Research article

Farmers` Perception on Contract Farming: A Case of Sunflower Seed Crop in Central Tanzania

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Abstract In most developing countries like Tanzania, poor farmers have limited access to agricultural inputs. In case of sunflower seed, one of the proposed solutions is through use of contract farming among the farmers. In the country, sunflower oil has been preferred as edible cooking oil for many households since it is much safer for human consumption. Despite the government's new agricultural policy, contract farming has been facing some challenges in coordination such as pricing, trust, arrangement for the delivery of the inputs, procedures for paying farmers, poor credit (cash) services as agreed of the contract. The study aims to investigate the impact of contract farming program among sunflower farmers. Specifically, the study aims to (i) determine households' background characteristics; (ii) examine contract arrangement of sunflower seeds in Tanzania; (iii) discuss the farmers' perception in terms of trust, and personal relations play for their coordination. The field study was conducted in August and September 2019, selecting 80 farmers in two regions in Central Tanzania. Among them 40 farmers were sunflower producers with contract farming with Three Sisters Company Ltd and Ikungi Sunflower Edible Cooking Oil Company for eight (8) years; 40 farmers were sunflower producers without contract farming. Based on the field study, contract terms and conditions, hereafter called contract design attributes such as mode of payment and price setting of farmers' crop produce can affect farmers' decisions to participate in contract farming, varyingly affecting their expected level of utility from participation. On the other hand, in contract farming, farmers produce quality seeds with high cooking oil content. Surprisingly, in contract terms, prices are not set in advance, contract farmers sell their produce with similar price to the local sunflower seed. Finally, lack of education was the factor for non-contract farmers to participate in contract farming.

Keywords contract farming, sunflower seed crop, Central Tanzania

INTRODUCTION

Contract Farming (CF) among sunflower farmers in Tanzania has been developed widely since 2010 as an alternative approach to solving the problems faced by farm households and provides a secure purchaser for their production. At the same time, households receive the necessary inputs for their farm and advice on necessary farming techniques, while the buyers benefit from assured production from the contract farming (SDC, 2018). Due to its low level of cholesterol, sunflower oil is highly preferred as edible and safe cooking oil for many households in the country. The crop accounts 40% of the total national cooking oil requirements (URT, 2014). For the country-side, contract farming policy attempted to reduce the burden of importing edible cooking oil from foreign countries by offering opportunities of high yield varieties together with aim of income generation to farmers. Despite the government's new agricultural policy, contract farming has been facing some challenges in coordination such as pricing, trust, arrangement for the delivery of the inputs and procedures for paying farmers.

OBJECTIVE

The study aims to investigate the impact of contract farming program among sunflower farmers. Specifically, the study aims to (i) determine households' background characteristics; (ii) examine contract arrangement of sunflower seeds in Tanzania; (iii) discuss the farmers' perception in terms of trust, and personal relations play for their coordination.

METHODOLOGY

The field study was conducted in Dodoma and Singida regions located in Central Tanzania in August and September 2019. Region and district were sampled purposively due to the potentiality in production of sunflower seed at the central corridor. In addition, contract farming has been promoted to sunflower farmers since 2019. These regions are located in semi-arid area characterized by inadequate rainfall. Recently, there had been a tremendous shift of the population in these regions towards farming sunflower seed crop. The crop is drought tolerant and survives harsh conditions.

The study adopted a semi-structured questionnaire as an instrument for data collection. Both qualitative and quantitative methods of data collection were applied. Secondary data were obtained from the two companies providing sunflower contract farming in Central Tanzania, sunflower farmers, ministry of agriculture and rural development, published reports, books and journals. Educational status, the level of awareness and willingness of the respondents to participate in contract farming was collected.

Considering the observation, a sample of 80 farmers were selected from Dodoma and Singida regions (Fig. 1). Among them, 40 farmers were sunflower producers with contract farming with Three Sisters Company Ltd and Ikungi Sunflower Edible Cooking Oil Company for eight (8) years; 40 farmers were sunflower producers without contract farming. A two-stage sample design was used to collect the data. First, two villages were purposefully selected because of the presence of sunflower contract farming. Then, the contract farmers were randomly selected from the list of contracted farmers, and non-contract farmers were randomly selected from the village households list after removing the contract farmers.

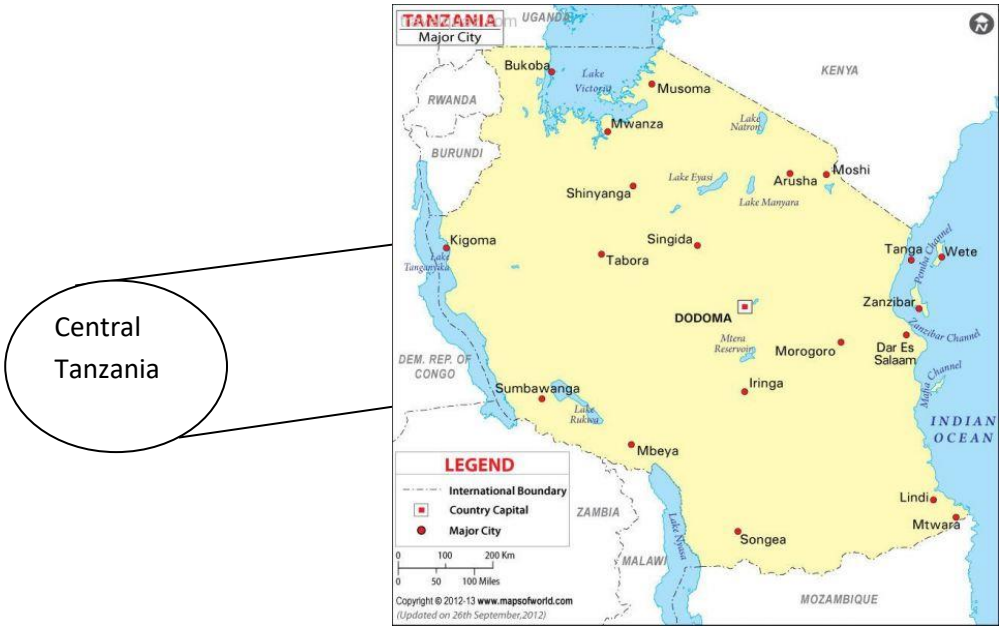

Fig. 1 Map of study area

Source: https://www.google.com/united-republic-of-Tanzania-map-vector

RESULTS AND DISCUSSION

This study employed data analysis techniques namely descriptive statistics and parametric estimations. Descriptive statistics such as frequencies means, and cross tabulation of some critical values were used to compare basic characteristics of farmers who participated in contract farming and farmers who did not participate.

1) Households' Background Characteristics

From the field study it was found that sunflower farmers with contract farming were older (42.3 years) than sunflower farmers with non-contract farming (37.1 years). This implies that the elder farmers participate in contract farming compared to younger farmers. Moreover, with respect to the farm size, sunflower producers without contract farming were relatively small (0.82 ha) compared to sunflower farmers with contract farming (2.41 ha) as shown in Table 1.

Considering the education background, contract farmers have reached high school level and college level. But, majority of heads of household producing sunflower seed without contract farming have reached to primary level only (Table 1).

Table 1 Households' background characteristics

	Contract farmers (n=40)		Non-contract farmers (n=40)	
	Mean	SD	Mean	SD
Characteristics				
Age of heads of household (years)	42.30	7.06	37.10	6.82
Average cultivated area (ha)	2.41	1.20	0.82	0.40
	Number of farmers	Percentage of farmers	Number of farmers	Percentage of farmers
Gender of farmers				
Male	32	80.0	12	30
Female	8	20.0	28	70
Farmers' education				
Primary level	26	65.0	40	100
Secondary level	4	10.0	0	0
High school level	1	2.5	0	0
College level	9	22.5	0	0
University level	0	0.0	0	0

Source: Authors' computation based on the data collected from field survey, 2019.

Note: (1) SD refers standard deviation (2) Primary level is seven years of schooling (3) Secondary level is four years of schooling (4) High school level is two years of schooling (5) College level is two years of schooling (6) University level is three to four years of schooling.

2) Contract Arrangement of Sunflower Seeds in Tanzania

The use of contract farming in the production of sunflower in Central Tanzania began in the 2010/11 crop season. Major actors in sunflower contract farming are the farmers, the company and the government of Tanzania. The contract states the obligation of the company, farmers, and other features. In the contract, the company obligate itself to deliver improved seeds to farmers usually of the record-type, buy up all the produce grown from the seeds provided to the farmer. In addition, the price is not fixed, and the contract firm buy the produce at the farm gate price and sometimes by negotiations. The cost of the input seeds is deducted at the period of selling of produce after harvesting.

In the study area, both Three sisters in Dodoma and Ikungi Sunflower Edible Cooking Oil provide a long-term contract for a period of eight (8) years cropping season. In production, individual sunflower farmers organize themselves into contract farming and non-contract farming. The contract company provides inputs such as fertilizers, seeds, and pesticides. The contract is through vertical

coordination and major support institutions in sunflower contract arrangements are Rural Livelihood Development Corporation (RLDC), Private and Small Medium Sunflower Oil Processors and International Agriculture Non-Government Organization (NGOs) as shown in Fig. 2.

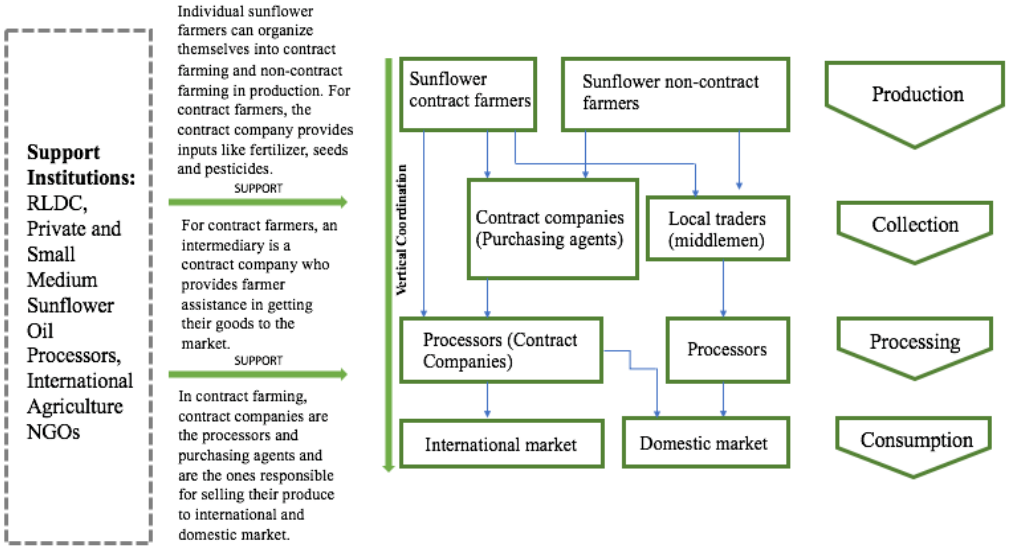

Fig. 2 Coordinating production and contract arrangement of sunflower seeds in Tanzania
Source: Field survey, 2019

3) Farmers' Perception in Terms of Trust, and Personal Relations Play for their Coordination

To understand the farmers' perception in terms of personal relations play for their coordination, the Garret ranks were calculated based on the data obtained in the field survey 2019, by using appropriate Garret Ranking formula. This method provides out the most significant factor which influences the respondent.

$$\text{Percent position} = \frac{100\,(Rij - 0.5)}{Nj}$$

where Rij = rank given for the ith variable by jth respondents, Nj = number of variables ranked by jth respondent.

Table 2 Farmers` perception in terms of trust personal relations play for their coordination

Serial number	Constraint	Garret Score	Rank
1	Mistrust in the mode of payment	63.0	1
2	Lack of government monitoring	58.0	2
3	Price of produce	55.0	3

Source: Field survey, 2019

In terms of trust and personal relations, the study noted a prevailing mistrust between the two parties in the mode of payment on crop produce (63.0 Garret score). Farmers were arguing that; the cost of inputs were inflated to maximize companies` profits. In an interview with one farmer, she said; " After harvesting sunflower I take them to XXX company that I have a contractual agreement with. But, honestly, I am not satisfied with the costs of inputs, I think they tend to inflate them…" (Interview, 2019). Moreover, contract farmers did not have written signed contract papers. Another important factor is lack of government monitoring (58.0 Garret score). In the study area farmers reported that the contracts are not well monitored by the ward and village officers that are responsible to oversee compliance. Therefore, the absence of proper government control discourages small-

holder participation in contract farming. In addition, price of produce was reported as another challenge among farmers (55.0 Garret score). In contract farming, farmers produce quality seeds with high cooking oil content. Surprisingly, in contract terms, prices are not set in advance, contract farmers sell their produce with similar price to the local sunflower seed. Based on this finding, non-contract farmers were not willing to participate in contract farming.

CONCLUSION

The study aims to investigate the impact of contract farming program among sunflower farmers. It was indicated that contract terms and conditions, hereafter called contract design attributes such as mode of payment and price setting of farmers' crop produce can affect farmers' decisions to participate in contract farming, varyingly affecting their expected level of utility from participation. In other words, lack of education was the factor for non-contract farmers to participate in contract farming.

In relation to the findings and conclusion the following were recommended to alleviate the existing challenges by all stakeholders of this sector. First, there is a definite need for the government of Tanzania to monitor and ensure that both parties adhere to the contract terms. In addition, price should be set in advance and reflect the quality of the crop. This will increase the willingness of farmers to participate in contract farming.

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