

## Impact of Block Farming on Livelihood of Farmers in the Eastern Region of Ghana: A Case Study of Block Farmers in the Kwahu West Municipality and Kwahu South District

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### Abstract

Ghana has implemented a lot of programmes and projects in the agricultural sector over the years that seek to reduce poverty enhance food security and also to improve farmers output as well as their productivity. Block farming is one of these projects that provided credit to farmers in term of inputs supply in a form of improved varieties of seeds, fertilizers and technical assistance in order for farmers to earn an appreciable returns and pay for the inputs after the crop season.

As a result of these the research seeks to assess the impact of block farming on livelihood of farmers in two beneficiary areas, the Kwahu West Municipality and Kwahu South District in the Eastern Region of Ghana. A simple random sampling technique was used to collect the data of block farmers and was analyzed using descriptive statistics. Findings revealed that most of the block farmers were in their active age, mainly of males and depend solely on farming for their livelihood. Almost all of the block farmers are motivated to go into block farming to earn a living and get readily available market for their produce. The block farming programme have had a moderately positive and significant impact on livelihood of farmers in Kwahu West Municipality and Kwahu South District in terms of farmers' output, profit making, improvement in standard of living and revenue gain from sales of produce.

**Keywords:** Municipality, Block farming; Agriculture

### Introduction

Ghana's economy has depended on agriculture since independence. Efforts have been made over the years to increase industrial production and employment in the manufacturing sector. Despite all these efforts, agriculture has maintained an enviable position as a major contributor to the national Gross Domestic Product (GDP), accounting for an average of 40.1 percent of the country's total GDP during the period 1996-2002 [1]. The sector creates employment for about 60 percent of the population, from production to marketing of various agricultural produce and contributes to government tax revenue enormously. Despite all these major contributions of agriculture towards the wealth of the Ghanaian economy, little credit facilities are available to the sector. The percentage of credit provided by the Deposit Money Bank (DMB) to agricultural sector has been on a persistent decline compared to the volume of credit to the non-agricultural sectors.

Credit is a very essential component in the modernization of agricultural activities. Baker and Holcomb [2] observed that increased productivity of farm resources comes from innovations that originate in the farm supply sector. However, most of these innovations that have the potential of instigating modernization of agricultural activities require high capital investment, which cannot easily be provided by the informal credit sector such as friends, money lenders and so on. Income obtained by subsistent farmers from both on-farm and off-farm activities is also not adequate for the needed agricultural transition or growth. As a result, most of these farmers grow crops and rear animals on smaller scales due to their financial constraints.

Based on the tremendous contribution of agriculture to the economy, the productivity of the agricultural sector has great implications for country. From research conducted so far about 30 percent of the Ghanaians were predominantly into farming. Agriculture is highly input intensive and agricultural products are used extensively by a number of agro-based firms in the country and as a reduction in credit to the sector will have the potential of affecting both upstream and downstream firms. The persistent decline in credit to agriculture and its trend must be checked to curtail any long-run adverse effects.

Majority of Ghanaians, about sixty percent (60%) lives in rural areas and depends either directly or indirectly on agriculture for their livelihood and survival. According to Green et al. agriculture plays an important role in economic growth, food security, poverty reduction, livelihoods, rural development and the environment.

Farming is dominated by smallholder production, estimated to contribute over 90% of the national food production with the majority of these small-holder producers being among the poorest households in Ghana. Rice and maize are the two main staple crops that are produced and consumed in Ghana and also important component of poultry, livestock feed and to a lesser extent, substitute in the brewing industry. Maize is an important commodity in West Africa sub-regional trade, particularly between Ghana, Burkina Faso, Mali, Togo and Niger through mainly informal trading.

Maize is grown in the whole of Ghana but the leading producing areas are mainly in the middle-southern part (transitional and forest zones); with an estimated 15% grown in the northern regions of the country. On average, the volume of maize produced in Ghana has increased annually by 3.1% (1997-2006). Currently, the national average maize yield is estimated at 1.7 tonnes per hectare. Using improved technologies, yields of 4-5 tonnes per hectare have been attributed to traditional farming practices, the use of low-yielding varieties, poor soil fertility and limited use of fertilizers, low plant population, and inappropriate weeds control.

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Obviously agricultural production is filled with risks, unpredictability (lack of rainfall, storms damaging crops, etc.) and high inputs use that do not always result in high returns. However generally speaking, improvements can most often be realized by farmers who do invest in using improved seeds, fertilizer, improved production, techniques and receive credit. Of an estimated 5 million small scale farming households in Ghana, more than 1 million (20%) gain a main income from the production of maize. However, production is inefficient and rudimentary. Improved seed use is low, as is fertilizer use and husbandry methods are lacking as are post-harvest handling and strong methods.

Numerous past projects have been implemented in maize and other staple crop production improvement and the techniques and approach have been well proven in many projects starting since 1979. It is calculated that approximately only 22% of maize farmers currently use improved seed and the supply of seed is currently well below the potential demand. Past and present governments have implemented many agricultural programs which tend to place emphasis on quantitative increase in production, lucrative to achieve food security and have significant impact in the reduction of poverty; one of such programs is the block farming.

In the context of Ghana, block farm programme is a component of Youth in Agricultural Programme (YIAP) initiated by the Government of Ghana (GOG) agricultural sector with an objective of motivating the youth to accept and appreciate farming/food production as a commercial venture, thereby taking up farming as a life time vocation. This has necessitated the study to investigate the impact of block farming on the livelihood of farmers (maize) in the Eastern Region of Ghana especially in the Kwahu West Municipality and Kwahu South District to be precise.

## Methodology

Representative information was obtained using a survey approach. A case study was employed in carrying out the study. The design was chosen because the research seeks to assess the impact of block farming on the livelihood of farmers and youth employment. The design is better in describing the real situation or condition as it exists and therefore likely to give accurate information. Other considerations that influenced selection of the design include the objective of the study and the resources available.

The target population for the study was block farmers in Kwahu South District and Kwahu West Municipal of Eastern Region of Ghana. Simple random sampling technique was used to select 150 farmers for the study. The sample consists of 75 farmers from Kwahu West Municipality and 75 from Kwahu South District. By simple random sampling, each of the farmers has equal chance of being included into the sample. Also, it gives a high representation of the features of the population which allows the researcher to generalize the research findings.

The major instrument used for data collection was questionnaire. This had questions that address demographic characteristics of respondents, impact and livelihood, returns before and after. Both closed and open questions were used. The structured questionnaires and interview schedule were administered by literal translation to the local dialect common to the respondents to ensure better communication and retrieve reliable responses. This is because some of the respondents were not able to read and write. Data collection was done by the student researcher in the month of December, 2011 and lasted for two weeks. A focus group discussion was also used.

Descriptive statistics such as frequencies and percentages, standard deviation and inferential statistics were used to describe the data. The results or findings obtained were presented in the form of tables, pie and bar charts.

## Results and Discussions

### Demographic characteristics of respondents

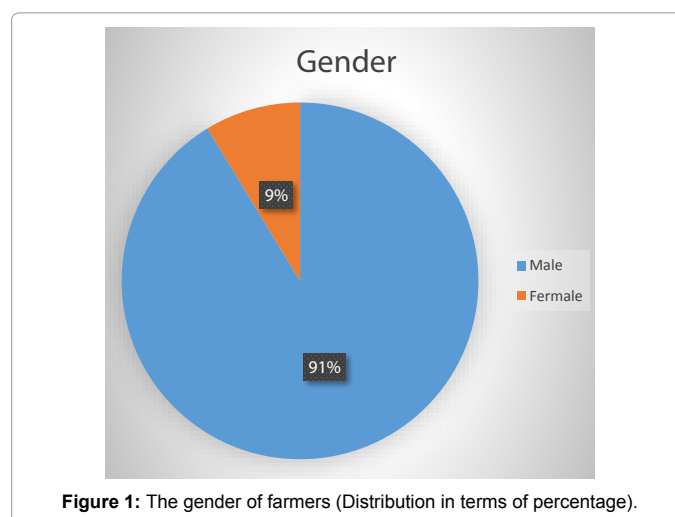
Table 1 shows the age distribution of block farmers wherein, 42.7% of them were between the ages of 31-40 years and 2.7% were between 61-70 years. From the table, most of the respondents were between the ages of 31-50 years amounting 83.4%, which indicates that farmers were in their active age groups and they would be able to withstand stress more and put more time in various farming operations. This will consequently result in an increased output.

### Gender of block farmers

Figure 1 shows the gender of block farmers. 91% were male and 9% were female. It can be clearly deduced from the below figure that the entire research was centred on men. This shows that the males do most of the agricultural activities while the females support them. It clearly depicts the fact that most of the female in these areas prefer going into trading, processing, marketing of agricultural produce etc. since they see farming as laborious which requires a lot of energy and attention. This finding is consistent with the view that men are more likely to go for credit than women. Focus Group discussions with the beneficiaries also revealed that some of the females' beneficiaries sought permission from their husbands before accessing the credit because men are heads of the households. The participants indicated that in few cases the husbands refuse or may go for the credit on behalf of the wife. Goetz and Gupta [3] make a similar argument that it is mostly the men of the household and not the women who actually exercise control of borrowing.

Age class	Frequency	Percentage (%)
21-30	9	6.0
31-40	64	42.7
41-50	61	40.7
51-60	12	8.0
61-70	4	2.7
Total	150	100

**Table 1:** Age distribution of block farmers.



## Impact of block farm on livelihood of farmers

### Number of bags obtained before and after by respondents:

Figure 2 shows the number of maize bags obtained before and after block farming by respondents. Before farmers went into block farming: 53.7% were obtaining 1-10 bags of maize comparing with after of 21.3%, 27.5% getting 11-20 bags compared with 43.3% after, 14% obtaining 21-30 bags compared with after of 15.3%, 2.7% getting 31-40 bags compared with 8% after, 1.3% getting 41-50 bags compared with 6.7% after and 0.7% obtaining above 50 bags compared with after of 5.3%. This means that there has been an increase in farmers' outputs by comparing the before outputs and that of after outputs thus a shift from the majority of them getting between 1-10 bags of maize to 11-20, 21-30, 31-40, 41-50 and above 50 bags. The implication of these, is that increase in income to farmers and also getting adequate food to feed their families resulting self-sufficiency.

**Improvement in standard of living:** The improvement in standard of living of respondents as shown in Table 2 revealed that 98% of them have seen significant improvements in their living standard in terms of children education, payment of hospital bills etc., while 2% said there has not been any improvement in standard of living. Its implication is that, since majority of the farmers have seen a significant improvement will help improve farmers' health and their children, children's education since they can afford to pay their hospital bills and invest in their children's education. This result is in line with what Littlefield [4] reported, that the opportunities created by credit availability helps a lot

Improvement in standard of living (Children education, payment of hospital bills etc.)	Frequency	Percentage (%)
Yes	147	98
No	3	2
Total	150	100

**Table 2:** Improvement in standard of living.

Responses	Frequency	Percentage (%)
Yes	147	98
No	3	2
Total	150	100

**Table 3:** Improvement in life and business.

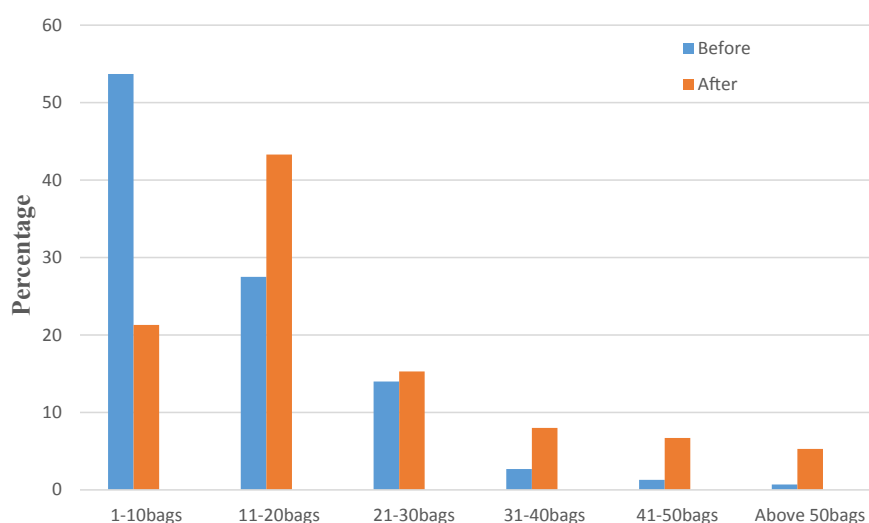
of poor people to invest in their own businesses, educate their children, improve their healthcare and promote their overall well-being. Again this contradict what the United Nations Capital Development Fund-UNCDF [5] reported that though credit may be helpful in reducing poverty, it is never a panacea and that it is only one of such tools to reduce poverty or vulnerabilities of the poor.

**Improvement in life and business:** Table 3 shows improvement in life and business of respondents. 98% of them have seen significant improvements in their life and business in terms of profit making while 2% said there has not been any improvement in life and business. Since more than 90% of the farmers have had a significant improvement in life and business as profit making is concern will modify greatly the types of family expenditure, become an early adopter of new technology, reduce poverty status of farmers and food insecurity as well as create a much bigger market for mass production. This is in line with what Alabi et al. [6] stated, that a farmer with profitable supplementary income could be become an early adopter of new technology that may require demanding for credit facilities.

**Revenue made by block farmers before and after block farm:** The revenue made by farmers before and after block farming are shown in the Table 4. Before farmers went into block farming 80.4% were obtaining GH¢500-2000 comparing with after of 48%, 17.6% getting GH¢2100-4000 compared with 33.3% after, 1.4% obtaining GH¢4100-6000 compare with after 12.7%, 0.7% getting GH¢6108-8000 compared with 4% after, 0% of GH¢8100-10000 compared with 0.7% after and 0.0% above GH¢10000 compared with after of 1.3%. Its implication is that there has been an increase in farmers revenue by comparing before

Amount (GH¢)	Before		After	
	Frequency	Percentage (%)	Frequency	Percentage (%)
500-2000	119	80.4	72	48.0
2100-4000	26	17.6	50	33.3
4100-6000	2	1.4	19	12.7
6100-8000	1	0.7	6	4.0
8100-10000	-	-	1	0.7
Above 10000	-	-	2	1.3
Total	148	100	150	100

**Table 4:** The revenue made by respondents before and after block farm.



**Figure 2:** The number of bags obtained before and after block farming by the respondents.

Response	n	Mean	Standard deviation	Mean difference	t	Significance
Revenue made after undertaken block farm	148	1.80	1.010	0.5635	8.603	0.000
Revenue made before undertaken block farm	148	1.2365	0.58741			

**Table 5:** The t-test between revenue obtained by respondents before and after the block farming.

revenue and after revenue thus a shift majority of them getting between GH¢500-2000 to GH¢100-4000, GH¢4100-6000, GH¢6100-8000, GH¢8100-10000 and above GH¢10,000. This will lead to reduction of poverty status and food insecurity level, improved health, decrease the appeal of socialism, create a much bigger market for mass production and modify greatly the types of family expenditure. This is in line with what Khan and Rahaman [7] reported that credit recipients had empowered themselves and become very active participants in the economy. Further using the regression model to examine the impact of credit, Priya [8] found that there is a significant positive relationship between credit recipients and income; the findings suggest that program participation led to 10% increase in income.

**t-test between revenue obtained by respondents before and after the block farming:** The t-test between revenue obtained by farmers before and after the block farm at  $p < 0.05$  as shown in Table 5 revealed that revenue made by block farmers before undertaken block farming programme had a mean of 1.2365, standard deviation of 0.58741 as compared with revenue made after with a mean of 1.80, standard deviation of 1.01 which resulted a mean difference of 0.5635, a t-value of 8.603 and significance level of 0.000 [9,10]. This means that, a mean difference approximately 0.6 and significance level of 0.000 at  $p < 0.05$  signifies that the project has had a significant positive impact on the livelihood of the beneficiaries which will help improve health and well-being of beneficiary farmers due to the use of improved varieties, adequate supply of fertilizers, use of new technologies which has caused a significant shift of revenue obtained after the block farming.

## Conclusion

The programme was dominated by farmers in the ages between

31-50 years mostly being males. In the nut shell, the block farming programme has had a significant improvement in standard of living and businesses of beneficiary farmers, increased outputs and remarkable improvement in returns. Most people go into block farming programme to earn a living, easy access to credit and readily availability of market.

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