Impact of Ginger Production on Poverty Alleviation in Kaduna State: Case Study of Jaba Local Government Area

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ABSTRACT

The study assessed ginger farming practices and poverty alleviation in Jaba Local Government area of Kaduna State which is the largest area of ginger production in Nigeria. Ginger is majorly produced in the northern part of Nigeria and Jaba is the highest producing area. The method used in the study is both descriptive and inferential. Logistic model was used for data analysis. The findings show that ginger farming influences poverty reduction in Jaba Local Government Area. Ginger farming is however faced with major challenges such as rainfall abnormality market glut and lack of sufficient fertilizer, middle men problems and processing at the village level, lack of credit facility and direct access to international market are other constraint that exceeds the strength and capabilities of ginger farmers. Ginger production has high potentials in alleviating rural poverty which increases political participation and moderate living standard. The study recommends that, ginger farmers should be sensitized on the benefits of value added strategies, new ginger sowing techniques should be explored and the government should regulate the activities of the middle men by establishing market board and provide attractive policies and avenue for ginger investors. Furthermore, the study findings show that there is no significant role played by Government to encourage ginger farmer, no funds specifically are set aside as loans to argument ginger farming. Each ginger farmer depends on his ability and resources for farming. It was concluded that ginger as a subject of agricultural sector has a significant impact on revenue generation and farmers' income hence reduce poverty.

Keywords: Ginger production, poverty alleviation
JEL Codes: M60, S35

1. INTRODUCTION

The ginger production in Jaba Local Government has been an old traditional farming practiceusing crude implements which has been on for decades. The ginger production is the only source of financial and economic reliance in the area of study. Parents depend on ginger production for children school fees and clothing. The November/December period is the harvesting period where resources derived from the sales are used for the Christmas festive period where new clothes are brought in the early seventies, so many students who got admission into secondary schools could not afford topay for the fees because ginger production at that period was basically for domestic consumption and not in any large commercial purposes.

Ginger is a popular commercial crop not only among Sri Lanka's but among South Asiansand Europeans for the ancient times for various purposes. In Sri Lanka, ginger is commonly cultivated in Karunegala, Kandy, Kegalle, Gampaha and Nuwaraeliya Districts. The climate and soil conditions along with inherent atmosphere made ginger farming more productive. These are assertions made by Dewanarayana and Wimalaratana (2018) Meghalaya: ginger is a traditional crop

in Umroi district. It is cultivated on slopes, the most popular variaties that are grown in Umroi. Ginger cultivation is done using traditional method, they include digging spade.

Nigeria: Nigeria produces an average of 50,000 metric tonnes of fresh weight ginger per annum Ezeagu (2006) about 10% of the produce is consumed locally as fresh ginger while the remaining 90% is dried for both local consumption and export. According to Ezeagu (2006), 20% of the dried ginger is consumed locally for various uses and 80% is exported. Traditionally, ginger is used in Nigeria for both medicine and culinary purposes as well as confectionery industry. Kaduna State: the production of ginger in Kaduna state is mostly through the singular efforts of local formers. A lot of money, time and efforts are invested by the farmers, who are generally illiterates and inherited the cultivation from their parents, with very low input. The local farmers however depend on crude implements old varieties and personal savings as the source of finance Adegboye (2011).

Ginger (*Zingiber officinale*) is a rhizome ginger roots which consist of numerous short finger-like structures or branches born horizontal near the surface of the soil, two commercial varieties are commonly cultivated in Jaba local government area. The yellow ginger variety called ―tafin giwa‖ and has yellow rhizome flesh, stout with short internodes. The other is the black ginger variety which is not common. The yellow ginger variety has a high commercial value than the black type, the yellow varieties has a high yielding capacity and pungency (Kure, 2017) ginger is produce in several parts of Kaduna State and to a little extend in Keffi and Akwanga Local Government Areas of Nassarawa State (Dauda and Waziri 2006).

Although there are many studies in the area that have attempted to describe and analyse the profitability of ginger farming and its associated livelihood mechanism such as the Kaduna Agriculture and Development Project, (KADP) (Shelin,2013 and Sati and Bala, 2017). However not much attempt has been made to describe the ginger farming practice in Jaba Local Government areaof Kaduna State. This is highly imperative because it will help in revealing and understanding the nature of production process potentials, challenges, constraints and the impact on poverty alleviation. It will highlight specific aspect that would require intervention. This paper is to describe the impact of poverty alleviation of ginger production in Jaba Local Government. Examine the importance and preference of ginger production in Jaba LocalGovernment Are of Kaduna State.

2. LITERATURE REVIEW

2.1 Conceptual Clarification

2.1.1 Ginger Crop

Ginger (*Zingiber officinde*) is a flowering plant in the family of *Zingiberaceae.* It has green towering leaves and gradually turns yellow when matured. Ginger roots is widely used as a piece or folk medicine. Ginger is the rhizome of a perennial herb (Factfish, 2013). Ginger is an *herbaceous* perennial plant belonging to the order *Scitamineae* and the family of *Zingiberaceae.* Ginger is a root crop like yam, potato and cassava and a typical herb extensively grown across the world for its pungent aromatic under-ground stem or Rhzome which makes it an important export commodity in world trade (Ndanmadu and Marcus,2013). Ginger has to some extent increased the economic base of local farmers in Jaba Local Government. Heretheto, they lived in mud and thatched houses, without televisions, radio andare unable to save money. Local ginger farmers now lived in concrete block buildings with iron sheet, have television and mobile phones, bore holds for water supply in communities.

Oseni, Ogunlade, Oyetunyi and Sanni (2012) define the concept of poverty alleviation as the means of improving the living conditions of people who already are poor. Poverty reduction and economic improvement are intended to raise and enable the poor to create wealth for themselves as a means for ending poverty forever. Ginger is commonly used for the treatment of various types of illness like stomach upset, diarrhoea, morning sickness, nausea and vormiting. Ginger is useful for ginger tea and it can also be used to make ginger juice and spices. Dry ginger can be used for food flavouring and in food processing industries (NBS, 2013).

2.1.2 Ginger Processing

Ginger in the Jaba region is processed locally in raw form, there exists no factory or mechanical devices used in adding value to it. The local processing involves slicing or peeling the fresh ginger tubers into parallel parts with knife and kept it under sunny open space to dry, which usually takes about two weeks. After that, it is packed in sacks for sales or storage. The nature in which the drying and packing is done at individual farmers' level, determines the type of selling quality grade. Where the fresh ginger tubers were thoroughly washed, well sliced and dried ina good condition, free from laden dust particles or stains, it results in having a physicallyclean and whitish or light cream stuff known as 'American Standard'.

The 'American Standard', has the highest selling price grade, depending on the nature of market, it attracts a price range of =N=12,000 to =N=20,000.00 per 40Kg weighted sack, by 2014 and about =N=30,000 by 2019 Next to that is 'Zero Mozo', this is the ginger stuff that is well sorted and free from Mozo but is not as clean as the 'American Standard' type. Mozo is the ginger tuber that dries before slicing, usually as a result of inadequate moisture at certain stage of the plant growth, damage by insects, or got rotten. A 40K weighted sack of Zero Mozo, sometimes referred to as grade 1 type, attracts a price range of =N=15,000 to N=20,000.00. The last category is the unsorted, which contains Mozo and all sorts of ginger residues. A sack of this kind, usually un-weighted, attracts a price range of =N=10,000 to =N=15,000.00 or more, depending on the size of the sack used. Sati and Bala, (2017)

2.2 Theoretical Framework

The theory adopted for this study is the Basic Need Theory the theory states that different needs are active at different times and only those needs not yet satisfied can motivate people. The needs arranged in a fixed order of importance called hierarchy and once a lower need hasbeen met the individual is motivated with unsatisfied needs. The basic knowledge is that people have needs and desire to satisfy their needs would motivate them to engage in activities that will help them satisfy those needs. The needs arrange in hierarchical order starting from the basic needs to self-actualization needs as follows: (a) Basic needs; food, shelter, and clothing (b) safety needs: freedom from harm and deprivation (c) social needs; friendship and team work; and (d) self-esteem needs; that is acceptance of self as having value.

According to Oloyode (2014) the basic theory focuses on the need to produce education, housing, sanitation, nutrition, water supply and health. Basic approach also includes raisingthe production and the incomes of the poor which basically depend on the direct provision of health-care and eduction which may, with time, increase the income of the poor so that they can afford some basic needs.

According to the theory, poverty can only be attacked or eradicated if the basic needs, especially education and health care which eventually constitute variables for the estimation of the political and economic might of the poverty model (Oloyode, 2014). The weakness of this theory stem from the fact that it is difficult to evaluate empirically because the theory lacks specification. Again, basic needs theory is more concerned with alleviating poverty without giving due attention on its root cause. Despite the weakness of the theory, its strengths lies on awareness of the emotions It has generated. Ginger as the subset of agricultural sector has a significant impact on revenue generation and farmer's income hence reduce poverty.

Ginger is a cash crop that has potentials to attract foreign exchange to Jaba Local Government Area, Kaduna State and Nigeria as a whole. Exchange and interest rates had negative coefficients but were statistically significant in influencing the expert performance of ginger in Nigeria in the long run. Ginger has a positive impact in the lives of ginger farmers with a significant upward improvement on alleviating their poverty level. Alabi, et al. (2020). Ginger Expert responded positively in

changes in the year lag (2019) producers price of ginger to domestic price. The price varies and quantity exported enhanced export of ginger supplied, this directly affected the living standard of ginger farmers in Jaba Local Government Area positively.

The most significant critique of Maslow's hierarchy concerns his unscientific approach, use of unreliable samples and the specific research method he used to draw conclusions such as the personal observation and biographical analysis. The main weakness of the theory is that they do not explain why or how motivation is developed and sustained

2.3 Empirical Review

There are studies on the relationsship between ginger farming and poverty alleviation. Ezra, Akinola, Banta, Makarau and Hussaini, (2017) carried out study on political and socio economics of ginger production in Jaba Local Government Area of Kaduna State. The study examine the political and socio economic characteristic of ginger production and assessingthe extent of profitability of ginger production in the study area. Primary data were obtained by the use of questionnaire to 60 farmers that were purposively selected from four wards, namely: Daddu, Samban, Nok, and Sab-Zuro. The data were analyzed using descriptive statistics, multiple regression analysis, gross margin and productivity. The finding shows that education, credit, and farm size had a significant influence on ginger production. The study fail to clearly state the extent of profitability of ginger production in the study area.

Yusuf, (2016) conducted a comparative analysis of gender accessibility to productive resources in ginger production for poverty alleviation in Kaduna State, Nigeria. The study examine the sources and quantities of resources accessed by the ginger farmer's for ginger production and the effect of accessibility to resource on the poverty status of the ginger farmers. Simple random sampling techniques were employed to select 250 ginger farmers from Kachia, Kagarko and Jaba Local Government Areas. Primary data were obtained by the use of questionnaire. Descriptive statistics, regression model, Foster, Greer, Thorbecke and logit models were used to analyse the data. The result revealed that women did not have as much access to land as men; the result also revealed that household size, income, membershipof cooperative association and access to credit had a significant influence on gender accessibility to land resources. The result further shows that the headcount index of poverty incidence was 40% for the male headed household while it was 68% among the female headed houschold. The logit result show that accessibility to productive resources has effects on the poverty status of the farmers significantly at $p<0.01$. The study concluded that gender accessibility to productive resources had significant effect on the poverty status of ginger farmers. Yusuf, (2016).

Darnal, & Bandyopadhya, (2014) conducted an assessment of intervention needs for enhancing ginger production in selected areas of Darjeeling district, West Bengal. The study determined the economic and communications needs to increase ginger production. Simple random sampling techniques were employed to select the ginger growers, Pearson's Correlation Co-efficient was used to analyse the data. The result of the study revealed that intervention needs to market orientation was positive and significantly related. Result further shows that farm size, family size, family type and economic motivation has a positive and insignificant relationship with intervention. Family size, family type shows negative relationship with intervention needs on education.

Mailumo, Dawang, & Okeke-Agulu, (2014) carried out a study on the increasing production efficiency of ginger for poverty alleviation in Kaduna State, Nigeria. The study examined the determinants of farm output in ginger crop farming. The study used multi-stage simplerandom sampling to collect data from respondents. Cobb- Douglas Stochastic frontier production and cost functions using the maximum likelihood method was employed in analysing their data. The results showed that fertilizer, herbicides and labour were significant in contributing to increase in ginger output and in turn have impact on the farmer's well- being.

Ayodele and Sambo, (2014) examined the production and efficiency of low technologyresource use by farmers in the ginger production areas of Southern Kaduna. The multi-stage sampling technique was used in collecting data from respondents. Both descriptive statistics and Cobb-Douglas stochastic frontier production function were used. The finding revealedthe existence of inefficient use of resources, that is, under-utilization of resources by ginger producers in the study area, which is in line with the finding of Nandi, et al, (2011). The result further showed that factors such as, age, household size, farming experience and gingervariety contributed positively to technical and allocative efficiencies of ginger production.

NdanMadu, and Marcus, (2013) examined the efficiency of ginger production in selected local government areas of Kaduna State, Nigeria. They examined the costs and returns of ginger farmers and technical efficiency of ginger production. Purposive and random sampling were used in selecting respondents, both descriptive and inferential statistics, the gross margin analysis, cost and return analysis and the Cobb- Douglas Stochastic frontier production function were employed. The finding revealed that the net income earned was greater than the total cost incurred. The result of both production function and technical efficiency revealed that four variables in the model; labour, seed, fertilizer and capital input significantly impacted on the farmer's standard of living while farm size and agrochemical were insignificant.

3 METHODOLOGY

3.1 Research Design

The research Design in this research is the case study which is interchangeable with qualitative research. Qualitative approach provides an in-depth understanding of the importance of the research and in accordance with the research questions. Adopting a case study in research design will give room for multiple data collecton. Case study is directly related to qualitative research, especially when researchers are new to qualitative research (Merriam and Tisdell, 2015). Qualitative case study is an in-depth data collection involving multiple sources of information such as observation, interview, audio visual materials documents and reports (Merriam and Tusdell, 2015). Research design is a logical plan for getting from here to there.

3.2 Location of the Study

The location of the study is the Jaba Local Government Area, Kaduna State. Jaba Local Government is located at the Southern zone of the state and is bounded by Jema'a, Zango Kataf, Keffi, in Nasarawa State, Kachia and Kagarko Local Government Areas.

3.3 Population of the Study Area

According to the National Population Census of 2022, Jaba Local Government estimated population is about 262,768. Jaba Local Government comprises the following political wards: Chori 19,437; Daddu 66,525; Dura/Bitaro 20,760; Fada 22,787; Fai 25,896; Nduya 20,450; Nok 11,384; Sabchem 45,764; Sabzuru 13,949 and Samban 15,816.

3.4 Sample size

Purposive sample size approach was adopted to know the farmers who have the experience inginger farming of not less than eighteen (18) years. This is taken using the saturationapproach, that is, individuals who have in-depth experience (Creswell, 2012). In qualitative research, it is not about the number but people who have the experience, consequently eighteen (18) have been chosen who are made up of fifteen (15) farmers and three (3) government officials from the Department of Agriculture, Jaba Local Government Area. The Eighteen (18) farmers who have had experience in ginger farming for not less than ten (10) years and three (3) Government officials from the Department of Agriculture on the basis of their involvement as officials who for the past fifteen (15) years have been monitoring farmers activities in the local government.

3.5 Method of Data Collection

Primary and secondary types of data were utilized in this study. This method was adopted to enable us to be well informed of things we cannot observe such as feelings, thoughts and intentions. We cannot also observe behavior that took place at previouspoint of time. Data were collected through interviews, observation and focus group discussions.

3.6 Sampling procedure and data collection

Multistage sampling procedure was used. The Jaba LGA was purposively selected, known as major areas of ginger production. Secondly, villages from Jaba LGA were randomly selected. Lastly, from a sample frame of ginger farmer in the area, respondents were randomly selected. Primary data for the study were generated using a structured questionnaire.

3.7 Analytical Techniques

Both descriptive and inferential statistics were employed to analyze data and address study objectives. For the inferential statistics, poverty index, Foster-Greer-Thorbecke (FGT, 2010) and Logit regression models were applied. These are explicitly expressed as,

$$p\alpha = \frac{1}{N}\sum_{I=i}^{} \left(\frac{Z-Y_i}{Z}\right) \quad 1$$

For poverty line index

$$P_0 = \frac{q}{N} \quad \text{.....} \quad 2$$

P_0 = headcount index/ratio (incidence of poverty)

$$p1 = \frac{1}{N}\sum_{I=i}^{} \left(\frac{Z-Yi}{Z}\right) \quad \text{.....} \quad 3$$

$$P1 = \text{poverty gap index} \quad \frac{1}{N}\sum_{I=i}^{} \left(\frac{Z-Yi}{Z}\right)^2 \quad . \quad 4$$

$$p2 =$$

P_2 = squared poverty gap index (measuring seventy of poverty)

Where

z = poverty line;

Y = income of respondents below poverty line and

N = number of households.

Logit regression model was used in the study to determine the factors that influence poverty status. The model is expressed as:

$$Y_i = \beta_0 + \beta_1 X_1 + \ldots + \beta_n X_n \quad (5)$$

Where: Y = poverty status of farmers X_1 = age (years); X_2 = education (years); X_3 = family size (number of persons) X_4 = farm income (₦); X_5 = farming experience (years) X_6 = non-farm income (₦); U_i = error factor

A 3-point Likert-type scale was used to appraise the severity of the constraints identified, with weightings of 3 (very severe), 2 (severe) and 1 (mild).

4. RESULTS AND DISCUSSION

4.1 Socio-Economic characteristics of Ginger Farmers

The distribution of the respondents based on their socio-economic characteristics is shown in Table2. The results showed that over half of the respondents (56%) fell within the age group of 25-34 years, followed by those that fell in the age group of 35-44 years (23%). The mean age of the sample was 32.2 years indicating that majority of the farmers were within the active and productive age which invariably ensures high productivity. This agrees with the findings of Usman *et al* (2016) who reported that 80% of the respondents were within the active age of 26-50 years in their study of crop farmers in Nigeria.

Table 1: Distribution of ginger farmers based on socio-economic characteristics

Socio-Economic characteristics	Frequency (n = 440)	Percentage (%)
Age (years)		
15 – 24	52	11.82
25 – 34	253	57.50
35 – 44	104	23.64
45 – 54	25	5.68
55 – 64	6	1.36
Level of education		

None	120	37.27
Primary	267	60.88
Secondary	49	11.14
Tertiary	4	0.91
Family size (Nos)		
1 – 2	9	2.05
3 – 4	193	43.86
5 – 6	232	52.73
7 – 8	5	1.14
9 – 10	1	0.23
Marital status		
Single	122	27.73
Married	318	72.27
Farming experience (years)	41	9.31
< 10		
11 – 20	179	40.69
21 – 30	133	30.22
> 30	87	19.77

Source: field study, 2023

The results in Table 1 also revealed that 53% of the households had 5 – 6 persons, while 43% of them had 3– 4 persons; the average household size being 4.5 persons. On the number of dependants, results showed that 51% of the respondents had less than 4 dependents, while 27% had 4 – dependants. Only 3% had more than 10 dependants. Invariably, households with more children had fewer dependants. The implication is that large household size will intensify poverty depth.
The result in Table 1 also showed that majority of the respondents only had primary education, representing 60%, while 11% had gone up to secondary school. About 27% had no formal education. While only 1% had gone through tertiary education. On marital status, results showed that majority of the ginger farmers sampled (73%) were married while 27.7% identified as singles. In terms of years of experience, over 71% of the respondents had between 10 and 30 years of experience in ginger production, only 9.39% had less than 10 years experience. Farming experience is related to the age of the farmer. That is, the older a farmer is, the more likely the years of farming experience.

Measurement of poverty status of ginger farmers

The incidence of poverty prevailing among the sampled ginger farmers was determine using the headcount index. This is the proportion of the population whose income is below the poverty line- who cannot afford to buy a basket of basic goods.

Table 2: Mean poverty estimates for the sample

Indices	Index value (%)
Headcount index (P_0)	56.591
Poverty gap index (P_1)	41.717
Poverty severity index (P_2)	29.40

Source: field study, 2023

The results in Table 2 showed that majority of the sampled ginger farmers are poor considering that more than 56% of them fell below the poverty line. The poverty gap (P1) in Table 3 (41.7%) showed the depth/intensity of poverty, among the respondents. It accounts for how poor the poor are and the index of 41.7% implies that, on the average, the sampled ginger farmer have an expenditure shortfall of about 42% of the poverty line. The severity poverty index (P2) for the sample was given as 29.40%. This index takes into account not only the distance separating the poor from the poverty line (poverty gap), but also the inequality among the poor, giving more weighting to the very poor.

Factors influencing the poverty status of ginger farmers

The maximum likelihood estimates of the coefficients of the logit regression model for factors influencing the poverty status of the respondents are presented in Table 3.

Table 4: Maximum likelihood estimates of coefficients of logit model

Variable	Coefficient	t-value
Constant	- 0.829	3.167***
Age	- 0.302	1.557
Level of education	- 0.109	2.729***
Dependants' ratio	0.323	2.314**
Farming experience	0.422	1.589
Farm income	- 0.399	4.110***
Non-farm income	0.101	1.372

Source: field study, 2023.

* P < 0.01

The results showed that three of the six exploratory variables regressed in the model were statistically significant, viz, the educational level of household head, the dependency ratio and farm income. The educational level attained by household heads had an inverse relationship with the respondents' poverty status implying that the higher the literacy status of the household head, the lower the likelihood of the household becoming poor. The dependency ratio was also significant

and positively related to poverty status. The results also indicated that the poverty status of the respondents was significantly and inversely related to farm income. The regression coefficient of 0.3999 implies that a unit increase in the size of household farm income would lead to a reduction of poverty by about 40%.

Factors influencing the intensity of poverty among sampled ginger farmers

The estimates of the factors influencing the intensity of poverty status (Logit model) among the respondents are shown in Table 4.

Table 4: Estimates of the factors influencing the intensity of poverty

Variable	Coefficient	t-value
Constant	-2.221	1.137
Age	1.64	1.243
Level of education	0.115	1.114
Dependents' ratio	1.458*	3.518***
Farming experience	1.275	1.11
Farm income	-1.121	4.024***
Non-farm income	-0.162	0.853

Source: field study, 2016 ** P<0.01*

The results in Table 5 showed that only two factors, namely dependants' ratio and farm income, significantly influenced the intensity of poverty. The odds in favour of farm income reducing poverty is more than 1.5 times with a probability of 0.61 and is highly significant (P<0.01).

Constraints affecting ginger production in the area

Identifying the major constraints affecting ginger production in the study area was achieved using a 3-point Likert type scale to appraise the severity of the constraints. Using a benchmark (mean) of 2, the result of Table 6 showed that the mean scores ranged from 1.92 to 2.61.

Table 6: Distribution of respondents based on the severity of identified constraints

Severity of constraints

Constraint	**Very severe (3)**	**Severe (2)**	**Mild (1)**	**Mean (X)**
i. Inadequate funding/capital	307	94	39	2.61
ii. Inadequate supply/availability of farm inputs	246	143	51	2.44
iii. Poor pricing of produce	294	117	29	2.60

iv. Poor yield of crops	221	173	46	2.39
v. Delays in the supply of farm inputs & credit	143	144	142	2.00
vi. Few and irregular extension/advisory visits	245	128	67	2.40
vii. Technical nature of improved technologies	131	142	167	1.92
viii. Non-membership of cooperative/farmer groups	140	152	148	1.98

Source: field study, 2023

Results in Table 5 showed that inadequate funding/capital topped the list of constraints with a mean score of 2.61, followed by poor pricing of produce (2.60) and inadequate supply of farm inputs (2.44). Two of the constraints, technical nature of improved technologies (1.92) and non-membership of cooperative farmer groups (1.98), fell short of the benchmark (2) while delays in the supply of farm inputs and credit barely made the mark at 2.00. The non-delays in the supply of farm inputs and credit may be as a result of the activities of some NGOs. Invariably, the more severe the constraints, the more likely they would impinge on the likelihood of ginger farmers escaping the poverty trap.

5. CONCLUSION AND RECOMMENDATIONS

The results of the study indicate that majority of the sampled ginger farmers fell below the poverty line of US$1.90 (N684) per day. The poverty gap index and poverty severity index figures of 41.71% and 29.40% respectively, affirmed the precarious poverty status of the respondents. The results of the study revealed that three factors, namely educational status, dependants' ratio and farm income significantly influenced poverty status of ginger farmers ($P<0.01$). However, only the dependants' ratio and farm income were shown to significantly influence the intensity of poverty among the respondents. The determination of the factors influencing poverty status and intensity of poverty, as well as the identification of major constraints affecting ginger production would invariably provide the benchmark for veritable policy interventions.

The findings of this study have far-reaching implications for poverty reduction among the sampled respondents through increased ginger production and farm income. The study therefore recommends that more efforts should be geared towards the provision of adequate farm inputs and credit by government and the NGOs operating in the area. The study also encourages the formation and membership of corporative and farmer groups to enhance bargaining power and economics of scale.

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