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Major Constraints and Opportunities in Smallholder Farmers' Groundnut Commercialization in Babile District, East Hararghe Zone, Oromia, Ethiopia

Oromia Megersa[1], Chanyalew Seyoum[2] (Ph.D.)

[1]Oromia Agricultural Research Institute, Fadis Agricultural Research Centre, Harar, Ethiopia
[2]School of Rural Development and Agricultural Extension, Haramaya University, Harar, Ethiopia

ABSTRACT

Commercialization in agriculture is the the progressive shift from household production for auto-consumption to production for sale in the market. The study was conducted in Babile district to assess major constraints and opportunities in groundnut commercialization. Driving factors existing in the study area such as conducive agroecology, access to market information, and locational trade mark of Babile groundnut identified as opportunities whereas disease, lack of improved varieties of seeds and price instability are considered as the constraints which hindering farmers not to boost their groundnut production for commercialization. The findings have an implication for the government body and the government should capitalize on the major constraints affecting farmers' groundnut commercialization in the study areas.

KEYWORDS: *Constraints, opportunity, Smallholder farmers, Commercialization, groundnut, Babile district*

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INTRODUCTION

According to the report in 2018, worldwide groundnut is cultivated on 27.66 million ha, with an annual total production of 43.98 million tons where the leading groundnut producing countries in the world are India (20.97%), China (16.35%), Nigeria (9.68%), and Sudan (8.37%) (FAOSTAT, 2018). Compared to other smallholder crops, groundnuts are known for their heartiness and can generate modest yields under unfavorable conditions where other crops may fail (Ojiewo *et al*., 2020). Despite its considerable importance, the average yield of groundnut in Ethiopia is much lower than other groundnut-growing regions, such as China, Egypt, Indonesia and USA (FAOSTAT, 2022). Eastern and lowland part of the country, mainly East Hararghe zone, is the leading groundnut production area accounting for 43.4% of the total production. In this area, groundnut is replacing major crops like maize and sorghum (Amare and Tamado, 2014). The average national yield of groundnut is 1.7 tones ha -1 which is significantly lower than the World's average 1.9 tons per hectare (CSA, 2017).

It is mainly grown in East Hararghe and Metekel Zone with immense potential in Gamogofa, Illubabor, West Gojam, North Shoa, North and South Wello, East and West Wollega, and Western Tigray (CSA, 2018). Babile District is a major area where groundnut is produced in Ethiopia (Chala *et al.,* 2014). Groundnuts produced in semi-arid areas of East Hararghe zone are influenced by water stress caused by low, highly variable, and erratic rainfall. Groundnut seeds contain approximately 50% edible oil, with the remaining 50% containing high-quality protein (36.4%), carbohydrates in the range of 6–24.9%, minerals, and vitamins(Baraker *et al*.,2017). Groundnut is also one of the leguminous plants that plays an important role in improving soil fertility through symbioses with Rhizobia, which fix nitrogen

and increase productivity (Gbèhounou & Adango, 2003).

Research Methodology

Description of the Study Area

Babile district is one of the 20 districts of the East Hararghe zone of Oromia Regional State, Ethiopia. The district is located to 557 km from Addis Ababa and located at 35 km away from Harar town. The district is bordered with Somali region, in South, Fedis in East and Harari in West and Gursum in North respectively. The district has 21 rural kebele administrations. The altitude of the district ranges from 989-1700 meters above sea level. The annual rainfall ranges from 410 to 800ml. The rain fall distribution pattern is characterized by erratic in nature. The mean annual temperature of the area ranges between 24-28°C Babile district agriculture.

The means of living in the study area is through cultivation of different crops and rearing animals. Different crops such as Sorghum, Groundnut, Maize, Sesame etc. are grown in the study area. Groundnut is one of the major oil crops grown in the district for both income generation and consumption. It ranks second in terms of area coverage and first among the oil crops grown in the study area in terms of quantity production and land allocated.

Table 1. Major crops produced and livestock population found in the study area

Major crops	Area(in ha)	Livestock categories	Livestock population
Sorghum	9,390	Cows	20,042
Groundnut	8,630	Oxen	14,377
Maize	3,040	Calf	15,574
Sesame	150	Goats	28,536
		Sheep	13,840
		Heifers	11,435
		Donkeys	10,578
		Camels	9,196
Grand total	21,210		123,578

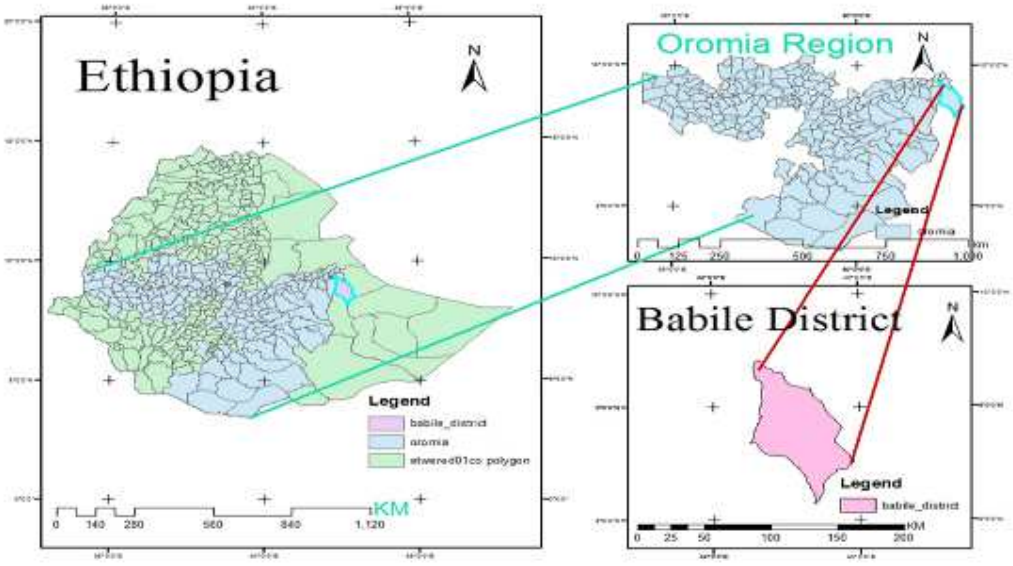


Figure 1.Map of the study area

Research Design

Qualitative data were collected from key informant interviews and focus group discussions to achieve the objective of the study. Cross-sectional research design was used on the field.

Methods of data collection

Personal observation, key informant interviews and Focus group discussions were used as methods of data collection for qualitative data. Checklist was used as tools to collect data from target groups.

Sample kebeles and target respondents' selection criteria

Four kebeles were selected from Babile district based on groundnut production potential. The selected kebeles were Remeta Selama, Barkale, Ifadin and Tula. One focus group discussion having 8-12 members selected including male and female farmers from each kebele. The key informants were selected from Babile district and four kebeles.

Methods of data analysis

The constraints and opportunities collected were analyzed using narrative explanation and argument.

Result and Discussions

Descriptive statistics result

The descriptive continuous variables such as age of household head in year, education level of household head in grade, household size in adult equivalent, distance to the nearest market in walking hours, livestock holding in tropical livestock unit, land holding in hectare, extension contact in day, non/off-farm income and credit received in thousand birr were used.

Table 2. Descriptive statistics result for Continuous explanatory variables

Variables	Participant n=137		Non- participant n=23		Total n=160		t-value
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	
Age of HH	36.09	10.07	42.35	8.99	37	10.14	-3.04***
Education HH	2.44	2.93	1.35	1.53	2.28	2.79	1.743*
Household SZ	4.99	1.84	5.78	1.73	5.11	1.84	-2.014*
Dntm	1.54	1.04	1.99	1.14	1.6	1.06	-1.776*
LVST	3.34	3.39	2.62	3.6	3.23	3.42	0.886
Land SZ	1.19	0.61	0.87	0.2	1.16	1.14	2.49**
Extn. con.	3.99	4.66	2.57	3.27	3.78	4.51	1.8*
NOFI	3.04	6.59	5.78	5.78	3.44	6.53	-2.06**
Credit	0.88	2.76	0.15	0.42	0.77	2.57	1.27

Table 3. Descriptive statistics results for dummy explanatory variables

Variables	Participant in commercialization		Non-participant in commercialization		Total		χ^2 value
	N	%	N	%	N	%	
Sex of HH							
Male	119	74.4	21	13.1	140	87.5	0.355
female	18	11.25	2	1.25	20	12.5	
Acc.mrktinfn							
Yes	94	58.75	6	3.75	100	62.5	15.2***
No	43	26.88	17	10.625	60	37.5	

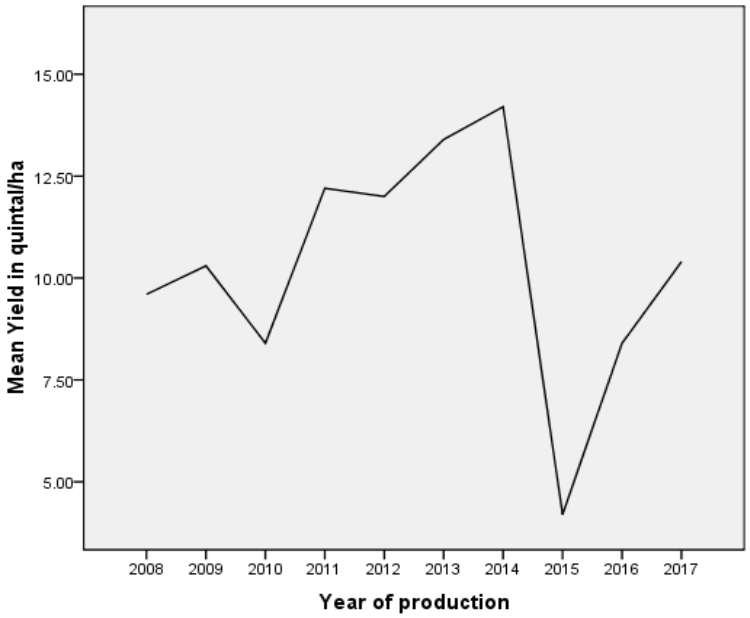
Note: ***, represents significance at 1%

Table 4.Descriptive statistics related with constraints and opportunities

Access to market information	Frequency	Percent
No	60	37.5
Yes	100	62.5
lack of improved varieties of groundnut		
Yes(local)	154	96.25
No(Improved)	6	3.75

Groundnut Production Trends in Babile District

The groundnut production trends of Babile district for ten years were explained by figure below. The yield of different cropping season was used in quintal per hectare. The causes for the fluctuation of production and productivity are erratic nature of rainfall and disease of groundnut.



Source: Own computation based on secondary data source

Major Constraints and Opportunities of Groundnut Commercialization

The major groundnut commercialization constraints in the study areas are disease, lack of improved varieties of seeds and price instability while the opportunities in groundnut commercialization are locational trade mark of Babile groundnut, conducive agro -ecology for groundnut production and access to market information.

Table 5. Major constraints and opportunities in groundnut commercialization in the study area

Major constraints	Major opportunities
Disease	Locational trade mark of Babile groundnut
Lack of improved varieties of seeds	Conducive agro -ecology for groundnut production
Price instability	Access to market information

Constraints of groundnut commercialization in the study area

Disease: The soil born disease which is called root rot is a serious groundnut disease existing in the study area as the information gathered from key informants. This disease starts affecting the root of groundnut as they pointed out. The farmers are calling it 'Gogogso' in their local language as information gathered from focus group discussion indicated. The meaning of the word is disease which is drying groundnut. It affects the root of the groundnut and makes the groundnut leaf yellowish in colour as information collected from focus groups discussion. This disease makes the groundnut as it gives bad smell similar with rotten egg which its stock part even not eaten by animals. This causes for the loss of their production and farmers are suffering as the information gathered through discussion.

Lack of improved varieties of seeds: One of the input component which boost the production of farmers is improved variety. As the information gathered from both key informants (KI) and Focus group discussion (FGD) indicates that farmers in the study area are using the local varieties for groundnut production for the market. These local varieties of groundnut are called Sertu and Oldhale. These varieties have their own potential use and limitation as information gathered from KI and FGD. The Sertu variety is yielder than Oldhale but labour intensive as compared to Oldhale. The farmers are using Oldhale variety in order to save their labor force. Only a few farmers have Roba variety taken from Haramaya University as information gathered from key informants.

Price instability: The information collected from focus groups discussion reveals that there is no uniformity of price for their production. During harvesting season the price of their production is very low while the price of groundnut is better as compared to price as soon as after harvest. The information collected also indicates that the price of groundnut during harvesting season (October-December) is very low and reaches peak prices from February to August. Majority of the farmers are selling their production with low price during harvesting season due to family related problems and for other expenses (FGD). The price of groundnut during harvesting and sowing season have at least one thousand birr difference as information gathered from them.

Opportunities of groundnut commercialization in the study area

Locational trade mark of Babile groundnut: As the information collected from the key informants' shows that Babile groundnut has a preferred traits to the consumers. Better oil test of groundnut produced in Babile is different from groundnut produced in the other areas. Production coming from Gursum, Fedis and other areas are taking the brand of Babile groundnut in order to compete with groundnut produced in the area according to the information gathered from key informants. The Babile groundnut has high demand as compared to groundnut produced in the other part of Eastern Hararghe Zone due to its unique preferred traits to the consumer as information gathered through interview from key informants.

Conducive agro-ecology for groundnut production: The lowland areas of Ethiopia has considerable potential for increased oil crop production including groundnut (Gezahagn, 2013). The study area is also located in the lowland part of the country. This create opportunity for farm household to produce groundnut. The information collected from the key informants reveals that nature of this legume crops makes the crop to give high yield by tolerating serious drought problem as compared to other crops produced in the study area. The information obtained from the focus groups also reveals that majority of the farmers have plan to expand groundnut production in the future by considering agro-ecology as an opportunity by reducing other crops easily failing by shortage of rain fall.

Access to market information: The information gathered from both key informants and focus groups indicates that access to market information is important for households to predict the future price of the production. Focus group further pointed out that having access to market information help them to know when to sell their product. Majority of the farmers have access to market information(62.5%). As the information gathered from focus group through discussion revealed that market information creates the filling of storing their production based on the signal of market price. This signal of market is related with the storage of their product based on time utility. The information collected from focus groups further indicates that there are different sources of market information for their production in the study area. Their source of information are neighboring farmers, developmental agents and traders for their agricultural inputs and outputs.

Conclusion and Recommendations

Opportunities boosting groundnut commercialization and forward pushing factors are conducive agro-ecology, access to market information and locational trade mark of Babile groundnut while indicators of constraints which are considered as hindering factors to groundnut producer farmers' are disease, lack of improved variety of groundnut seeds and price instability. The government should capitalize on the major constraints affecting farmers' groundnut commercialization in the study areas.

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