

## Socio-Economic Determinants of Cassava Production in Eastern Region of Ghana

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**Abstract:** The study examined the determinants of cassava production in Eastern Region of Ghana. A total of 96 farmers were purposively selected across the region. data which comprised information on the socio-economic characteristics and other qualitative tools were employed to explore the study. Data were collected through a structured interview guide, relevant PRA tools and Focus Group Discussion (FGD). The social-economic characteristics were analysed using descriptive statistics such as percentages and frequencies; a combination of PRA tools such as proportional piling, in-depth interviews and personal; observation were used to extract information during the study. The study revealed that socioeconomic characteristics such as age of the farmers, on-farm and off-farm occupation, household size, level of education of farmers, farms size and income were all important factors that affected the production of cassava in the study area. With regard to the benefits and importance of cassava production in the study area, it has become so, imperative to explore ways to improve and increase cassava production by introducing Good Agronomic Practices (GAP) that will enhance productivity among cassava farmers. This will go a long way in ensuring food security, increasing the earnings and improving the livelihood of the smallholder farmers. This study was based in Eastern Region of Ghana but may have implications for other regions in Ghana and other countries in West Africa with similar situation.

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## INTRODUCTION

Agriculture plays an important role in economic growth, enhancing food security, poverty reduction and

rural development<sup>[1,2]</sup>. Studies show that among the arrays of crops grown in the tropics by small holder farmers that constitute the bulk of farming population, cassava stands prominent<sup>[3]</sup>. Cassava is a major source of calories for

<600 million people worldwide and ranked the fourth most important staple in the world after rice, wheat and maize<sup>[1]</sup>. Cassava is regarded as the fastest transition crop globally and remains a staple food for some one billion people in 105 countries the world over where a third of the caloric needs of the people are met. The relevance of the crop to Africa's age-old problem of food insecurity is not in doubt. The tropical root crop, cassava, could help protect the food and energy security of poor countries now threatened by volatile food prices<sup>[4]</sup>.

Cassava is one of the important source of carbohydrate food in Ghana. Cassava in Ghana is largely produced by smallholders on marginal and degraded lands of the humid tropics. Its production is influenced by several factors ranging from geographical to socioeconomic. Production levels of the crop have been increasing on a yearly basis and constitute about 22% of Ghana's agricultural Gross Domestic Product (GDP)<sup>[5]</sup>. Presently, cassava is primarily product for food, especially in the form of fufu for human consumption. But the crop can be processed into several secondary products for industrial market value<sup>[6]</sup>. These products include chips, pellets, flour adhesives, alcohol and starch which are vital raw materials in the livestock feed, alcohol/ethanol, textile, confectionary, wood, food and soft drinks industries. They are also tradable in the international market.

In view of the serious challenges of feeding world population of over 6.1 billion people, it has become imperative to pay more attention to food production issues. About 215 million (43%) sub-Saharan African population is chronically undernourished and unless strong action is taken this may increase to round 315 million in the year, 2010<sup>[7]</sup>. If food production is to keep pace with rapid population growth and demand for food, a new and creative approach to agriculture development must be developed. It is important to emphasize that despite potential benefits stemming from the expansion of the agricultural sector through various government efforts, its overall productivity remain low and the poor performance of agriculture is most clearly evidenced by the low standard of living of these small-scale rural farmers<sup>[8]</sup>. Cassava offers a particularly significant potential for increasing food production and income. Like other agricultural crops, cassava has a role to play in the developing economies.

For sub-Saharan Africa, cassava is regarded as one of the most important crops due to its ability to withstand extreme weather conditions of the terrain and coupled with its less input demand. Smallholder farmers remain one of the most important stakeholders in Ghana's agrarian economy. Even though the contribution of agriculture to Ghana's GDP continues to decline, about

half of the population are still employed in the sector. Cassava farmers in Ghana are mainly smallholder producers with fragmented land holdings who engage the land to feed their family and sell surplus produce for income. About 90% of the food basket of Ghana comes from these small-scale producers<sup>[9]</sup>. Small holder farmers rarely carry out this production in commercial scale. Nevertheless, the smallholder farming sector plays an important role as far as livelihoods for the vast rural population is concerned. Job creation and unemployment are the major challenges for developing country governments and their private sector partners. According to World Bank about 75 million youth are unemployed worldwide and the International Labour Organisation (ILO) also forecast an increase in unemployment of about 1 million people in the developing world in the next two years<sup>[10, 11]</sup>. Hence, the neglect of the smallholder farm sector which holds a chunk of the population in the rural areas would only worsen their social and economic conditions resulting in rural-urban mass exodus.

Socio-economic factors continue to play crucial role in determining the levels of production undertaken and the sort of crops planted. The production levels are not the only areas affected but also the way business enterprises are managed which put the socio-economic characteristics of the farmers into focus<sup>[12]</sup>. Previous studies have concluded that if support is to be extended to crop producers in production locations, their basic characteristics are worth studying to fully understand their needs for need-driven assistance. For instance, Mwaniki<sup>[13]</sup> stressed that boosting agricultural production capacity of farmers requires that adequate information about the socioeconomic characteristics of the farmers become part of the wider strategy to improve production.

Without the study of socioeconomic characteristics determining cassava production among smallholder farmers, many of the farmers will find it very hard to access supports, therefore, it becomes imperative to examine the socioeconomic determinant of Cassava production. The study will also explore the involvement of women in cassava production to provide baseline information for policies and actions with a view to reducing poverty and improve household livelihoods. Against this background, the research provided answers to the following research questions:

- What are the socio-economic characteristics of the cassava farmers?
- How involved are the respondents in cassava production?
- What is/are the main reason(s) for engaging in cassava production?

- What is the mode of cassava planting in the study areas?
- What are the major ways of marketing the harvested cassava?
- What are the challenges faced in cassava production?

## MATERIALS AND METHODS

**Data source and sampling framework:** This study was carried out in the West Akim District of Eastern Region of Ghana. The West Akim is one of the (26) Districts in the Eastern Region currently. The 2010 Population and Housing Census put the population of the district at 108,298 made up of 48.2% male and 51.8% female or 52,208 and 56,090, respectively. The study was conducted in the operation areas where the farmers are involved in cassava farming. The locations selected from the district were Asikasu, Kumikye, Asuotwene, Osenase, Nyarkoma, Oben Yaw and Akyeremanteng. About 96 cassava farmers in these operation areas were purposively selected for the study. These communities were purposively selected among other communities for such attributes as the availability of cassava farmers, the predominance of medium to small scale cassava farmers, availability and assurance of cooperation of participants, existence of cassava markets in the communities and proximity and accessibility of survey sites. Data were collected through a structured interview guide, relevant PRA tools and Focus Group Discussion (FGD).

**Sex:** As shown in Table 1, 58.3% of the respondents are male and 41.7% are female which further confirmed Abdul-Kareem and Şahinli<sup>[14]</sup> that female the gender of a farmer influences the size of land available for production. This is a reflection of a socio-cultural phenomenon that makes situations difficult for female farmers to acquire land for production.

**Age:** The mean age of the respondents was 31.8 years. Majority (93.7%) of the respondents in Table 1 are in their active ages (18-30, 31-40 and 41-50). This implies that most of the farmers in the study areas were very active to carry out agricultural activities. Age is considered to be an important characteristic in decision process of an innovation<sup>[15]</sup>.

**Marital status:** Majority (62.5%) of the respondents in Table 1 were married, 24.0% were single and 9.4% were widowed. The predominance of married persons that participated in activities implies that they are ready to improve their livelihood and that of their families, since, marriage is often associated with occupational stability and responsibility<sup>[16]</sup>.

Table 1: Distribution of respondents by their socio-economic characteristics (N = 96)

Characteristics/Categories	Frequency	Percentage	Mean
<b>Sex</b>			
Male	56	58.3	
Female	40	41.7	
<b>Age</b>			
18-30	32	33.3	31.8
31-40	39	40.6	
41-50	19	19.8	
51-60	6	6.3	
<b>Marital status</b>			
Single	23	24.0	
Married	60	62.5	
Widowed	9	9.4	
Separated	3	3.1	
Divorced	1	1.0	
<b>Educational level</b>			
No formal Education	14	14.6	
Adult Education	9	9.4	
Primary Education	11	11.5	
Secondary Education	14	14.6	
Diploma	27	28.1	
HND/BSc and above	21	21.9	
<b>Household size</b>			
1-3	62	64.6	3
4-6	30	31.2	
7-9	4	4.2	
<b>Farm size (ha)</b>			
1-3	81	82.0	
4-6	15	18.0	
<b>Average annual income from on-farm occupation (GH)</b>			
1,117.55	1	1.0	
1,862.57	2	2.1	
2,607.59	16	16.7	
3,352.62	72	75.0	2,999.50
<b>Average annual income from off-farm occupation (GH)</b>			
372.510	5	5.2	
1,117.55	12	12.5	
1,862.57	9	9.4	
2,607.59	15	15.6	
3,352.62	34	35.4	1,928.528
2,849.94			
<b>Total average annual income from main and minor occupation (GH)</b>			

Field survey, 2019

**Education level:** A greater percentage of the respondents in Table 1 were literate, this comprises 28.1% having Diploma; 21.9% with Higher National Diploma/Bachelor of Science and above; 14.6% having secondary education; 11.5% with primary education and 9.4% with adult education while the remaining 14.6 had no formal education. This implies that the respondents were literate and were more likely to utilize information on agriculture for enhanced food production. Egbule<sup>[17]</sup> stated that education plays an important role in creating awareness in farming communities because educated people are capable of sourcing information on agricultural innovation.

**Household size:** The mean household size of the respondents according to Table 1 was 3. Majority (64.6%) of the respondents have a household size of 1-3,

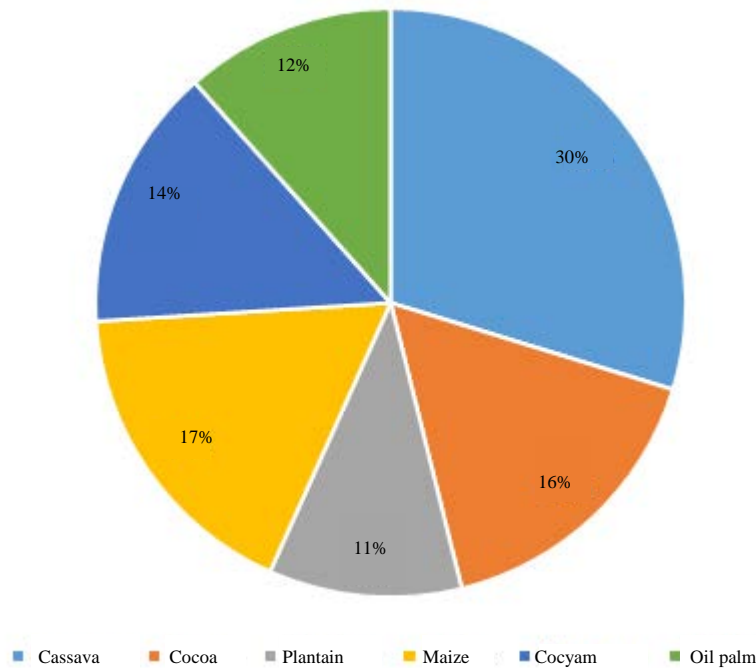


Fig. 1: Pie chart showing the involvement of the respondents in Cassava production

31.2% have 4-6 and 4.2% have a household size of 7-9. This implies that respondents have access to family labour which will positively increase agricultural production<sup>[18]</sup>.

**Farm size:** A greater percentage (82.0%) had a farm size of 1-3 ha and 18.0% had 4-6 ha. This according to Aboajah *et al.*<sup>[18]</sup> implies that the respondents are small scale farmers. Commercialisation of the sector is still an issue in Ghana. Farmers who have the monetary resources and able to increase their farm size have the tendency to increase their farm outputs. The findings support that of Onu and Edon<sup>[19]</sup> and Etwire *et al.*<sup>[20]</sup>. This means more output are realised with marginal increase in the quantity of land under production.

**Income:** Majority (75.0%) of the respondents according to Table 1 have an average annual income of GH 3,352.62 and 16.7% have GH 2,607.59 from on-farm occupations. The average income of GH 3,352.62 showed that farmers with low income according to Aboajah *et al.*<sup>[18]</sup> will not be able to purchase subsidized farm inputs provided by the government. This implies that respondents with high on-farm income are most likely to purchase government inputs. Likewise, 35.4% of the respondents have GH 3,352.62 as average income from their off-farm income, 15.6% have GH 2,607.59, 9.4% have GH 1,862.57 and 12.5% have GH 1,117.55 as the average income from their off-farm occupation.

## RESULTS AND DISCUSSION

### Involvement of the respondents in cassava production:

It was evident that a greater number of the farmers are involved in the production of Cassava as against other most common crops in the study area. This further confirms the view of Abdul-Kareem and Şahinli<sup>[14]</sup> that smallholder farmers remain one of the most important stakeholders in Ghana's agrarian economy. Even though the contribution of agriculture to Ghana's GDP continues to decline, about half of the population are still employed in the sector. Cassava farmers in Ghana are mainly smallholder producers with fragmented land holdings who engage the land to feed their family and sell surplus produce for income. About 90% of the food basket of Ghana comes from these small-scale producers<sup>[9]</sup>. The operation is rarely held in commercial quantities. Other crops planted with cassava in study locations are citrus, cocoa, plantain, maize, cocoyam and oil palm (Fig. 1).

**Main reason(s) for engaging in cassava production by the respondents:** With the aid of a combination of PRA tools such as proportional piling and in-depth interviews, it was discovered that most farmers in the areas are involved in cassava production because it is a good means of livelihood as most of the foods consumed in the district are derived from cassava and such food include fufu, banku (mixture of corn and cassava dough), ampesi (boiled cassava), Konkontey (cassava flour) and gari. Cassava is regarded as the fastest transition crop globally

and remains a staple food for some one billion people in 105 countries the world over where a third of the caloric needs of the people are met. The relevance of the crop to Africa's age-old problem of food insecurity is not in doubt. The tropical root crop, cassava, could help protect the food and energy security of poor countries now threatened by volatile food prices<sup>[4]</sup>.

The findings also indicated that cassava farming is usually practiced by the men while the women process the produce except in few cases where the women are involved in cassava production and processing.

**Mode of cassava planting in the study area:** In all these areas, cassava stems are always planted in the flat soil without ridges and no regular line; though some of the farmers planted in a coordinated line while a greater number planted as they wish. In all the areas, the major roles of cassava production is the generation of cash income and food and nutrition. Cassava farmers in Ghana are mainly smallholder producers with fragmented land holdings who engage the land to feed their family and sell surplus produce for income<sup>[14]</sup>.

The major type of cassava planted in the areas are madumaku (I would eat and die), Tuaka (pay your debt), Maa Yaa (named after who brought it), Bankye Fita (White cassava) and Busume Nsia (6 months cassava). It was discovered that most of the farmers sell their cassava as roots still in the soil and the buyer takes care of the harvesting.

**Challenges faced in cassava production:** With the aid of in-depth interviews and observation during the study, the following were discovered to be the major challenges of cassava farmers in the study area:

Most of the farms were far, hilly and bushy. This will go a long way in hindering the farmers from accessing the needed market for the produce as poor road networks and transport infrastructure and high transport cost where available are some of the major issues.

Few farmers are involved in cassava production in some of the communities because they believe it is a waste of their fertile land, so, they tend to be involved in production of major cash crops such as cocoa, citrus and oil palm. There is limited technical know-how in cropping improved varieties and poor agronomic practices. Continuous use of indigenous, low yielding cassava varieties.

## CONCLUSION

The study however showed that the age of the farmers, the occupation, level of education of farmers, household size and farm size all contributed to the rate of cassava production in the study areas. By implication

these socioeconomic characteristics were critical determinants of cassava production in Eastern Region of Ghana. With regard to the benefits and importance of cassava production in the study area, it has become so imperative to explore the ways to improve and increase cassava production by introducing good agronomic practices that will enhance productivity among cassava farmers.

This will go a long way in ensuring food security, increasing the earnings and improving the livelihood of the smallholder farmers. This study was based in Eastern Region of Ghana but may have implications for other regions in Ghana and other countries in West Africa with similar situation.

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