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## IMPACT OF FINANCIAL SUPPORT TO SUNFLOWER PRODUCTION IN LIRA DISTRICT: A REVIEW OF LITERATURE

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### ABSTRACT

Lira district greatest population rely on agriculture as a source of employment, income and food security. The study was to establish the impact of financial support on sunflower production in Lira district. The objectives of the study were to establish the impact of technology in increasing sunflower productivity, the impact of access to different agricultural inputs by sunflower farmers, and the contribution of non-state actors towards sunflower production in Lira district. The study used documentary review of secondary data and documents from other related studies both from the area of the study and outside. The study used both qualitative and quantitative methods of data collection and analysis. The findings revealed that access to financial support leads to the acquisition of technology, agro-inputs, and extension services that leads to increased production and the reverse is true. A suggestion has been made ensuring availability of funds leads to the acquisition of technology, inputs, extension services, market for the produce.

### 1.0 INTRODUCTION

The International demand for sunflower has expanded over recent years and is considered the world fourth largest oil-seed crop and its seed are used as food and its dried stalk as fuel. It has already been used as an ornamental plant and was used in ancient ceremonies (see for example Harter et al., 2004; Muller et al., 2011). Sunflower is thought to have originated in the Americas in 1,000 B.C and were then cultivated as a valuable food source for centuries. With the European exploration of the new world, the flower popularity spread, as the rest of the world began to appreciate its beauty and sustenance (Pro flowers, 2015). A separate study conducted by Fu, et al (2020) likewise indicates that sunflower originated in North America and is now cultivated all over the world. But according to Laven (2011), Sunflower originated in Mexico and Peru and it is one of the first crops to be cultivated in the United States of America. According Fourie et al, (2015) the edible oil industry worldwide is currently under pressure due to a decline in demand and record crops. FAO (2002) agreed that in Ukraine Sunflower seed is by far the most important oilseed produced, and the country rank as the third-largest producer in the world, behind Argentina and Russia. Martinez et al (2015) asserted that in Croatia, sunflower is the most important oil crop grown mostly in the eastern part of country where

suitable soil and climate conditions exist for growth and development.

Elsewhere in Africa, according to Nhundu (2018, September). Sunflower is one of the most vital field crops produced in South Africa, accounting for approximately 60percent of oil seeds produced locally. However, total sunflower seed production is considerably lower than total consumption; making the country a net importer of sunflower. FAOSTAT (2011) in their analysis of world sunflower production, ranked South Africa as number 12<sup>th</sup>, yet that country is the largest sunflower seeds producer accounting for approximately 46.1 percent of the total production for the entire continent of Africa followed by Tanzania which constitutes 35.0 percent. Tanzania is correspondingly the second largest producer of sunflower oil in Africa, with 23.1 percent of total oil production in the continent. According to RLDC (2008), sunflower represents one of the key sub-sectors of agriculture in Tanzania. URT (2016) affirm that sunflower cultivation in Tanzania occupies an estimated area of 1.7 million hectares, with the average yield for local varieties of 1.6 tons per hectare.

In Uganda, the exact date for the introduction of sunflower is not known either is it recorded in obtainable literature. According to the National Sunflower Association (2015), sunflower is an indigenous North American crop possibly brought to Uganda in the 1920s and 1930s by missionaries. Its production as a commercial crop has since increased and now is a major cash crop in northern Uganda and Lango sub-region in particular. Ton et al (2010) recorded it is one of the oilseed crops identified by the Government of Uganda and several donors as a prospective poverty-reduction crop. In their study, Vellema et al., (2011), reveals that sunflower production in Northern Uganda was affected by political instability and rebel activities in the 1980s and 1990s. In mid-2000, political stability started to be realised and major investments have been made by the provision to farmers by the private sector, NGO and government programmes that resulted in increased production. At present, Lira District dominates in number of farmers growing sunflower in Northern Uganda as asserted by SNV (2009), that Ogur Sub County alone has 52,200 farmers.

### **Statement of the Problem**

According to Lira district budget allocation from 2015 to 2019, production and marketing was allocated less than 5percent of the total district budget yet Uganda is among the 42 African countries who in recognition of the importance of public investment in agriculture, resolved to implement the Comprehensive Africa Agriculture Development Programme (CAADP) by committing to adopt sound policies for agricultural and rural development growth through allocating at least 10percent of the national budgetary resources to agriculture by 2008 in a commitment known as the Maputo Declaration (Tibaidhukira, 2012). Due to failure by the government of Uganda to increase to 10percent budget allocation to agricultural sector, there is limited access by many farmers and sunflower growers in particular to new technologies, inputs, Extension services that militate against increased sunflower production. Yet according to IFAD (2010), Lira district contributes to about 80percent of national sunflower production coming from the six core Districts of Lango Sub- Region of Apac, Lira, Oyam, Dokolo, Kole and Alebtong with Lira town as a locus of oilseed milling industry, with associated seed distribution and provision of technical services. According to Food and Agriculture Organisation (2013), sunflower production was aimed at meeting the food needs of households through the incomes it offers, and also contribute to reducing poverty in the end. But according to the Uganda Bureau of Standards (2018), the proportion of the poor population again increased from 19.7 percent to 21.4 percent. Therefore, the purpose of this study was to establish the impact of financial support on

sunflower production in Lira District within a period of five from 2015 to 2019. The three objectives of the study are; to find out the impact of technology available on sunflower production, impact of agricultural input availability on sunflower production and the contribution of Non-governmental sector on sunflower production.

## 2. METHODOLOGY

### 2.1 Data sources and collection methods

The data for this study was generated from sources which include various secondary data of five years annual financial budget from LDLG and other documents that were reviewed on sunflower production.

### 2.2 Methods of data analysis

Data were analysed using documentary reviews of different secondary data that were mobilised.

### 2.3 Significance test

The researchers compared and contrasted the consistencies of different documentaries and literature reviewed in producing this article. Inconsistencies and reliability in the results were detected through sampling articles from different years of study.

## 3. RESULTS AND DISCUSSION

Several research has been conducted by different researchers and contended on the fact that there are impacts of financial support on sunflower production with both positive and negative results. The findings and results will be discussed on each of the objectives as presented below.

### 3.1 Impact of technology available on sunflower production in Lira District

Reliance on and application of modern technologies on sunflower farms is very essential to increasing sunflower production (Dwivedi, 2018). This is maintained by Ebong (2019), who notes that the government of Uganda procured 280 tractors under the National Agricultural Advisory Services (NAADS) in an attempt to help farmers engage in large scale commercial crop production. Those tractors were expected to be given to the organised and registered farmer groups, associations or cooperatives all over the country to manage them on business principles. This suggests that much as 280 tractors were procured to support farmers, the insufficiency will lead to the continuous use of rudimentary tools.

Ebong (2019) further reports how the Lira District production office is said to have procured tractors that did not offer significant help to the farmers in terms of facilitating them to engage in commercial crop production as each of the beneficiary districts received about two or three tractors which are too few to serve the entire district. On the other hand, Amolatar District production officer said that the implementation of agricultural mechanisation might not be easy because of land fragmentation. Development of agricultural production, especially of sunflower, has faced many challenges among them is technology. There is number of challenges identified such as lack of knowledge of improved farming methods and access to modern technologies and poor seed quality (Gabagambi & George, 2010). In a study by Okoko (2008), it was revealed that a number of technologies are developed by research institutions with very little input by farmers or extension staff that led to low adoption and increased poverty levels in rural areas. Yet technology is very critical to increased production. If poverty levels are to be reduced and living standards uplifted, then farmers must have access to appropriate technologies to enable them increase agricultural productivity. According to a study conducted by CESVI (2013), production techniques, equipment and tools, farmers in Northern Uganda generally use rudimentary tools at all levels of their agricultural activity including land clearing, land opening, fine liling, planting, weeding, harvest to storage.

According to ACF (2011), the dearth of the necessary tools, equipment and animals to till the land in Lira and Otuke districts is evidently an obstacle to opening more land and to bring in higher yield and thus income. UBOS (2011), alludes to limited public funding to agricultural sector as a continuous hindrance to the use of technology citing most of agricultural households in Uganda as still using the hand hoe as the main farm tool for cultivation accounting for only 28,000 households (0.8percent) out of 3.6 million agricultural households in Uganda using tractors. Accessing appropriate technologies in oil crop production by smallholder poor farmers is limited yet this could assist to alleviate poverty among majority of rural poor households. These suggest that the inadequacy of technology and its availability, land fragmentation that affects the effective use of tractor and lack of knowledge in the use of such technology continues to affect large scale production as rudimentary tools are very expensive in the long run in terms of time spent, coupled with limited farmland.

Ministry of water and environment (2019) asserted that Uganda has so far exploited only 0.5percent of her irrigation potential that is after the construction of additional forty-four small scale solar-powered irrigation systems in forty-four districts of which Lira district also benefited. This will lead to achieving high economic growth through agriculture-led development. It's noted that one irrigation plant cannot see entire farmers in Lira district of eleven Sub Counties and four divisions.

With increasing land degradation, land resilience has been reduced and the effects of drought and floods exacerbated. Smallholder farmers are unable to invest in the necessary infrastructure to carry out irrigation. United States Agency for International Development (2013) agreed that this failure to irrigate agricultural lands results from financial and access constraints. In order to overcome the challenges facing the agricultural sector in general and oilseed sub-sector, it is imperative for the government of Uganda to redirect its financial resources towards improving the sector. Fan et al (2008) asserted that government spending is one of the direct and effective tools to enable economic growth. Where the funding is limited, use of technology will be limited hence low level of production thereby the resultant low incomes and vicious cycle of poverty. According to UBOS (2015), agriculture is the mainstay of Uganda's food security, and contributing to GDP (24percent), about 43percent to the export revenue as well as providing livelihood for over 70 percent of her population yet the current agricultural production in Uganda is overly rain-fed.

According to You et al (2010) claimed that only 4percent of arable land is irrigated, while it has been calculated that irrigation could double the yields. These low numbers of irrigation have implications for the use of fertilizers as asserted by Jayne and Rashid (2013) that the return on investment for fertilizers is overall much lower when the land is not irrigated. USAID (2013) asserted that the inability of the government to provide for irrigation is a setback in fighting climate change. Although irrigation is critical to agricultural development and addressing the effects of climate change, the government has not invested in infrastructure to enable farmers irrigate their farm plots. These reveal that limited funding on agriculture has very many consequences on production and productivity in terms of limited use of irrigation as technology in fighting climate change.

### **3.2 Impact of availability of agricultural input to sunflower production in Lira District**

Several studies have maintained that the backbone of any agricultural revolution is accessed by farmers to modern agricultural inputs and credits. Fertilizer use is the best means for improving poor soils and tackling the problem of natural low production potential (for example, Nin-Pratt et al., 2011; Rakotoarisoa et al., 2011; Benin, 2016; McArthur & McCord, 2017; Ciceri & Allanore, 2018). The justification of the above notion is that fertilizers supply nutrients to the soil that are essential for growth. Increased use of fertilizer and improved seeds are partially credited with the large increases in

agricultural productivity growth.

There is number of reasons for limited application of fertilizers by Ugandan farmers, the Uganda Census of Agriculture of 2008/09 revealed the major ones to be; too expensive, lack of knowledge, limited access, and perception that fertilizers are useless. Bayite-Kasule (2011) pointed out that the low usage of fertilizers is symptomatic of wider structural problems in the economy that limit agricultural productivity growth, such as poor infrastructure, weak institutions and lack of information and human capacity. Bold *et al.* (2017) established that a random bag of fertilizer in the local retail markets has 30percent missing nutrients which can lead to negative returns for farmers. This points out that the Low and declining yields of sunflower productivity which does not meet the current vegetable oil demand in Lira, and Uganda at large is as a result of limitation of access, scanty knowledge, low quality and misconception caused by limited funding towards fertilizer.

According to Apunyo (2018), Ngetta Tropical Holdings, a company situated in the Lango sub-region producing vegetable oil from sunflower, received a soft loan of one billion Uganda shillings from Microfinance Support Centre to boost its production where, according to the Executive Director, the money was to buy improved seeds for the farmers in Northern Uganda, of which Lira district is one of the benefiting district. There is a continuous effort by the government in creating conducive investment climate where many firms and companies have come up to support farmers in sunflower growing providing several extension and credit services such as operation wealth creation, NAADs programmes, microfinance service among others from which farmers can acquire small loan credits to support their activities, Anderson, (2002). These reveal that provision of quality seeds by the oilseed company with interest in increasing raw materials for their industry will surely boost production meanwhile extension services cannot be underrated when it comes to their technical guidance to farmers.

Barriga and Fiala (2018) assert that a lot of efforts have been made to help farmers improve yields have failed in Sub Saharan Africa. They pointed out that agriculture inputs are often of very low quality, which may explain sub-optimal yields and low adoption of inputs due to seed faking or adulteration. The majority of farmers also use traditional farming knowledge for production. Okure, (2017), asserted that farmers retain local seeds for production and do not practice secondary value addition besides the basic primary value-addition activities. These prove that much as the seeds are distributed, the increase in yield cannot be a reality as a result of the adulterated seeds.

### **3.3 Contribution of Non-state actors towards sunflower production in Lira District**

The contribution of companies, firms, and organisations to the development of the agricultural sector and the economy cannot be underestimated. Although the oilseed sector has been affected by political instability and rebel activities in the 1980s and 1990s, since political stability has returned, major investments have been made by the public and private sector, in which Mukwano played a pivotal role as market leader of sunflower (for example Belt *et al.*, 2015; Schoonhoven-speijer & Heemskerk, 2009). Mukwano and Mount Meru are a few of the main companies involved in oilseed processing and producer organisations (Vorley *et al.*, 2015). Mukwano oil industry (A K oils ltd) is the largest trading company promoting production and marketing of sunflower and other oil crops in Lira and the surrounding areas. Mukwano carries out milling and Extension services provision on sunflower and as such is a major buyer of grains from farmers. Barrett *et al* (2012) asserted that Mukwano oil industry provides extension services and sometimes transport for farmers that have bulked their produce in addition to the recent initiation in importing and marketing of improved seeds (PAN 7351) hybrid from South Africa. The company work directly with farmers and guarantee markets for their crops under

contractual arrangements. The contract arrangement is however skewed in favour of the company.

According to Dobovi (2018) Ngetta Tropical Holdings, an oilseed company in Lira received a credit of one Billion shillings from the Microfinance Centre to purchase seeds to be distributed to farmers on loan basis and to purchase the produce from farmers in Lango sub-region. This will lead to increase production of sunflower. As stated by The Cooperator (2018), Lango cooperatives received and cashed over 2.72 Billion to promote sunflower production since July 2018. This has led to massive production to the extent that there were 2,473,000 tons of grains in stock, only bought from the members of cooperatives. These cooperatives were able to receive incomes for the Agsun 8251 grains they produced and sold to Ngetta Tropical Holding- a company promoting the production of Agsun 8251 sunflower in the sub-region. If this trend of financial support continues, there is a high likelihood that the production capacity will increase such that export of the sunflower product will be boosted, farmers will earn incomes from sale of sunflower (Mpeta, 2015). The beneficiary household needs and standard of living will be improved. It's noted that the biggest support to sunflower producers comes from the non-state actor and especially the ones dealing in oilseed production and processing. These contributions have led to access to business services has increased accordingly. Farmers now have improved access to seed and other inputs through input providers, NGOs and millers. Their access to financial services has improved, and also to knowledge, including technical advice and market information, which is corroborated by Schoonhoven et. al (2014).

According to the National Sunflower Association (2011), and International Trade Centre (2015), production of sunflower has not been directly supported by many NGOs like other crops. It is only Uganda Oilseed Producers and Processors Association (UOSPA) that has specialized in sunflower activities. Most NGOs have not. UOSPA is engaged in the provision of extension services, seed multiplication and distribution as well as farmer group mobilization and development. UOSPA work in consultation with the government-controlled Vegetable Oil Development Project (VODP) at national level and the government Extension system at district level (UOSPA, 2014). These show that provision of improved seeds, buying of the produce, provision of the extension services, financial support to the cooperatives is a clear stand out point that the non-state actor's participation in supporting sunflower production.

## **CONCLUSION**

Sunflower is a crop grown worldwide and its demand internationally is far much higher than its production due to limited financial support towards agriculture in general, and sunflower specifically. This limited financial support limits farmers' efforts to access technology and agro-inputs in addition, yet access to financial support could lead to acquisition of technology, agro-inputs, and extension services that leads increased production. Sunflower also faces stiff competition other oilseed crops like soya beans, sim-sim palm oil among others. However, companies firms and organisations have contributed significantly towards improved and increased production in many ways ranging from funding, training to ensure that sunflower production matches its demand. Therefore increased funding will lead to high production of sunflower and vice versa. It is important to note that measures in ensuring adequate financing to impact on sunflower production be revised.

## **RECOMMENDATIONS**

- a) Increase of funding towards sunflower production by the government of Uganda.
- b) Quality control must be ensured by the authority such as the National Bureau of standards.
- c) Sensitisation of farmers on the use of technology.

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### Competing Interest

This work was purely for academic purpose. Therefore, the authors declare no competing interests during the study.

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