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ANALYSIS OF THE COSTS AND RETURNS BETWEEN MAIZE AND CASSAVA BASED FARM ENTERPRISES IN EKITI STATE, NIGERIA: THE ROLE OF THE CHURCH

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Abstract

The performance of the agricultural sector in Ekiti state despite all the measures taken to improve it has become unsatisfactory. It has become a matter of concern to all and sundry in the agricultural sector in Ekiti state. Available statistics show that the annual growth rate of agricultural component of the gross domestic product (GDP) declined from 9.2% to 2.1% between 1998-2010. Moreso, the average growth rate in maize production of -9.75% is far below the expected 4.14% average growth rate of 3.8% below the average population growth rate of 3.8% per annual. Similarly, the average annum growth rate of maize production is also far below the average growth rate in food demand. Against these backdrops, it become necessary to examine the profitability in maize and maize/cassava farm enterprises in Ekiti state, Nigeria and subsequently make recommendations based on the results of the study.

A multistage random sampling was used to select 360 respondents from five local government areas of Ekiti state. Both primary and secondary data were collected for the Study Data were analysed using descriptive statistics, and costs and returns analysis. The results of the study show that both enterprises (i.e. maize and maize/cassava farm enterprises) are not viable. Also, the results reflect that about 75% of the farmers were illiterate with an average family of persons. The recommendations from the results of the study are: (a) the farmers are advised to select farm, then do the farming with the mixture of cassava with the view to enable them significantly increase their level of farm income. (b) All the participatory members in the agricultural sector should adopt measures to reproduce the cost of farm product.

Keywords: Agriculture; Enterprises; Cost and Return Church.

Cite This Article: Ven. Dr. T. T. Bello. (2019). “ANALYSIS OF THE COSTS AND RETURNS BETWEEN MAIZE AND CASSAVA BASED FARM ENTERPRISES IN EKITI STATE, NIGERIA: THE ROLE OF THE CHURCH.” *International Journal of Research - Granthaalayah*, 7(3), 256-263. <https://doi.org/10.5281/zenodo.2631404>.

1. Introduction

Looking at the agricultural sector in Ekiti State, one will see the performances as been low and beyond the expectation. This is indicated by the agricultural component of the Gross Domestic

Product (GDP). It declined from 9.2% between 1998-2010 to 2.1% between 1997-2011¹. Furthermore, the average annual growth rate of maize production of -10.65% is far below the expected 4.08% average of 3.8% per annum.²

It was observed that, despite the measures taken by the government and non-governmental organization to improve the agricultural sector, the performance of the agricultural sector in Ekiti State has been considered not as it should be. Olagoke stated that “Nigeria is richly blessed with a wide variety of God’s given natural resources which are stupidly wasted and destroyed due to lack of power management and preservation”.³

Against these saying, it is necessary to study the farming systems practiced in maize production, determine the cost and returns of maize and cassava based enterprises in the study area.

If we look at the Church from sociological angle we need to look at the role or some of the faith based organizations. We also have faith-based organization in Agriculture like MISSEORI Group that support women in Roman Catholic Church mission to foster agricultural production in the society.

2. Objectives and Hypothesis

The general objective of this study is to determine the profitability of maize and maize/cassava farm enterprises in Ekiti State, Nigeria. The specific objectives are to:

- 1) Describe the socio-economic characteristics of farmers involved in maize and cassava production.
- 2) Observe the farming systems practiced in the study area.
- 3) Determine the cost and returns in maize enterprise only and maize/cassava (together) farm enterprises.
- 4) Draw out recommendations based on the results of this study.

The null hypothesis (H_0) tested is stated as follows: the profits from maize farm enterprises and maize/cassava farm enterprise are not significantly different.

3. Literature Review

3.1. Farming Systems

Farming systems is the result of interaction among several interdependent components, namely, livestock and off-farm enterprises⁴. The specific agricultural practice adopted by the people of any given community or region may be influenced by topography, climatic condition, socio-economic activities, traditional land tenure systems, superstitions and religious and customs of a specific religion⁵. In Ekiti state, sole and mixed cropping systems are practiced. The main crop combinations are dominated by maize and cassava. The cropping system include:

- i. Maize (only)
- ii. Cassava (only)
- iii. Maize/cassava (combine)
- iv. Maize/yam (combine)
- v. Cassava/pepper (combine)

- vi. Maize/melon (combine)
- vii. Soyabean/cassava (combine)⁶

This study purposively selected maize (only) and maize/cassava (combine) farm enterprises. Maize contributes at least 20% to total daily calorie intake in the rural area of Ekiti state and it is important as a source of income and feed supplement for livestock⁷. Majority of the people in Ekiti state attach very high importance to maize meal⁸.

This study examined the costs and returns of maize (only) and maize/cassava (combine) farm enterprises to enable us determine their profitability. Profit was determined by deducting the total cost from total revenue.

$$TP = TR - TC \text{ _____ (1) equation editor}$$

Where: TP = Total profit ith enterprise
TR = Total revenue 1th enterprise
TC = Total cost of ith enterprise in Nigeria

The total cost is combination of total variable and total fixed cost in Naira i.e

$$(TC = TVC + TFC) \text{ _____ (2)}$$

Where: TC = total cost of 1th enterprise in Naira
TVC = total variable cost of 1th enterprise in Naira
TFC = total fixed cost of 1th enterprise in Naira

The farm firm is viable if the Total Revenue (TR) exceeds the Total Cost (TC). It is not viable if the total exceeds the total revenue (TR).

4. The Study Area and Sampling Procedure

The study was carried out in Ekiti state, Nigeria. The total land area of the state is 35.60km² with a population of about 2,753,088 million people⁸. A multistage random sampling method was used to select 360 respondents from 5 out of the 16 local government areas in the state. The selected LGA are: Ado-Ekiti, Ekiti South, Ido-Osi, Gbonyin and Ekiti West.

4.1. Methods of Data Collection

Both primary and secondary data were obtained for this study. Primary data were obtained with the use of questionnaire, interview and personal observation. While secondary data was obtained from existing literatures. They include journals, magazine, textbooks and project reports.

4.2. Methods of Data Analysis

Data collected will be analyzed using the descriptive statistics, cost and return analysis and chi-square statistics. The hypothesis of this study was tested using chi-square at 0.5 level of

significance. The total profits from maize farm enterprises and maize/cassava enterprise were subjected to the test.

4.3. Model Specification

The cost model used was:

$$TP = TR - TC$$

Where: TP = Total profit from i^{th} enterprise
TR = Total revenue from i^{th} enterprise
TC = Total cost of i^{th} enterprise in Naira.

The Total cost (TC) is the combination of total variable cost and total fixed cost of i^{th} enterprise in Naira.

The chi-square statistical model that was used in testing the hypothesis of this study with K-I degree of freedom is stated as follows:

$$X^2_c = a^o(f_o - f_e)2/f^e$$

Where: X^2_c = chi – square computed
 F_o = frequency observed
 F_e = frequency expected ⁹

5. Results and Discussion

The results of this study show that the average age of the respondents was 35 years with an average 15 years' experience in farming. The average size was 12 persons and 65% of the respondents have no formal education. The result also show that the total profit derived from maize enterprise as a sole crop is far more than the total profit derived from farming maize in the combination with cassava (Table 1 & Table 2). As shown in Table 1, a total profit of ₦77,712:00per hectare was obtained in cultivating maize as a sole crop. While a Total profit of ₦48,600 per hectare was obtained in farming maize in mixture with cassava (Table 2). One of the reasons for the high difference in the total profit between both farm enterprises is because of the very high level of labour used in both farm enterprises. As shown in Table 2, 150 man days of labour with ₦500 per labourer (wages) was used in maize/cassava farm enterprises. While 120 persons of labour with ₦400 per persons was used in maize farm enterprise Table 1.

It is clear from the results that it is more viable 15 farms as a lonely crop than farming it in mixture with cassava.

The results from the chi – square statistics used in testing the hypothesis show that the null hypothesis of no significant different between the total profits from both farm enterprises was rejected value of chi – square (6709.6) was greater than the tabulated value (3.84) of chi –square at 5% probability level.

The alternative hypothesis was that, the total profit from maize farm enterprise and maize/cassava are significantly different.

Since the profit in maize production is higher than the profit in producing maize in mixture with cassava and the difference in the profits between the two enterprises is highly significant, farmers in the study area can make their choice of farming maize as a sole crop.

Table 1: Costs and Return of Maize Production in Ekiti State Nigeria (Per Hectare)

ITEMS	TOTAL QUANTITY/UNIT	UNIT COST (NAIRA)	TOTAL VALUE (NAIRA)
Revenue	8,016kg	19.50	156,312
Total Revenue	-	-	-
Labour	120 Man-days	400	48,000
Maize bowl	1,200 bowls	10	12,000
Fertilizer	(50kg) 4 bags	1,500	6,000
Chemicals	5litres	1,100	5,500
Transport	-	-	800
Miscellaneous expenses	-	-	1,826.25
Total Variable Cost	-	-	74,826.25
Fixed Costs	-	-	-
Rent/value of land	-	-	1,031.25
Depreciation of assets	-	-	1,086.56
Interest on credit	-	-	2,352.92
Total Fixed Cost	-	-	4,470.75
Total Cost	-	-	78,600

Total Profit = Total revenue – Total cost = ₦156,312 – ₦78,600 = ₦77,712.00

Table 2: Cost and Returns of Production Maize in Mixture with Cassava, Ekiti State Nigeria (per Hectare)

ITEMS	TOTAL QUANTITY/UNIT	UNIT COST (NAIRA)	TOTAL VALUE (NAIRA)
Revenue			
Total Revenue			
Maize	700kg	19.50	136,000:00
Cassava	300kg	15.00	4,500:00
Variable Cost			
Labour	150 Man-days	500	60,000
Maize bowl	1100 bowls	10	11,000
Cassava	10kg	50	500
Fertilizer	4 bags (50kg)	1,500	6,000

Chemicals	5litres	1100	5,500
miscellaneous	-	-	3,629.25
Total Variable Cost			87,929.25
Fixed Costs			
Rent/value of land			1,031.25
Depreciation of assets			1,086.56
Interest on credit			2,352.94
Total Fixed Cost			4,470.75
Total Cost			92,400.00

Total Profit = Total Revenue – Total Cost = ₦140,000 – ₦92,400 = ₦48,100.00

6. Conclusion and Results (Table 1& 2)

The results of the study showed that maize and maize/cassava farm enterprises are both viable. Although the profit obtained in sole maize cropping is significantly higher than farming combination of maize with cassava. The profit were ₦77,712:00 and ₦48,100:00 respectively. The results also indicate that the cost of labour was higher that all the other cost items in both farm enterprises

Below is the final recommendation we need to know and the role played by the church in coming up with the above results and the development of the interest of people in farming.

7. The Role of The Church

The Concept of ‘Church’

The word “Church” (in Greek, kyriakon (κυριακόν), which means “something belonging to the Lord”; also ekklesia (latinized as ecclesia “assembly”) are used to denote both a christian association of people. In New Testament, the term church or assembly is used for local communities, local congregation of Christians and in a universal sense to mean “all believers”. Other basic meanings of the word are the ones called out of the crowd’, the chosen ones, but is sometime rendered “a place of worship”.

However, the word “kyriakeoikia” means “the Lord’s house” or “a christian place of worship ¹²”. The church in its true meaning and usage therefore, is the assemble of God’s people (I Peter 2:9) who are in Christ through baptism and those who have faith in Jesus Christ. The church is God’s people called to corporate mission responsibility to the world.

Looking at the church from sociological angle, Christians ethics since the historical-sociological work of Max Weber and Ernst Treeitsch, however, “church” has come to be understood as a technical term that refers to a type of Christian socio (organization, based on characteristics) understanding of theological first principles as institutionalized in social ethics. ¹⁴ In the process of selecting, clarifying, organizing and institutionalizing first principles in various cultural, political and economic context, the “church” takes on a normative social form that is a compound of religious convictions, apologetic, pastoral, and cultic needs, functional organizational

requirements in coordinating right teaching and practice, and compromise with secular institutional realities of the context in which it found itself.

The church thus defined, attempts to be a socially inclusive institution both in the sense that it tries to draw the entire population into itself and in the sense that it attempts to cooperate with inform all other sectors of socio life, familiar, economic, political, intellectual and social. On these bases, the church develops its ethics; an explicit “Christian social philosophy” intended to be a comprehensive guide to the common life of the people in a community.

Through the help of Christian church are was able to control most of the ideologies of the society. The leaders in the were able to give instructions to the community through the leaders of the church.

The role and contribution of the Christian church development of agriculture in the society, especially in the local community could not be underrated and under estimated. The hosted the agricultural workers and gave them support by gives the chance to address their congregation on the instructions about how to go about farm tools and what to do in their individual farms.

8. Recommendations

In view of the findings of this study the following recommendations are suggested:

- 1) It is profitable to cultivate maize alone than its combination with other crops e.g. cassava, maize planting.
- 2) Since education is the bedrock of development in everything, all the people engaging in farming must be advice to be educated.
- 3) Subsidy must be made available for the farmer so that their crops can yield more result and good dividend.
- 4) Farming should be seen as a business and not just a food consuming enterprise.
- 5) Farmers are encouraged to be up-to-date about production and marketing information, so that their farm produce could yield a very good product.

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