	Percent	Cumulative Percent
Single	35	25.4	25.4
Married	77	55.8	81.2
Divorced	26	18.8	100.0
Total	138	100.0	

Table 4.3. Presents the marital status of the respondents. This table 3indicates that 25.4% of the respondents were single, while 55.8% of the respondents were married and 18.8% were divorced. This shown most of the respondents were married.

4.1.4. Educational Level of the Respondents

Table 4. 4. Educational Level of the Respondents

Educational qualifications	Frequency	Percent	Cumulative Percent
Donot attend school	18	13.0	13.0
primary school	36	26.1	39.1
secondary school	72	52.2	91.3
Diploma	12	8.7	100.0
Total	138	100.0	

Table 4.4. Represents the educational level of the respondents. This table 4indicates that 13% of the respondents do not attend school, 26.1 of respondents were primary school, 52.2% were secondary school, while 8.7% of the participants were diploma they have two years of post secondray school certicate. This indicates that most of the farmers participated in this study were secondary school.

4.2. Agronomic Problems Hindering Agricultural Structure and Production of the Farmers

4.2.1. Lack of Proper and Good Quality Hybrids

Table 4. 5. Lack of proper and good quality hybrids

Questıon 1	Frequency	Percent	Cumulative Percent
Strongly Disagree	9	6.5	6.5
Disagree	11	8.0	14.5
Neutral	15	10.9	25.4
Agree	40	29.0	54.3
Strongly Agree	63	45.7	100.0
Total	138	100.0	

Table 4.5. Represents lack of proper and good quality hybrids. From the table it reveals that 45.7% of the farmers participated in the study strongly agreed that Lack of proper and good quality hybrids as an agronomic problem constraining their agricultural structure and production, while 29% agreed and 10.9% were neutral. The respondents strongly disagreed that lack of proper and good quality hybrids not agronomic problem hindering their agricultural production were 6.5% and 8% were disagreed. Absence of suitable varieties has been existing as one of the major problem facing farmrs. A large number farmers still depend on the traditional varieties, which are of low yield and not good for cultivation.

4.2.2. Pests and Disease Problem

Table 4.6. Pests and disease problem

Question 2	Frequency	Percent	Cumulative Percent
Strongly Disagree	18	13.0	13.0
Disagree	10	7.2	20.3
Neutral	20	14.5	34.8
Agree	51	37.0	71.7
Strongly Agree	39	28.3	100.0
Total	138	100.0	

Table 4.6. Represents Pests and disease problem. From the table it reveals that 28.3% of the farmers participated in the study strongly agreed that Pests and disease problem as an agronomic problem constraining their agricultural structure and production, while 37% agreed and 14.5% were neutral. The respondents strongly disagreed that Pests and disease problem not agronomic problem hindering their agricultural production were 13% and 7.2% were disagreed. This indicates that Pests and disease problem as one of the agronomic problems hindering agricultural structure and production problems faced by Middle Shabelle region of Somalia.

4.2.3. Shortage of Water

Table 4. 7. Shortage of water

Question 3	Frequency	Percent	Cumulative Percent
Strongly Disagree	8	5.8	5.8
Disagree	12	8.7	100.0
Neutral	8	5.8	11.6
Agree	63	45.7	57.2
Strongly Agree	47	34.1	91.3
Total	138	100.0	

Table 4.7. Represents Shortage of water. From the table it reveals that 34.1% of the farmers participated in the study strongly agreed that Shortage of water as an agronomic problem constraining their agricultural structure and production, while 45.7% agreed and 5.8% were neutral. The respondents strongly disagreed that Shortage of water are not agronomic problem hindering their agricultural production were 8.7% and 5.8% were disagreed. Most of the farmers reported that lack of dams, variable rain fall and poor irrigation channels are the main problems responsible fort he shortage of water.

4.2.4. Soil Fertility Problems

Table 4. 8. Soil fertility problems

Question 4	Frequency	Percent	Cumulative Percent
Strongly Disagree	13	9.4	9.4
Disagree	20	14.5	23.9
Neutral	27	19.6	43.5
Agree	44	31.9	75.4
Strongly Agree	34	24.6	100.0
Total	138	100.0	

Table 4.8. Represents Soil fertility problems from the table it reveals that 24.6% of the farmers participated in the study strongly agreed that Soil fertility problems as an agronomic problem constraining their agricultural structure and production, while 31.9% agreed and 19.6% were neutral. The respondents disagreed or strongly disagreed that Soil fertility problemsare not agronomic problem hindering their agricultural production were 14.5-9.4% respectively. This indicates that Soil fertility problems as one of the agronomic problems hindering agricultural structure and production problems faced by Middle Shabelle region of Somalia.

4.2.5. Poor of Farm Mechanization

Table 4. 9. Poor of farm mechanization

Questıon 5	Frequency	Percent	Cumulative Percent
Strongly Disagree	10	7.2	7.2
Disagree	16	11.6	18.8
Neutral	12	8.7	27.5
Agree	53	38.4	65.9
Strongly Agree	47	34.1	100.0
Total	138	100.0	

Table 4.9. Represents Poor of farm mechanization from the table it reveals that 34.1% of the farmers participated in the study strongly agreed that Poor of farm mechanization as an agronomic problem constraining their agricultural structure and production, while 38.4% agreed and 8.7% were neutral. The respondents disagreed or strongly disagreed that Poor of farm mechanization are not agronomic problem hindering their agricultural production were 11.6-7.2% respectively. This indicates that Poor of farm mechanization as one of the agronomic problems hindering agricultural structure and production problems faced by Middle Shabelle region of Somalia.

4.2.6. Lack of İrrigation Channels

Table 4. 10. Lack of irrigation channels

Questıon 6	Frequency	Percent	Cumulative Percent
Strongly Disagree	9	6.5	6.5
Disagree	11	8.0	14.5
Neutral	11	8.0	22.5
Agree	40	29.0	51.4
Strongly Disagree	67	48.6	100.0
Total	138	100.0	

Table 4.10. Represents Lack of irrigation channels From the table it reveals that 48.6% of the farmers participated in the study strongly agreed that Lack of irrigation channels as an agronomic problem constraining their agricultural structure and production, while 29% agreed and 8% were neutral. The respondents disagreed or strongly disagreed that Lack of irrigation channels are not agronomic problem hindering their agricultural production were 8-6.5% respectively. This indicates that Lack of irrigation channels as one of the agronomic problems hindering agricultural structure and production problems faced by Middle Shabelle region of Somalia.

4.3. Socio-Economic Problems İnfluencing Agricultural Structure and Production of the Farmers

4.3.1. Financial Problems

Table 4. 11. Financial problems

Questıon 7	Frequency	Percent	Cumulative Percent
Strongly Disagree	9	6.5	6.5
Disagree	12	8.7	15.2
Neutral	14	10.1	25.4
Agree	42	30.4	55.8
Strongly Agree	61	44.2	100.0
Total	138	100.0	

Table 4.11. Represents financial problems from the table it reveals that 44.2% of the farmers participated in the study strongly agreed that Financial problems as a socio-economic problem influencing their agricultural structure and production, while 30.4% agreed and 10.1% were neutral. The respondents disagreed or strongly disagreed that Financial problems are not socio-economic problems influencing their agricultural production were 8.7-6.5% respectively. One

of the socio-economics problems common to all farmers of Middle Shabelle region of Somlia is financial problem where they lack capital and adequate cash to improve and enhence their production.

4.3.2. Poor Access of Agricultural İnputs

Table 4. 12. Poor access of agricultural inputs

Questıon 8	Frequency	Percent	Cumulative Percent
Strongly Disagree	9	6.5	6.5
Disagree	14	10.1	16.7
Neutral	13	9.4	26.1
Agree	32	23.2	49.3
Strongly Agree	70	50.7	100.0
Total	138	100.0	

Table 4.12. Represents poor access of agricultural inputs from the table it reveals that 50.7% of the farmers participated in the study strongly agreed that Poor access of agricultural inputs as a socio-economic problem influencing their agricultural structure and production, while 23.2% agreed and 9.4% were neutral. The respondents disagreed or strongly disagreed that Poor access of agricultural inputs are not socio-economic problems influencing their agricultural production were 10.1-6.5% respectively. This indicates that Poor access of agricultural inputs as one of the socio-economic problems influencing agricultural structure and production problems faced by Middle Shabelle region of Somalia.

4.3.3. Lack of Extension and Research Services

Table 4. 13. Lack of extension and research services

Questıon 9	Frequency	Percent	Cumulative Percent
Strongly disagree	10	7.2	7.2
Disagree	13	9.4	16.7
Neutral	17	12.3	29.0
Agree	51	37.0	65.9
Strongly agree	47	34.1	100
Total	138	100	

Table 4.13. Represents lack of extension and research services from the table it reveals that 34.1% of the farmers participated in the study strongly agreed that Lack of extension and research services as a socio-economic problem influencing their agricultural structure and production, while 37% agreed and 12.3% were neutral. The respondents disagreed or strongly disagreed that Lack of extension and research services are not socio-economic problems influencing their agricultural production were 9.4-7.2% respectively. This indicates that Lack of extension and research services as one of the socio-economic problems influencing agricultural structure and production problems faced by Middle Shabelle region of Somalia

4.3.4. Lack of İnfrastructure Such As Roads

Table 4. 14. Lack of infrastructure such as roads

Questıon 10	Frequency	Percent	Cumulative Percent
Strongly Disagree	6	4.3	4.3
Disagree	7	5.1	9.4
Neutral	19	13.8	23.2
Agree	50	36.2	59.4
Strongly Agree	56	40.6	100.0
Total	138	100.0	

Table 4.14. Represents lack of infrastructure such as roads. From the table it reveals that 40.6% of the farmers participated in the study strongly agreed that Lack of infrastructure such as roads as a socio-economic problem influencing their agricultural structure and production, while 36.2% agreed and 13.8% were neutral. The respondents disagreed or strongly disagreed that Lack of infrastructure such as roads are not socio-economic problems influencing their agricultural production were 5.1% and 4.3% respectively. This indicates that Lack of infrastructure such as roads as one of the socio-economic problems influencing agricultural structure and production problems faced by Middle Shabelle region of Somalia.

4.3.5. Lack of Government İncentives

Table 4. 15. Lack of government incentives

Questıon 11	Frequency	Percent	Cumulative Percent
Strongly Disagree	10	7.2	7.2
Disagree	7	5.1	12.3
Neutral	12	8.7	21.0
Agree	47	34.1	55.1
Strongly Agree	62	44.9	100.0
Total	138	100.0	

Table 4.15. Represents lack of government incentives. From the table it reveals that 44.9% of the farmers participated in the study strongly agreed that Lack of government incentives as a socio-economic problem influencing their agricultural structure and production, while 34.1% agreed and 8.7% were neutral. The respondents disagreed or strongly disagreed that Lack of government incentives are not socio-economic problems influencing their agricultural production were 5.1% and 7.2 % respectively. This indicates that Lack of government incentives as one of the socio-economic problems influencing agricultural structure and production problems faced by Middle Shabelle region of Somalia.

4.3.6. Illiteracy of the Farmers

Table 4. 16. Illiteracy of the farmers

Questıon 12	Frequency	Percent	Cumulative Percent
Strongly Disagree	27	19.6	19.6
Disagree	30	21.7	41.3
Neutral	12	8.7	50.0
Agree	41	29.7	79.7
Strongly Agree	28	20.3	100.0
Total	138	100.0	

Table 4.16. Represents illiteracy of the farmers. From the table it reveals that 20.3% of the farmers participated in the study strongly agreed that Illiteracy of the farmers as a socio-economic problem influencing their agricultural structure and production, while29.7% agreed and 8.7% were neutral. The respondents disagreed or strongly disagreed that Illiteracy of the farmers are not socio-economic problems influencing their agricultural production were 21.7-19.6% respectively. This indicates that Illiteracy of the farmers as one of the socio-economic problems influencing agricultural structure and production problems faced by Middle Shabelle region of Somalia.

5. CONCLUTIONS AND RECOMMENDATIONS

5.1. Conclusions

This study focuses on agricultural structure and production problems faced in Middle Shabelle region of Somalia with reference to Jawhar and Bal'ad districts. From the findings of this study agronomic problems such as lack of proper and good quality hybrids, pests and disease problems, shortage of water, bad irrigation channels and poor farm mechanization was the major agronomic problems, while financial problems, poor access of agricultural inputs, lack of extension and research services and lack of infrastructure was main socio-economic problems influencing agricultural production of the farmer. Omar (2018) , agronomic problems like diseases, adverse climate, weed, and bad cultivars were identified to be the major problems faced in farmers of Somalia. Omar (2018) also identified many socio-economic problems such as insecurity, bad agricultural policy, and inflation. The findings of this study are little difference from that of Omar (2018). However, the result of this study was like that of Abdi Soojeede (2011).

5.2. Recommendations

Based on the findings of this study, the researcher recommended that:

1. The Ministry of Agriculture of Somalia specially crop production department should provide training to the farmers of Middle Shabelle to improve their knowledge and skills.
2. Farmers of Middle Shabelle region face lack of goof infrastructure so government of Somalia should improve and build irrigation channels and infrastructure such as roads to help farmers to get access of market and increase their production.
3. Ministry of Agriculture should give the farmers of Jawhar and Bal'ad districts research and extension services.

4. Non-governmental organization should take part the developmental efforts for enhancement of the farmers production and help farmers accessibility of good quality hybrids.
5. Government should provide farmers seminars about pests and disease control to help farmers to fight pests and disease.
6. Government of Somalia should provide farmers of Middle Shabelle especially farmers of Jawhar and Bal'ad districts incentives to promote their production.

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AUTOBIOGRAPHY

After completing my school at AL-Rahma Primary and Secondary School in Galkayo in 2009, I attendedAgricultural Science faculty at Benadir university in Mogadishu-Somalia. I received Bachelor of Agricultural Science from Benadir University in 2015. After my graduation I started working in Benadir University as assistant lecturer. I later proceeded as a head section of agricultural extension at Ministry of Agriculture and Irrigation of Somalia. In 2018 I started my Master of Science in Agricultural Economics at Çukrova University. My current research interest is Agricultural Structure and Production Problems faced in Middle Shabelle Region of Somalia with Specific Reference to Jawhar and Bal'ad districts.

APPENDIX

APPENDIX1: QUESTIONNAIRE

Dear respondent, I am a graduate student in the school of Agricultural Economics I am conducting this study to identify agricultural structure and production problems faced by farmers in the Middle Shabelle region of Somalia. In answering this question will be available contribution the information provided will be used for academic purposes and its confidentiality is high guaranteed.

1. Please do not write your name on the questionnaire.
2. All information contained in this questionnaire will be kept confidential.
3. The research is purely academic purpose and not for gaining money.
4. Please feel free and fill the spaces to provide the best of your knowledge

Section one: demographic Information

1. Age:

1.20-30. ☐ 2.31-40. ☐ 3.41-50. ☐ 4.51 Above. ☐

2. Gender:

1. Male. ☐ 2. Female. ☐

3. Marital Status:

1. Single. ☐ 2. Married. ☐ 3. Divorced. ☐

Section Two:

Please put a tick (√) in the appropriate box to indicate your extent of agreement to the following statement about agricultural structure and production problems faced by farmers in Middle Shabelle according to the scale below:

	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
no	**1. Agronomic problems hindering agricultural structure and production of farmers are**					
1	Lack of proper and good quality hybrids.					
2	Pests and disease problems					
3	Shortage of water					
4	Soil fertility problems					
5	Poor of farm mechanization					
6	Lack of irrigation channels					
no	**Socio-economic problems influencing agricultural structure and production of farmers are**					
7	Financial problems					
8	Poor access of agricultural inputs					
9	Lack of extension and research services					
10	Lack of infrastructure such as roads					
11	Lack of government incentives					
12	Illiteracy of the farmers					

Thank you!