Available online at www.elixirpublishers.com (Elixir International Journal)

Production Management

Elixir Prod. Mgmt. 99 (2016) 42888-42900

ISSN: 2229-712X

Factors Influencing Production of Sesame Seeds in Somalia (Case Study: Jowhar and Bal'ad District Farmers, Middle Shebelle Region)

Hassan Mohamed Osman and Fridah Theuri

Jomo Kenyatta University of Agriculture and Technology, P. O Box 81310-80100 Mombasa.

ARTICLE INFO

Article history:

Received: 3 September 2016;

Received in revised form:

30 September 2016;

Accepted: 4 October 2016;

Keywords

Market,

Sesame Seed,

Value Addition,

Training.

ABSTRACT

Sesame seeds originated in India and neighboring countries. It is flowering plant in genus sesamum. It is widely grown in tropical regions around the world and it is cultivated for its edible seeds which grow. It has many species and wild species are found in sub-Saharan in Africa. Cultivated types Sesame is important oil crops in Somalia where sesame is grown Southern Somalia around rivers. This study tried to investigate the factors influencing on the production of sesame seed in Somalia. The study was guided by the following specific objectives that are the influence of a market, training and value addition on sesame seed production in village farmers of Jowhar and Bal'ad districts. This study took a descriptive research design and statistical analysis. The target population of this study was village farmers in Jowhar and Bal'ad districts while the study population was 85 sesame farmers. Simple random sampling technique was used to select the sample to be included in the study where a sample size of 70 farmers was chosen. The study employed a questionnaire to collect primary data. The questionnaire comprised of both open and close-ended questions which generated quantitative data. Quantitative data was coded and entered into statistical packages for social scientists (SPSS Version 20.0) and analyzed using descriptive statistics and statistical analysis. Descriptive statistics involved the use of absolute and relative (percentages) frequencies, measures of central tendency and dispersion (mean and standard deviation respectively).Quantitative data was presented in tables and graphs which the explanation to the same was presented in style. The study established that market influences on sesame seed production to a great extant and that train and value addition influence on sesame seed production to a very great extant. The study concluded that market, training and value addition influenced to a very great extant. The study recommended the Ministry of agriculture should improve market price and planning process in production in order to encourage sesame seed growers to increase production of sesame seeds and also should give training on prosper use of local organic manures and crop rotation that indicated high sesame seed production. The study recommended sesame seed growers should increase the use of sesame husks as animal feed over which it contributes farmers to increase sesame seed production. Analysis of variance showed that the factors influencing on sesame production include market, training and value addition which indicated statistically significant as shown by F (70)=12.193, p=0.009. Multivariate analysis was carried out and showed that T(70)=1.909 with value addition with a p=<0.005.

1. Introduction

Sesame seed (Sesamum Indicum L.) is one of the most ancient oilseed crops known to mankind (Majeed, 2013).It was widely grown in tropical regions around the world and it was cultivated for its edible seeds which grow in pod. As the study focused to analyze factors influencing on production of sesame seed production in Somalia. The scope of the study had been focused on small and large scale farmers in Jowhar and Bal 'ad district, middle Shebelle region. The scope of the study was restricted to a period of 1960-2014. This study was conducted in Jowhar and Bal 'ad district farmers. The target population of this study was 85 persons selected from the different segments of the society including; Small farmers, large scale farmers, sesame millers and exporters.

In the world these same seed considered to be the oldest oilseed crop known to humanity. Sesame has many species and mostly wild species were found in Sub-Saharan in Africa. Cultivated type of sesame originated in India. In Iraq and India sesame seed cultivated around 200 BC. (fuller, 2003). Sesame was exported to markets in Europe, Middle East and Asia. Today, world production is estimated to be over 15 million acres (6.2 million hectares) and over 57% of the world

production is in Asia. Most of the Asian production was in India, China, and Burma (Myanmar). In Asia most sesame was consumed within 100 miles of where it was grown since farmers grow very small plots for their extended families. Africa grows 15% of the world's sesame, with Sudan, Uganda, and Nigeria being key producers. However, political unrest in that area limits exports to the U. S. Latin America grows 4% of the total world production in Mexico, Guatemala, and Venezuela. The United States usually imports about 40,000 metric tons annually, mostly from Guatemala, Mexico, and India. For years the U.S. was totally dependent on imported sesame seed since harvesting was labor intense (Smith, 2000).

The sesame was the most import oil crop in Somalia. The crop was mainly grown in southern Somalia where the main growing regions were lower Shebelle, Middle Shebelle, Hiran, Lower Juba, Middle Juba and Gedo. Dyer season has the most favorable growing conditions for the crop, especially when the crop was planted in flooded controlled fields. In recent years, due to higher demand for sesame seeds worldwide and the rise of sesame price from an average of US$ 500/ton in 2007 to over US$1000/tone in 2010, the sesame production area increased significantly (group s. a.,2011). At present, the total land area grown to sesame is about 150,000 ha - three times higher than the area in 2007. The positive impact was noticed in farm income increase from US$100-360 per year (group, 2011).Sesame seed from industry was led exclusively by the private sector with some support from international NGO's working in the sesame production regions. Somalia was one of the major producers of Sesame in the Africa. The crop contributed 2011about 3.4% to total gross domestic product annually and an average of 29% to total export revenue between 1990 and 1999 (Anon., 2001) and 22% between 2000 and 2002 (Anon., 2003).In Somalia there are many cash crops that farmers use to fine out their livelihood and extra income to manage their household needs. However it was indicated that many of those crops had not been grown during the last two decades due to the civil war (ministry of agriculture, 2009). According to FAO, due to the increasing stabilization of Somalia, there has been increased production of agricultural commodities including sesame.

According to the Somali National Chamber of Commerce(SNCC) (2013), sesame production has been increasing from 0.45 tons per hectare in 2010 to 0.96 tons per hectare in 2012.Although production have increased consistently since 2010, it still is less than the level attained in the mid-1960s. The decline is partly a result of decreasing areas under cultivation. In an attempt to increase production, the government has been implementing policies aimed at reforming the Sesame sector since the early 1990s. In 1999, the government adopted a development strategy with the objective of improving the performance of the Sesame sector.

The federal government of Somalia(FGS) introduced an integrated agricultural policy that encourages the revival of the country`s agricultural sector focusing mainly on cash crop production (FAO 2011). It was through this integrated policy that a large number of farmers have been engaged in Sesame production. However despite the federal government`s introduction of an integrated agricultural policy and the increased number of sesame farmers, the production has increased consistently but, it still is less than the level attained in the mid-1960s. It was because of this view that the study aims at investigating the factors influencing on sesame production in Somalia.The areas those the research study conducted were; Moyka, Bananey and Barey villages in Jowhar district and Gololey and Walamoy villages in Ba'ad district.

Somalia was one of the major producers of Sesame in the Africa. The crop contributed about 3.4% to total gross domestic product annually and an average of 29% to total export revenue between1990 and 1999 (Anon, 2001) and 22% between 2000 and 2002 (Anon, 2003).In Somalia there are many cash crops that farmers use to fine out their livelihood and extra income to manage their household needs. However it was indicated that many of those crops had not been grown during the last two decades due to the civil war (ministry of agriculture, 2009). According to FAO, due to the increasing stabilization of Somalia, there has been increased production of agricultural commodities including sesame.

According to Somali National chamber of commerce (2013), Sesame production has been increasing from 0.45 tons per hector in 2010 to 0.96 tons per hector in (2012).Additionally, a report of FAO also revealed that agriculture production in lower Shebelle region in Somalia has been increasing particularly sesame seed production (2010 - 2011).In some villages of that region, the area planted under sesame and cereals increased (15%) (FAO,2013).Although production has increased consistently since 2010, it still is less than the level attained in the mid-1960s. The decline is partly a result of decreasing area. In an attempt to increase production, the government has been implementing policies aimed at reforming the Sesame sector since the early 1990s. In 1999, the government adopted a development strategy with the objective of improving the performance of the Sesame sector.

The federal government of Somalia introduced an integrated agricultural policy that encourages the revival of the country`s agricultural sector focusing mainly on cash crop production (FAO 2011). It was through this integrated policy that a large number of farmers have been engaged in Sesame production. However despite the federal government`s introduction of an integrated agricultural policy and the increased number of sesame farmers, the production has increased consistently but, it still is less than the level attained in the mid-1960s. It is because of this view that the study aims at investigating the factors influencing on sesame production in Somalia.

1.3 Objectives of the study

1. To determine the influence of market on sesame seed production in Somalia
2. To find out the influence of training on sesame seed production in Somalia
3. To examine the influence of value addition on sesame seed production in Somalia

2. Literature Review

Theoretical Framework

2.2.1 Theory of Economic (Market) Separations(TES)

According to economic separation theory, the reason that the people of a society need some form of marketing is that producers and consumers are separated. Individuals, families, tribes, and nations are rarely if ever economically self-sufficient, although their interdependence varies widely. The purpose of marketing is to resolve or remove these separations and to cause or permit consumption to occur. The separations of producers and consumers, however, are of many types : spatial (physical distances), temporal (time difference between production and consumption), informational (parties having different knowledge of products and market conditions),and financial (buyers not possessing purchasing power at the time they have willingness or need to buy). Whatever is done in the

marketing process must contribute to the removal of these and other separations. What is done in marketing, therefore, depends upon the character of the market separations Found in the particular social environment (Roycroft, 2006).

Economic theory shows that in the presence of production externalities, firms tend to over- or under-produce relative to what's best for society overall. When consumption externalities are present, consumers over- or under-consume relative to what's best. Theory also shows that government intervention with appropriately chosen policies can correct the over or under production and consumption and result in an improvement in the nation's welfare. International trade theory has shown, in turn, that when these externalities arise among traded goods and services, trade policies can often be applied to improve the nation's welfare (Suranovic, 2010).

Theory of Behavior Constraints

As theory of behavior constraints says that the action in the marketing system is not determined wholly by any one individual or set of participants. It is governed by many determinants and occurs within constraints defined by society. Some of these constraints are economic in nature. Only that can be done which can be done within the bounds of economic feasibility. This may be determined through experience in the profitable combining of economic factors of production. However, much feasibility is predetermined and set forth in the form of marketing technology, know-how, or generalizations for behavior. This is reason for having thorough knowledge of marketing mechanics, or the relations of commodities-functions-institutions as set forth in conventional marketing theory. Constraints are also social, rather than economic or technical, in nature. These may be of an ethical nature, as that term is used broadly, indicating what is "right" to do under certain circumstances. Rightness may be determined by personal, legal, societal, and theistic standards, and each of these may differ from one society to another. As marketing is viewed more as a personal process rather than only a physical one, such constraints play a more prominent role in marketing theory (Vadim, 2009).

According to Goldratt, organizational performance is directed by constraints. These are restrictions that prevent an organization from maximizing its performance and reaching its goals. Constraints can involve people, supplies, information, equipment, or even policies, and can be internal or external to an organization. The theory says that every system, no matter how well it performs, has at least one constraint that limits its performance – this is the system's "weakest link." The theory also says that a system can have only one constraint at a time, and that other areas of weakness are "non-constraints" until they become the weakest link. You use the theory by identifying your constraint and changing the way that you work so that you can overcome it. The theory was originally used successfully in manufacturing, but you can use it in a variety of situations. It's most useful with very important or frequently-used processes within your organization (Salant, 2006).

Transportation theory

According to transportation theory the problems resulting from increased car use, hard transport policy can be measured by introducing such way as improvements of technical infrastructure and management of public transport s ervices, increased costs for car use, and prohibition or rationin g of car use. These measures often meet with public disapprov al, are politically infeasible, and may alone be insufficient. As a consequence, alternative soft transport policy measures have been developed to motivate individuals to voluntarily reduce c ar use. The paper reviewsvaluations of the effectiveness of suc h measures implemented in Australia, Austria, Germany, Japa n, Netherlands, Sweden, UK, and USA. The review shows that in general soft transport policy measures are effective. Yet, th e variety of the results makes it difficult to infer why the meas ures are effective. Additional research needs to focus on this question (richter, 2010)

According to transportation theory, Kara revels that transportation starts From travel time savings to job creation (both direct and indirect), income growth to property value changes, motor vehicle crashes to air quality and noise impacts, and microeconomic choice to macroeconomic shifts. So transportation policies and investments carry great weight. Where formally assembled data is available, economic analysis tools allow decision-makers to comprehensively evaluate projects. For large projects with significant costs and many others closely scrutinized by the public, practitioners feel more confident about decisions with numbers to back them up." Even when data are lacking and/or decision impacts are minor, a basic understanding of various economic principles will aid transportation professionals in anticipating the direction and general magnitude of project (and policy) effects. Such understanding helps identify key project impacts and leads to more educated and robust decision making (Kockelman, 2013).

Conceptual Framework

Conceptual framework is a structure that tries to describe the relationship between variables in the study and show the relationship where diagrams used. It is a model identifying the concepts under study and their relationship. The change of independent variables will result in change in dependent variable. The conceptual framework model in the study hypotheses that the challenges in sesame seed production are factions of; affects of marketing (import, export & price), affects of training (crop pattern and employee training) and finally affects of value addition (seed production, sesame seed, same oil, pharmaceutical with neutraceutical applications and sesame meal and floor). These variables and their relationship are illustrated in the following conceptual framework.

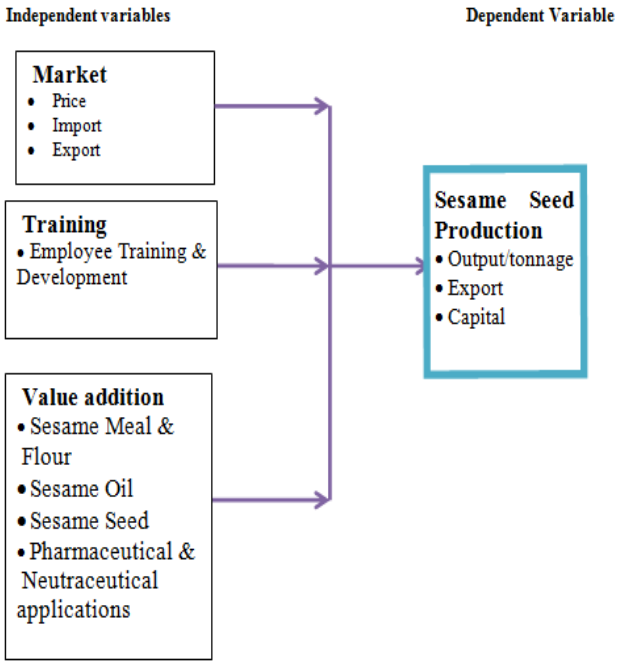

Figure 2.1. Conceptual Framework.

Influences of market on sesame seed production

Market is a regular gathering of people for the purchase and sale of provisions, livestock a and other commodities. A market is also thought of as a meeting point of buyers and sellers, a place where sellers and buyers meet and exchange takes place, an area for which there is a demand for goods an area for which price determining forces (demand and supply) operates. In the realm of economic growth, markets may provide the incentives to profit maximizing participants to develop new technologies, products, resources of supply, new markets and methods o exploiting them. The role of marketing in development process could be summarized as follows: the marketing system channels the net capital surplus out of agricultural sector which could be used to accentuate the development of industry, infrastructure and social service; it integrates the farming community in to the market economy through communication and exchange; the provision of secured market outlets which encourage producers to increase marketable surplus and diversify production; and marketing becomes and remains as one of the most important economic sub-sector during the whole process of development. Markets also have an influence on income distribution, food security, and other important development objectives. Despite its importance, as indicated above, marketing is given little attention or credence in the developing countries(Kindie, 2007).

Global production of sesame seed is estimated by FAO at 3.15 mn tones per year (2001) having risen from 1.4 mn tones in the early 1960's. The largest producers are China and India, each with an annual harvest around 750,000 tones followed by Myanmar (425,000 tones) and Sudan (300,000 tones). These figures are only rough estimates of the situation as sesame is a smallholder crop and much of the harvest is consumed locally, without record of the internal trade and domestic processing. In 1988 China was the principal exporter in the world. (Note that FAO data for China includes Taiwan) (Inc, 2002).

Global sesame seed exports are estimated to have reached 657,000 tons in 2000, compared to 427,000 tons in 1988. The 2000 exports were valued at $478mn. India is now the single largest exporter of sesame seed, with exports of some 180,000 tones, with Sudan in second exporting over 138,000 tons per year. Imports of sesame into Egypt have also grown strongly. Egypt was the second largest importer in 2000. Sesame is mainly produced for the market and it is wanted for its seed and for the oil in the seed. Sesame contains up to 60% oil of a very high quality and up to 25% protein (Kindie, 2007).

Somalia is one of the few countries in the world, where sesame is grown as a traditional crop. The traditional sesame crop rotation with maize benefits both crops. Unfortunately local sesame landraces are contaminated and genetically exhausted. Due to the poor genetic value, yields are low (350-420 kg/ha) and the seed quality is poor. Consequently, Somalis are not benefiting from sesame, as they should due to these bottlenecks. FAO has developed a genetic improvement programme, which has substantially improved the seed quality and crop yield. Under this activity, FAO has supported and equipped a Sesame Growers Association, trained two field technicians, and conducted market and performance tests on six sesame varieties. FAO has also distributed sesame seeds as part of its emergency program during the last three cropping season (FAO, 2012).

In economics, factors of production, resources, or inputs are what is used in the production process in order to produce output that is, finished goods. The amounts of the various inputs used determine the quantity of output according to a relationship called the production function.

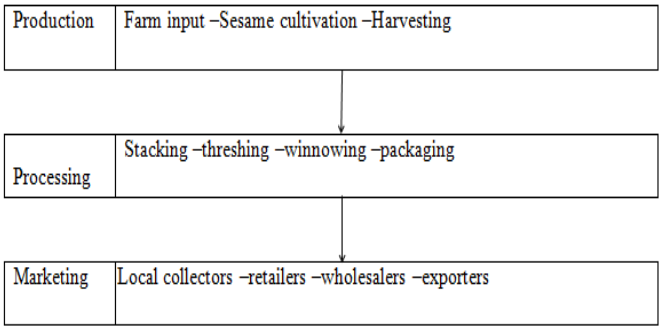

Figure 2.2. Flow chart of sesame value chain (S.A, 2013).

There are three *basic* resources or factors of production: land, labor and capital. Some modern economists also consider entrepreneurship or time a factor of production. These factors are also frequently labeled "producer goods" in order to distinguish them from the goods or services purchased by consumers, which are frequently labeled "consumer goods." All three of these are required in combination at a time to produce a commodity. (Samuelson, 2004).

The number Factors of production may also refer specifically to the primary factors. Materials and energy are considered secondary factors in classical economics because they are obtained from land, labor and capital. The primary factors facilitate production but neither become part of the product (as with raw materials) nor become significantly transformed by the production process (as with fuel used to power machinery). Entrepreneurship is also sometimes considered a factor of production. Sometimes the overall state of technology is described as a factor of production. And definition of factors varies, depending on theoretical purpose, empirical emphasis, or school of economics (Friedman, 2007).

Sesame markets worldwide are currently going through a hibernation phase with demand being very slow from all buying countries. Currently, the demand for Sesame Seeds is very slow in China & huge stocks are reported to be lying at the port, waiting for the buyers to accept them. In India one of the largest exporters of Natural & Hulled Sesame is slowly losing its ground in the international market, especially for Natural Sesame Seeds. Today, India is the most competitive origin available in the world for good quality Hulled Sesame Seeds. In Africa the demand is slow for the moment. Stock levels are reasonably good, thus Africa can supply good quantities for coming months. Prices have softened a bit mainly with Sudan, but Ethiopia still remains around the high level. Africa is the origin buyers would look forward to (india, 2011).

Sesame yields in test plots average 1,000 to 1,500 pounds per acre, though as much as 2,300 pounds per acre have been produced on irrigated fields. Commercial yields are usually lower. The introduction of the non-shattering characteristic into high-yielding, shattering varieties carried with it a reduction in yield and/or seed quality. Sesame benefits from both a high price and a strong domestic market, with organic sesame commanding a significantly higher price..The cost savings from not using herbicides (none are labeled for sesame) is partially offset by extra tillage for weed control. Fertilizer costs are primarily for nitrogen, which can be met through organic sources. Harvest costs should be similar to other grains, but transportation to market will be an extra expense since delivery points for this specialty crop may be a considerable distance from the grower (Magablih, 2010).

Sesame oil, particularly from roasted seed, is an important component of Japanese cooking and traditionally this is the principal use of the seed. China is the second largest importer of sesame, mostly oil-grade sesame. (The country exports food-grade sesame).To ensure a top price for the commodity and enhance the market share through exports, particularly in Asia, product image (quality perception) is important. Most importers who supply ingredient distributors and oil processors only want to purchase scientifically treated, properly cleaned, washed, dried, color-sorted, size-graded and impurity-free seeds of given minimum oil content (not less than 40 percent) packed according to international standards. Usually, only seed meeting these criteria may be exported from a producing country (hunt rods, 2009).

Influences of training on sesame seed production

Training is an organized activity aimed imparting information and/or instructions to improve the recipient's performance or to help him or her attain required level of knowledge or skill. In sesame production, training staffs play an important role for increasing sesame seed production so staffs have blunt of skills to manage different activities of production and marketing. So training of staffs minimizes the cost of labor. After the Training sesame farmers effectively improved the cropping pattern, use of agricultural inputs, area and production of crops and income of the sampled farmers.Sahrad states that maize and wheat were the two crops and grown on 99 percent of the cultivated area. The training program motivated the trainees to enhance the cropping area that increased from1222 canals before the training to1462 canals after the training (Abdo, 2007).

These changes can be considered, as positive trend on the area under cash crops. Use of Selected Inputs, research evidence states that chemical fertilizers and tractor ploughing and threshing through tractor were the only inputs that were used by the sample farmers before the training. The use of tractor was 91% each for ploughing and threshing and 37% for chemical fertilizer. The training programs motivated the farmers to adopt all required inputs. This resulted in 100% of the farmers using chemical fertilizer insecticides, improved seeds and ploughing and threshing through tractor. This is a very great achievement, because training supports on agricultural development and the changes in the socio-economic condition of the people after the involvement of training. Almost all the farmers who were exclusively growing wheat and maize before the training started giving special emphasis on vegetables and fruits after the training (Kostka, 2011).

It describes that the training programs along with new interventions created more awareness (54%), improved farming (50%) and most importantly increased the income (80%) of the farmers. The awareness and new skills on one hand enabled the sampled trainees to get employment (26%), while on other hand it helped and encouraged trainees to start business at village level. Training significantly increased gross and cash income of the female farmers in the area. Annual mortality and diseases reduced and the income of the respondents has also increased considerably agric(2007).

Understanding the phenomenon of employee training and development requires understanding of all the changes that take place as a result of learning. As the generator of new knowledge, employee training and development is placed within a broader strategic context of human resources management, i.e. global organizational management, as a planned staff education and development, both individual and group, with the goal to benefit both the organization and employees. To preserve its obtained positions and increase competitive advantage, the organization needs to be able to create new knowledge, and not only to rely solely on utilization of the existing. Thus, the continuous employee training and deployment has a significant role in the development of individual and organizational performance. The strategic procedure of employee training and development needs to encourage creativity, ensure inventiveness and shape the entire organizational knowledge that provides the organization with uniqueness and differentiates it from the others (Kafi, 2007)

Education is no longer the duty and privilege of those in higher positions and skilled labor, but it is becoming the duty and need of every one. The larger the organizations, the more funds they spend on education and provide their employees with greater and diverse possibilities of education and development. Understanding the tremendous significance of education for the modern organization and confident that it represents a good and remunerative investment, present day organizations set aside more and more resources for this activity. Thus, it is necessary to accept the model of permanent, continuous learning. That truth has been known for more than two centuries. Denis Diderot, a French philosopher and literate of the Age of Enlightens, wrote the following: "Education shouldn't be finished when an individual leaves school, it should encompass all the ages of life...to provide people in every moment of their life with a possibility to maintain their knowledge or to obtain new knowledge" (Vemic, 2007).

Influences of Value-addition on production of sesame seeds

According to Ogin the Value-added products can be defined as; A change in the physical state or form of the product (such as milling wheat into flour or making strawberries into jam);The production of a product in a manner that enhances its value, as demonstrated through a business plan (such as organically produced products);The physical segregation of an agricultural commodity or product in a manner that results in the enhancement of the value of that commodity or product (such as an identity preserved marketing system).

As a result of the change in physical state or the manner in which the agricultural commodity or product is produced and segregated, the customer base for the commodity or product is expanded and a greater portion of revenue derived from the marketing, processing or physical segregation is made available to the producer of the commodity or product (Ogin, 2002).

Somalia is the fourth largest producer of sesame seeds in Africa; the country has been producing it for centuries. Sesame seeds are mainly produced by small scale farmers in the south central regions those are the main producing regions. The recently improved security after a long lasting instability in southern Somalia has enabled the development of its agriculture and more specifically the production of sesame seeds which grew in volume and in value. Between 2002 and 2012 sesame seeds production in Somalia grew by 78% while the area planted to sesame increased by 49%.The following value chain is quite common to most of Somalia's agricultural products: small farmers, small rural traders that start bulking up to sell to larger wholesalers which will either sell the goods to domestic processors (United States Agency for International Development, 2009).

Sesame producers are small scale farmers. These farmers grow sesame mainly for home Consumption and increasingly for income through the marketing of surplus production. The seeds that are used are in most cases home saved seeds of local varieties. After harvest, the sesame is sold mainly to local traders, then wholesalers, they can also sell directly to local consumers. The local traders' role is to gather and bulk sufficient quantities of sesame. Like in all previous chain values, the local traders go into the most remote areas to collect sesame from farms' gates, storage facilities or local trade centers. Once sesame is accumulated in a sufficient quantity, the local traders then sell the merchandise in the main trading town/city centers to rural retailers and wholesalers. Wholesalers act as a link between the main producing centers and main regional or international markets. Wholesalers usually buy from the local traders (Hellin, 2006).

Sesame seeds are small; one thousand weigh about one ounce. The seeds also vary in color. The two main colors are white and black. Whether hulled or dehulled, roasted or raw, the seeds are now widely used in baking, candy making and other food products. The bakery industry prefers de-hulled seeds. The hulls surrounding the seed are removed in a wet process and the hulls are discarded. The bare seed is then washed and dried to produce a premium confectionary product. This de-hulled seed makes up 50 percent of the U.S. market.Tahini, a traditional Mideast sesame paste and the peanut butter equivalent of sesame, is made from hulled sesame seed. The paste is rich in protein and very good energy source Additional products sold in U.S. grocery and health food stores with sesame seed as an ingredient include sesame crackers, whole grain and sesame cereals, sesame chips and sesame seed candy (Pathak, 204).

Commercially, sesame oil comes in two basic types. One type of sesame oil is a pale yellow liquid and has a pleasant grain-like odor and somewhat nutty taste. This oil is high in polyunsaturated fats, ranking fourth behind safflower, soybean and corn oil. It is excellent for use as frying oil, in cosmetics and in food preparations. The other type of oil is amber-colored and aromatic, made from pressed and toasted sesame seeds. This popular ingredient in ethnic cooking is not used as cooking oil, however, because the flavor is too intense and it burns quite easily. Instead, sesame oil is normally added as a flavoring agent in the final stages of cooking. Oil is extracted from sesame seeds by mechanical pressing. They are also being researched as potential industrial antioxidants, as well as nutraceuticals and potential templates for synthetic pharmaceutical compounds. Image is well established in the market place, sesame and sesamin (AG, 2005).

Sesame seed oil has been used as healing oil for thousands of years. It is naturally antibacterial and effective against common skin pathogens as well as common skin fungi including the athlete's foot fungus. It is naturally antiviral and is a natural anti-inflammatory agent. In some Asian and Middle Eastern countries, the oil is used to treat diaper rash by neutralizing the acidity of urine and lessening the chafing of cloth diapers. In these areas, school-age children have sesame oil swabbed into their noses to protect against air-borne viruses and bacteria. As nose drops, sniffed back into the sinuses, sesame seed oil has been used for decades to cure chronic sinusitis (Abera H. , 2009)

When the seeds from food-grade, high-oil sesame are processed, the resulting sesame meal contains from 50 percent to 55 percent protein. This meal is often blended with other flours for baking and other food uses. The sesame meal remaining after the oil is pressed from less desirable food-grade or non-food-grade seed is an excellent high-protein feed for poultry and livestock. Sesame meal and flour are emerging markets with significant growth potential. Both can be added to recipes to give a better nutritional balance to health food products. The antioxidants naturally found in sesame increase the shelf life of other food products produced with the flour (Dr, 2014).Increasingly, sesame seed is produced to sell to landowners and government agencies for wildlife food plots. The seed is used to attract and feed game birds. Farmers plant sesame on ditch banks and along wooded creeks to sustain quail and pheasants. In South Carolina, farmers plant sesame for dove hunting. (Hunt rods, 2011).

Measurement of Sesame Seed Production

Global production of sesame seed is estimated by FAO at 3.15 mn tones per year (2001) having risen from 1.4 mn tones in the early 1960's. Sesame is grown in many parts of the world on over 5 million acres (20,000 km2). The largest producer of the crop in 2007 was India, China, Myanmar, Sudan, Ethiopia, Uganda and Nigeria. Seventy percent(7o%) of the world's sesame crop is grown in Asia, with Africa growing 26% (Hansen, 2011).

However only a small proportion of the global sesame harvest enters international trade. For the most part, the oil is expressed locally and used locally for cooking or the seeds themselves are eaten, particularly after being fried. According FAO,(2012) report, Somalia is one of the few countries in the world, where sesame is grown as a traditional crop. The traditional sesame crop rotation with maize benefits both crops. Unfortunately local sesame landraces are contaminated and genetically exhausted. Due to the poor genetic value, yields are low (350-420 kg/ha) and the seed quality is poor (FAO, Building Drought Resiliance, 2012).

3. Methodology

The researcher used a survey design method for the study. Survey design was a design in which data was collected using questionnaires. The researcher used the above design to enable the study describe or present a picture of the problem under study. According to (Owens 2002), survey research design was unique as it gathers information not available from other sources as information was collected from respondents. Individual respondents were never identified and the survey results were presented in the form of summaries, such as statistical tables and charts.

For this study, the survey design had been preferred because surveys were relatively less cost, easily accessible and also useful in describing the characteristics of a large population and making the results statistically significant even when analyzing the variables. Also the survey was flexible in deciding how the questions were administered. Survey method was best used when the researcher wanted to collect a lot of data within a limited period of time as will the case with this study.

The study were carried out between April 2016 and May 2016 using Survey data. This was used to establish the factors influencing on production of sesame in Somalia. The study was descriptive where the quantitative data had been used in the analysis.

4. Research Findings

Influence of Market on Sesame seed Production

Factors of market influencing on sesame seed production

As figure 4.6 shows 51% of all factors of the market include; poor information market, competition of market price, lack of security and lack of planning influence on sesame seed

production.19% is a lack of planning that respondents indicated good planning can provide farmers to produce high yield of sesame seed.16% is a lack of security that influences the sesame seed production11% is a competition of market price where the rest (3%) is a poor information market. As the respondent designated all of these factors influence sesame seed production.

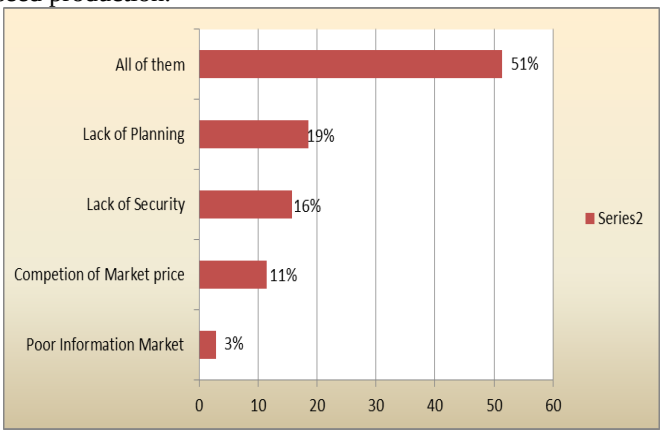

Figure 4.1. Factors of market influencing on sesame seed production.

Influence of selling products in the farm

From the findings majority (27.1%) of the respondents agreed that selling products in the is better than carrying products to the market and selling it in the market and 14.3% highly agreed.22.9% and17.1% disagreed and highly disagreed respectively.18.6% of respondents were neutral for selling products in the farm. This means the percentage of positively agreed and those with negatively agreed were very close of 41.2% and 40% respectively there were very little differences between the percentages .

Table 4 1. Influence of selling production in the farm.

	Frequency	Percent
High disagree	12	17.1
Disagree	16	22.9
Neutral	13	18.6
High agree	10	14.3
Agree	19	27.1
Total	70	100

Influence of sesame seed exportation on Sesame seed production

The researcher requested the respondents to indicate whether sesame seed exportation influences on sesame seed production. Figure 4.7 below shows the findings. From the findings majority (94%) of the respondents indicated that the sesame seed exportation influences on sesame seed production while 6% indicated otherwise. This indicates that the sesame seed exportation so important and enhance many farmers to cultivate large area for sesame production.

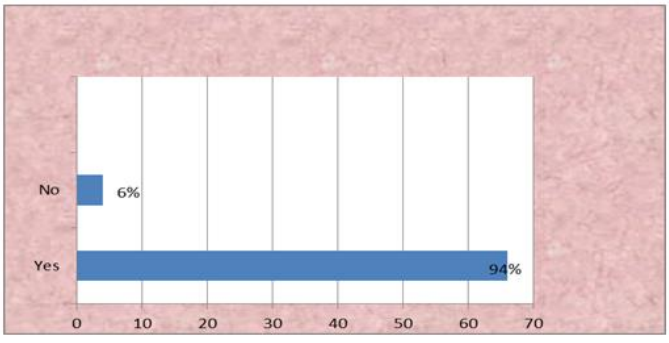

Figure 4.2. Influence of sesame seed exportation on Sesame seed production.

Extent that Market influence on Sesame seed production

The study wanted to discover extent to which the Market influences on sesame seed production. The findings are shown in figure 4.8 below. From the findings of the study majority of respondents (43%) agree moderate extent that the market influences on sesame seed production.40% agree great extent, while 10% and 7% indicated that market influence on sesame seed production to low extent. This implies that the market influences on sesame seed production.

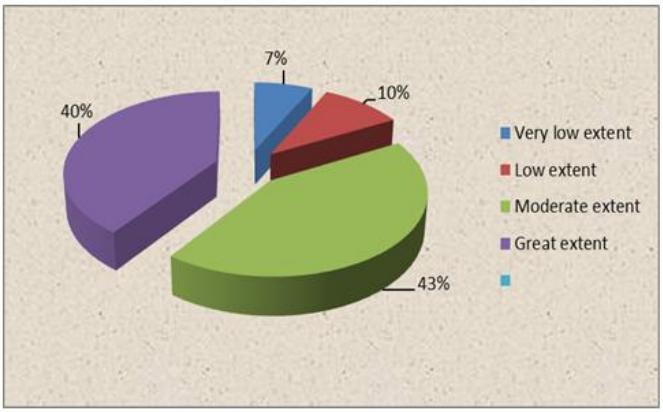

Figure 4.3. Extent that Market influence on Sesame seed production.

Level of agreement to the statement relating to market and its influence on sesame seed production

The study also sought to find out the level of agreement to the statements below relating to market and its influence on sesame seed production, table 4.4 shows the findings. From the findings most the respondents agreed that Improving local sesame seed varieties play important role in sesame production and price increases in the market as the evidenced by the mean 4.27.

Table 4.2. Level of agreement to the statement relating to market and its influence on sesame seed production.

Influence of Market on Sesame seed production	Mean	Std. Deviation
Ease of access to market places by sesame seed growers and offering goods in the market without charges encourages farmers to produce more quintals of sesame seeds	3.69	1.222
Improving market price and planning production increases the number of competent farmers to produce sesame seeds	4.16	.810
Improving local sesame seed varieties play important role in sesame production and price increases in the market	4.27	.833
Exporting sesame seeds with returns of hard currency to the farmers creates high sesame seed production	4.13	.992
Improving market security and reducing tax rates on sesame seeds by the government encourages sesame seeds production	4.13	1.056

The respondents also agreed that Improving market price and planning production increases the number of competent farmers to produce sesame seeds as showing by the mean of 4.16, Improving market security and reducing tax rates on sesame seeds by the government encourages sesame seeds production as shown by the mean 4.13, they also moderately agree that Improving market security and reducing tax rates on sesame seeds by the government encourages sesame seeds production and Ease of access to market places by sesame seed growers and offering goods in the market without charges encourages farmers to produce more quintals of sesame seeds as evidenced by the mean scores of 4.13 and 3.69 respectively, which concurs with the Magablih,(2010) that

harvest costs should be similar to other grains, but transportation to market will be an extra expense since delivery points for this specialty crop may be a considerable distance from the grower.

Influence of Training

Training and capacity building programs provide farmers high quality skills and services

The researcher was also interested to determine whether the training and capacity building programs provide farmers high quality skills and services. According to findings, majority (96%) of respondents indicated that the training and capacity building as an important tool within sesame seed production while rest (4%) did not indicated otherwise. This indicates that training and capacity building encourage farmers to increase sesame seed production.

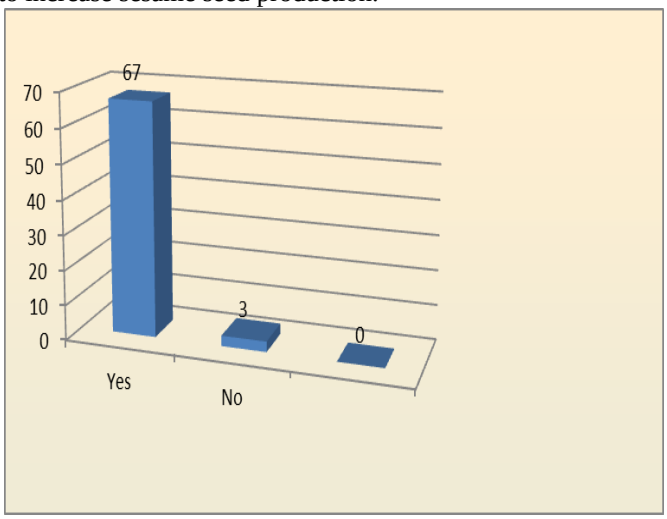

Figure 4.4. Training and capacity building programs provide farmers high quality and services.

Level of agreement that training enables sesame grower to increase sesame production

The study further hunted to find out whether training enables sesame growers to increase sesame production. According to the findings as shown in table 4.5, majority of the respondents (55.7%) highly agreed that training enables sesame growers to increase sesame production,32.9% agreed while10% of the respondents were neutral and 1.4 were disagreed. This indicates that the training is highly influences on sesame seed production.

Table 4.3. Level of agreement that training enables sesame grower to increase sesame production.

	Frequency	Percent
Highly agree	39	55.7
Agree	23	32.9
Neutral	7	10.0
High disagree	1	1.4
Total	70	100.0

Extent that training influence farmer's skills and development of sesame production

The study sought to find out extent that training influence farmer's skills and development of sesame production. The findings are shown in figure 4.9 below. From the findings of the study, majority of the respondents (64%) agreed to a very greed extent that training influences farmer's skills and development of sesame production,21% agreed were moderate extent while 9% and 6% indicated that training influence farmer's skills and development of sesame production to low and very low extent respectively. This implies that training influences farmer's skills and development of sesame production to very great extent

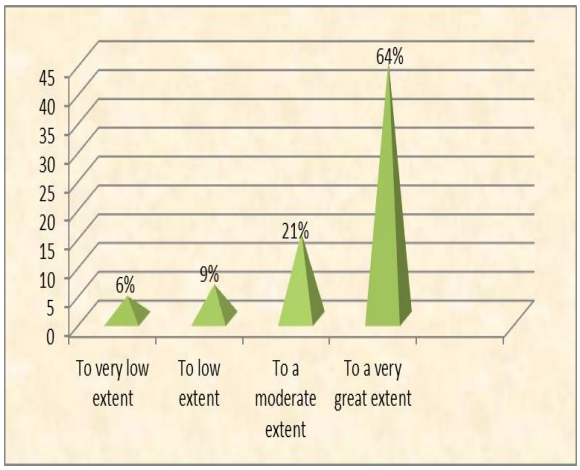

Figure 4.5. Extent that training influence farmer's skills and development of sesame production.

Appropriate training type for sesame growers to increase sesame seed production

The study wanted to find out the appropriate training type for sesame growers to increase sesame seed production. The findings are shown in figure 4.10.From the findings of the study, majority of the respondents (71%) agreed that seasonal training is suitable type of training for sesame growers to increase sesame seed production.17% agreed to monthly training while 11% of respondents were agreed yearly training. This indicates that seasonal training is an appropriate type of training for sesame growers to increase sesame seed production

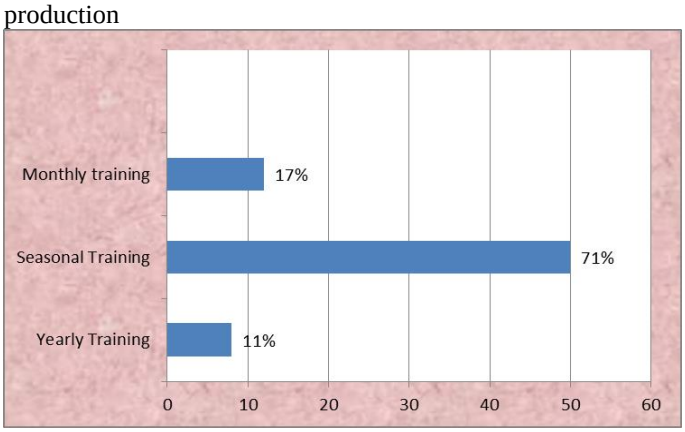

Figure 4.6. Appropriate training type for sesame growers to increase sesame seed production.

Level of agreement to statement related to training and its influence on sesame seed production

The study also required to find out the level of agreement to the statements below relating to training and its influence on sesame seed production. Table 4.6 shows the findings. From the findings most of the respondents agreed that Increasing sesame farmer skills on proper harvesting and storing increases sesame price in the domestic and international markets as evidenced by the mean 4.23 which concurs with Kafi, (2007) that the organization needs to be able to create new knowledge, and not only to rely solely on utilization of the existing. Thus, the continuous employee training and deployment has a significant role in the development of individual and organizational performance. That training sesame farmers on proper use of farm equipments facilitates managing large area of land and producing sesame seeds of higher quality than without equipment use as shown by a mean 4.21, that Training sesame farmers on proper time of weeding, preventing and curing effects of insects and diseases plays an important role in

sesame seeds production as shown by mean 3.93 and that training sesame growers on proper use of local organic manures and crop rotation contributes to quantitative and qualitative improvement of sesame seeds and Improving farm employee skills on proper pattern of sesame sowing increases sesame seed production as evidenced by mean scores of 3.93 and3.93 respectively.

Table 4.4. Level of agreement to statement related to training and its influence on sesame seed production.

Influence on Training	Mean	Std. Deviation
Improving farm employee skills on proper pattern of sesame sowing increases sesame seed production	3.93	.983
Training sesame farmers on proper use of farm equipments facilitates managing large area of land and producing sesame seeds of higher quality than without equipment use	4.21	.976
Training sesame growers on proper use of local organic manures and crop rotation contributes to quantitative and qualitative improvement of sesame seeds	3.93	.922
Training sesame farmers on proper time of weeding, preventing and curing effects of insects and diseases plays an important role in sesame seeds production	3.93	.767
Increasing sesame farmer skills on proper harvesting and storing increases sesame price in the domestic	4.23	.837

Influence of value addition

Level of agreement that the sesame seed can be chanced into other foods

The researcher also sought to find out the level of agreement that the sesame seed can be changed into other foods. Figure 4.11 below shows the findings of the study. From the findings, majority (43%) of respondents agreed that the sesame seed can be chanced into other foods.37% of respondents highly agreed while 13% and 7% of the respondents were indicated neutral and disagree respectively. This implies that the sesame seed can be chanced into other foods.

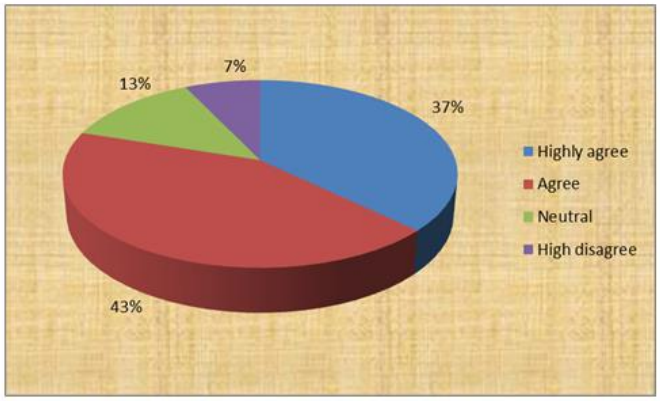

Figure 4.7. Level of agreement that the sesame seed can be chanced into other foods.

Improving sesame seed quality increases sesame production

The researcher was also intrustive to determine whether improving sesame seed quality increases sesame production. According to findings, majority (99%) of respondents indicated that improving sesame seed quality increases sesame seed production while rest (1%) did not indicated as so important. This implies that improving sesame seed quality can increases sesame production

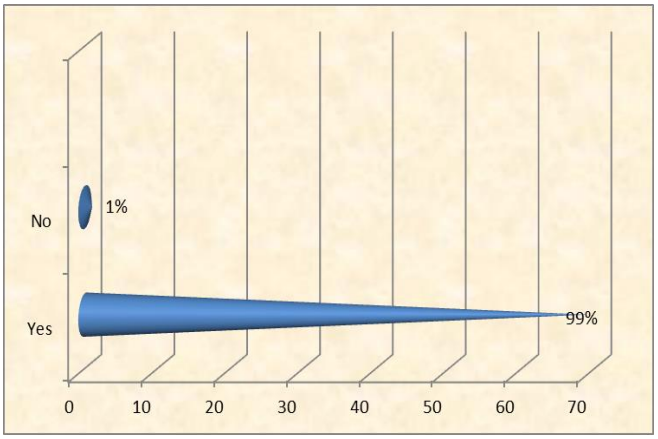

Figure 4.8. Improving sesame seed quality increases sesame production.

Sesame farmer use sesame seed processing for making different types of food

The researcher was also further probing to find out whether the Sesame farmer use sesame seed processing for making different types of food. From the findings as shown in figure 4.13 below, majority (50%) of respondents indicated that the Sesame farmer use sesame seed processing for making different types of food,39% of the respondents were not sure While the rest 11% of respondents refused that. This indicates that sesame farmer use sesame seed processing for making different types of food.

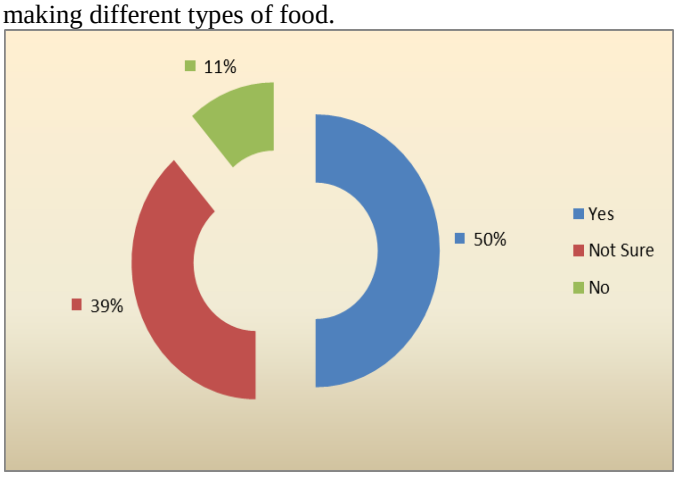

Figure 4.9. Sesame farmer use sesame seed processing for making different types of food.

Level of agreement to the statement relating to Value addition of sesame seeds and its influence on sesame seeds production

Table 4.7 summarizes respondents' level of agreement on statements relating to Value addition of sesame seeds and its influence on sesame seeds production. From the findings most of respondents agree that the community uses sesame oil in the treatment of colds and bronchitis encourages famers to increase sesame seeds production as indicated by a mean of 3.99 which agree with the AG,(2005) that oil is extracted from sesame seeds by mechanical pressing. They are also being researched as potential industrial antioxidants, as well as nutraceuticals and potential templates for synthetic pharmaceutical compounds. Image is well established in the market place, sesame and sesamin. The respondents further agree that improving farm employee skills on proper use of sesame seed processing increases sesame seeds production as evidenced by a mean score of 3.93, Using sesame husks and meals as an animal feed encourages farmers to increase sesame seed production by a mean score of 3.74,which agree with the Dr, (2014) that sesame meal remaining after the oil is

pressed from less desirable food-grade or non-food-grade seed is an excellent high-protein feed for poultry and livestock. Sesame meal and flour are emerging markets with significant growth potential. Using grinded sesame seed with grain flour as a nutritive food for human consumption enables encourages farmer to produce more in sesame production and roasted sesame seeds mixed with sugar ingredient sold at roadsides and market places encourages farmers to produce more sesame seeds as shown by mean scores 3.71 and 3.53 respectively.

Table 4.5. Level of agreement to the statement relating to Value addition of sesame seeds and its influence on sesame seeds production.

Influence of Value addition	Mean	Std. Deviation
Improving farm employee skills on proper use of sesame seed processing increases sesame seeds production	3.93	.953
Using sesame husks and meals as an animal feed encourages farmers to increase sesame seed production	3.74	1.003
Roasted sesame seeds blended with sugar ingredient sold at roadsides and market places encourages farmers to produce more sesame seeds	3.53	.880
Using grinded sesame seed with grain flour as a nutritive food for human consumption enables encourages farmer to produce more in sesame production	3.71	.870
The community uses sesame oil in the treatment of colds and bronchitis encourages famers to increase sesame seeds production	3.99	1.022

Bivariate correlation analysis

It is a statistical process for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables (or 'predictors').

Objective one: influence of market price on sesame seed production

Bivariate Pearson correlation about the influence of market price on sesame seed production

Table 4.6. Bivariate Pearson correlation about the influence of market price on sesame seed production variables.

No	Market price	1	2	3	4	5
1	Ease of access to market encourages farmers to produce	-	.124	.099	.118	.180
2	Improving market price and planning increases produce sesame seeds		-	.129	.083	.201
3	Improving local varieties increases sesame production			-	.203	.042
4	Exporting sesame creates high sesame production				-	.112
5	Improving market security and tax rates on sesame encourages sesame seeds production					-

Here the principle investigator investigated the association of market price and sesame seed production and have evaluated the opinion of the study participants against the following sub variables of market price on sesame seed production, ease of access to market places, Improving market price and planning production, improving local sesame seed varieties, Exporting sesame seeds and improving market security and reducing tax rates under correlation analysis they all showed no statistically significant with (p >0.05). Level of Significance (two tailed) =*: P ≤ 0.05; **: P ≤ 0.01.

***4.7.2* Objective two: influence of training on sesame seed production variables**

Bivariate Pearson correlation about the influence of training on sesame seed production variables

Improving farm employee skills on proper pattern of sesame sowing indicated statistically significant with Training sesame growers on proper use of local organic manures and crop rotation contributes to quantitative and qualitative improvement of sesame seeds with ($r=.346^{**}$; p=0.001) which means the more farm employees skills improved the more likely it contribute to produce quantity and quality sesame seed production. Improving farm employee skills on proper pattern of sesame sowing showed positive association with proper time of weeding, preventing and curing effects of insects and diseases plays an important role in sesame seeds production ($r=.320^{**}$; p=0.001) which means the more improved employee skills about farm seed production the more likely preventing and curing effects of insects and diseases on the seed production which plays an important role in sesame seeds production. Training on use of local organic manures and crop rotation indicated positive associations with preventing and curing effects of insects and diseases ($r=.382^{**}$; ; p=0.001) which means the more farm employees trained with the use of local organic manure and pesticide use the more they prevent and cure the all the effects sesame seed production . Level of Significance (two tailed) =*: P ≤ 0.05; **: P ≤ 0.01

Table 4.7. Bivariate Pearson correlation about the influence of training on sesame seed production variables.

No	Training given the farmers	1	2	3	4	5
1	Improving farm employee skills on	-	.228	$.346^{**}$	$.320^{**}$	.055
2	Training sesame farmers on proper use of farm equipments		-	.017	.137	.205
3	Training sesame growers on proper use of local organic manures			-	$.382^{**}$	.228
4	Training sesame farmers on proper time of weeding,				-	.048
5	Increasing sesame farmer skills on proper harvesting and storing					-

Objective three: influence of value addition on sesame seed production

Bivariate Pearson correlation about the influence of value addition on sesame seed production

Using sesame husks and meals as an animal feed showed significant positive association with farmers to increase sesame seed production ($r = .501^{**}$; P= 0.000) which means the higher use of sesame husks and meals as an animal feed is the higher with farmers to increase sesame seed production. Roasted sesame seeds blended with sugar ingredient showed significant positive association with farmers production with more sesame seeds tones ($r=.351^{**}$; p =0.001) which means the higher Roasted sesame seeds blended with sugar ingredient is the higher farmers likely to produce more sesame seeds tones. Improving farm employee skills on proper use of sesame seed processing showed significant negative association with The community uses sesame oil in the

treatment of colds and bronchitis (r= -.091; p=0.001) indicating the more improving farm employee skills on proper use of sesame seed processing the less likely the community use sesame oil in the treatment of colds and bronchitis. Level of Significance (two tailed) =*: P ≤ 0.05; **: P ≤ 0.01.

Table 4.8. Bivariate Pearson correlation about the influence of value addition on sesame seed production variables.

No	Value addition	1	2	3	4	5
1	Improving farm employee skills	-	.117	.149	.220	-.091
2	Using sesame husks and meals as an animal feed		-	.501**	.463**	.336**
3	Roasted sesame seeds blended with sugar ingredient			-	.351**	.183
4	Using grinded sesame seed with grain flour as a nutritive food for human consumption				-	.418**
5	The community uses sesame oil in the treatment of colds and bronchitis					-

Regression analysis

Model Summery

The modal summery table 4.11 showed very statistically significant that the production of sesame is increased 50.5% with value addition, training and market as indicated by r square (R^2 =0.505).

Table 4.9. Modal summery.

	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	Model	0.505	.322	2.92307

ANOVA

The one-way analysis of variance (ANOVA) is used to determine whether there were any significant differences between the means of two or more independent (unrelated) groups (although you tend to only see it used when there are a minimum of three, rather than two groups).The study was analyzed with SPSS software and the findings were interrelated as showed in the following tables, ANOVA table and also multivariate regressions analysis and their equation , but first with the Analysis of variance showed that the factors influencing on sesame production include market, training and value addition which indicated statistically significant as shown by F (70)=12.193, p=0.009 , which means the sesame production increases with value addition of the production

Table 4.10. Analysis of variances (ANOVA).

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	107.474	3	35.825	12.193	.009[b]
	Residual	563.925	66	8.544		
	Total	671.398	69			

Multivariate regressions analysis

As the name implies, multivariate regression is a technique that estimates a single regression model with more than one outcome variable. Multivariate analysis was carried out by the researcher with the following independent variables including market , training , and value addition to their effect on sesame seed production as the table 4.12 below showed that there was a statistically significant effect on sesame seed production as shown T(70)=1.909 with value addition with a p=<0.005, but the findings of the rest of the variables indicated les statistically negative significant which were market and training.

Table 4.11. Multivariate regressions analysis.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.178	2.905		5.913	.000
	Market	-.096	.181	-.073	-.530	.598
	Train	.142	.192	.110	.738	.463
	Value	.332	.174	.278	1.909	.001

Equation: Y=a+B1market+B2training+B3value+error

5. Summary of the Findings

It is an overview of content that provides a reader with the overarching theme, but does not expand on specific details. A summary describes a larger work (such as an entire book, speech, or research project), and should include noticeably less content then the original work.The objectives of this study were to determine whether the market influences on sesame seed production, to find out whether the training influences on sesame seed production and to examine whether value addition of sesame seed influences on sesame seed production.

5.2.1 Market

On the Market the study found out that improving local sesame seed varieties play important role in sesame production and price increases in the market. The study also found that the improving market price and planning production increases the number of competent farmers to produce sesame seeds and that improving market security and reducing tax rates on sesame seeds by the government encourages sesame seeds production. It further established that the sesame seed exportation influences on sesame seed production and that good planning can provide farmers to produce high yield of sesame seed. The study further established the Market influences on sesame seed production to a great extent.

5.2.2 Training

On the training the study established that increasing sesame farmer skills on proper harvesting and storing increases sesame price in the domestic and international markets. Training sesame farmers on proper use of farm equipments facilitates managing large area of land and producing sesame seeds of higher quality level. The study found out that Training sesame farmers on proper time of weeding, preventing and curing effects of insects and diseases plays an important role in sesame seeds production and training sesame growers on proper use of local organic manures and crop rotation contributes to quantitative and qualitative improvement of sesame seeds and Improving farm employee skills on proper pattern of sesame sowing increases sesame seed production. Additionally the study established that seasonal training is suitable type of training for sesame growers to increase sesame seed production and training influences farmer's skills and development of sesame production to a very great extent. The study further found out that training enables sesame growers to increase sesame production in highly agree and the training and capacity building as an important tool within sesame seed production.

5.2.3 Value addition

On the value addition the study found out that value addition of sesame seeds influences on sesame seeds production and the community uses sesame oil in the treatment of colds and bronchitis encourages famers to increase sesame seed production. The study more established that improving farm employee skills on proper use of sesame seed processing increases sesame seed production, that the using sesame husks and meals as an animal feed encourages farmers to increase sesame seed production. Using grinded sesame seed with grain flour as a nutritive food for human

consumption enables encourages farmer to produce more in sesame production and roasted sesame seeds mixed with sugar ingredient sold at roadsides and market place encourages farmers to produce more sesame seeds. The study also recognized that improving sesame seed quality increases sesame seed production and the sesame seed can be chanced into other foods.

6. Conclusions

There are three different type of variables to find out their influence on sesame seed production including market, training and value addition .The study was investigating factors influencing sesames seed production in Jawhar and Balcad district farmers, the variables under study were market price, training given to the farmers and value addition to their effect on sesame seed production of which these factors showed not statistically significant.

The first objective of the study was to find out if market influences on sesame production through investigation, predictors were included: Ease of access to market places by sesame seed growers found to be opportunity for the farmers to produce more tons of sesame seed. Improving market price and planning in production was found to be resulting great production of sesame seed. Improving local sesame seed varieties indicated high encouragement of sesame seed production .Exporting sesame seeds and improving market security and reducing tax rates over which the study came to know contributing factor that encouraged many sesame seed producers to increase sesame seed production. However in regression analysis some of these factors indicated statistically weak significance it means they had poor associations and under influenced the production of sesame seeds.

The second objective of the study was to find out the influence of training farmers on sesame seed production, through examining the following were sub training predictors (proper pattern of sesame sowing, proper use of farm equipments, proper use of local organic manures and crop rotation, time of weeding, preventing and curing effects of insects and diseases and proper harvesting and storing) as demonstrated to have influence over sesame seed production as further Concluded the researcher that training predictors including proper pattern of sesame sowing most of the respondents agreed that training of farmers on proper patterns of sesame sowing results high sesame seed production. Also the study found that Training of farmers on proper use of farm equipments had resulted high sesame seed production. it also further explored that Training on prosper use of local organic manures and crop rotation indicated high sesame seed production as well as training on time of weeding, preventing , curing effects of insects and diseases and proper harvesting and storing influenced over sesame seed production.

The third objective of the study was to find out whether value addition had an influence on the sesame seed production. the variables under study were: (Improving farm employee skills, use of sesame husks as animal feed, Roasted sesame seeds blended with sugar ingredient, uses of sesame oil in the treatment of colds and bronchitis) all these were factors contributing increased sesame seed production, Variables improving farm employee skills the respondents had agreed to have high relation with high sesame seed production. On the other hand The study demonstrated that the use of sesame husks as animal feed contributes the encouragement of farmers to increase sesame seed production.

The modal summery table 4.11 showed very statistically significant that the production of sesame seed was increased 50.5% with value addition , training and market as indicated by r square (R^2 =0.505).As Analysis of variance showed that the factors influencing on sesame production include market, training and value addition which indicated statistically significant as shown by F (70)=12.193, p=0.009 , which means the sesame seed production increases with value addition of the production. Multivariate analysis was carried out by the researcher with the following independent variables including market , training , and value addition to their effect on sesame seed production as the table 4.12 showed that there was a statistically significant effect on sesame seed production as showed T(70)=1.909 with value addition with a p=<0.005, but the findings of the rest of the variables indicated les statistically negative significant which were market and training.

7. Recommendations

1. The study recommends that Ministry of agriculture should make ease of access to market places by sesame seed growers in order to produce more tons of sesame seed.
2. Ministry of agriculture should improve market price and planning process in production in order to encourage sesame seed growers to increase production of sesame seeds.
3. The farmers should improve local sesame seed varieties as it leads high sesame seed production.
4. The government should have a system of exporting sesame seeds, improving market security and reducing tax rates over which it is the greatest contributing factor that encouraged many sesame seed producers to increase sesame seed production and vise verse if they don't.
5. The study recommends to the sesame growers to increase training on proper pattern of sesame sowing over which it had a good relations to high sesame seed production.
6. Training should be given to the farmers on proper use of farm equipments as it had theoretically resulted high sesame seed production. it also further recommends that training on prosper use of local organic manures and crop rotation indicated high sesame seed production .
7. Training should be given to the sesame seed growers on time of weeding, preventing, curing effects of insects and diseases and proper harvesting and storing over in order to accelerate sesame seed production.
8. The study recommends to the sesame seed growers to improve farm employee skills as it has good relationship of sesame seed production. Sesame seed growers should increase the use of sesame husks as animal feed over which it contributes farmers to increase sesame seed production.
9. There is great benefits on Roasted sesame seeds blended with sugar ingredient, so the sesame seed growers should increase this type of value addition as it influence the sesame seed production.
10. Sesame seed growers should know that uses of sesame oil in the treatment of colds and bronchitis had negative had poorly influencing on sesame seed production so they should not produce sesame as it is used to treat bronchitis

8. Further Research Area

Based on different research studies carried out on sesame seed production, the following studies can be further carried out on sesame seeds production to enhance its utilization

especially in Somali

1. The use of sesame as the treatment of cold and bronchitis
2. The cause-effect relationship between sesame oil and bronchitis
3. Observational study on effect of market on sesame seed production

9. References

Abeba. (2011). *Oxfam Research Report.* Addis Ababa: Ethiopian Sesame production sector.

Abeba, H. (2009). *Economic analysis.* Addis Ababa: Ethiopian Sesame production centre.

Abeba, H. (2009). *Sesame production and Economic Analysis.* Addis Ababa: Ethiopian Work press centre.

AG, V. (2005). *Sesame oil production.* Addis Ababa: Sesame seed production Sector.

BBS. (2012). *Agriculture statistics of Bangladesh.* Dhaka: Bangladesh Bureau statistics.

Dr, T. (2014). *Sesame Production.* Kampala: Sesame seed production Research Institute.

FAO. (2012). Building Drought Resiliance. *Agriculture production journal*, 4-9.

FAO. (2012). Somali Agriculture. *Scientific Journal, National Press*, 5-8.

Friedman, J. (2007). *Price Theory.* Texas: American Economic Centre.

Fuller, D. (2006). *Sesame seed production.* London: Sesame seed production centre.

Hansel, D. (2009). *Adding value to agriculture production.* Texas: Agrilife extension.

Hellin. (2006). *Guidelines for value chain analysis.* Texas: Value analysis centre.

Kindie. (2007). *Agriculture Sample survey.* Addis Ababa: Ethiopian sesame production centre.

M.B.N. (2011). *Somali Agriculture Technical group (SATG) strategic plan.* Menesore: American Journal.

Magablih. (2010). *Agriculture production.* Texas: Agriculture production centre.

Majeed, A. (2013). Chemical characterization and fatty acid profile of different sesame varieties. *American Journal of scientific and industrial research*, 12-17.

Miah, M. M. (2014). *Assessment of socioeconomic impact of oil seed research and development in Bangladesh.* Dakar: Bangladesh agricultural Research council.

P.I. (2011). *Sesame seeds market report.* Dalh: Sesame production centre.

Pathak, N. (2004). *Value added products of sesame seed.* Pharmacogn: Value added product centre.

Pindyck, R. (2004). *Economic analysis for business.* Kampala: Developing economic centre.

Raikwar, R. a. (2013). Productivity enhancement of sesame through improved production technologies. *African Journal of agriculture Research*, African Journal Agriculture Research.

Report, W. B. (2008). *Agriculture for development Report.* Washington:DC: World Bank.

Richter, J. (2010). *Transportation Theory.* Gothenburg: Transportation centre.

Roycroft. (2006). *Economic analysis.* Washington: Economic analysis centre.

S.J, A. (2007). *Effect of training.* Abuja: Uganda training centre.

S.J, S. (2013). *Agriculture research.* Addis Ababa: Agriculture research centre.

Salanta. (2006). *Theoretical economics.* Washington: Economic centre.

Samnelson, P. (2005). *Factors of production on sesame seed.* Washington: Production sector.

T.Smith, D. (2000). *Crop profile for sesame production.* Texas: Sesame Production sector.

Tofber, a. (2009). *The Art measuring the arts.* Chicaco: Art measuring centre.

Treven, S. (2003). *International training.* Aman: Training centre.

Vadim. (2009). *Rationalization.* Washington: American press.

Vemic, J. (2007). *Employee training and organization.* Texas: Economic centre.