

ADOPTION OF FARM MANAGEMENT TECHNIQUES AMONG RURAL FARMERS IN ANKPA LOCAL GOVERNMENT AREA OF KOGI STATE, NIGERIA

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ABSTRACT

This study investigated the awareness and adoption of farm management techniques among rural farmers in Ankpa Local Government Area (LGA) of Kogi State, Nigeria. One hundred and twenty farmers were selected from 3 of the 6 Districts of the L.G.A. through simple random sampling. Structured questionnaire was the instrument used for data collection. Data generated were analyzed using descriptive statistics (frequency and percentages) and sigma method to obtain adoption index. Results obtained showed that, 40.0% of the respondents had primary education, while their major occupation was farming (45.8%). The respondents were aware of crop records (12.5%), livestock records (14.2%), and labour records (12.5%) as farm management techniques. Ignorance (48.3%), cost of labour (30.8%) and lack of funds (13.3%) were some of the factors that constrained the farmers from adopting farm management techniques. It was recommended that government and non-governmental organizations should help deploy extension agents to the rural areas to educate farmers on the essence of farm management techniques.

KEYWORDS: *Farm Management, adoption, agricultural production, food security, organic farming.*

INTRODUCTION:

The need to increase yields and farm income, stimulate agricultural growth, alleviate poverty and promote food security necessitated the introduction of improved farm management practices in Nigeria (Ojiako, *et al*, 2008). Farming is a life – sustaining business and farmers are the managers. The manager (farmer) makes decisions on how best to use the available resources at his or her disposal to achieve the set objectives (Warren, 2006). For the attainment of increased farm yield, farm activities have to be co-ordinated and marshalled towards set goals.

Increase in agricultural production is usually as a result of the adoption of some farm management practices and the integration of improved farm technologies (Warren, 2006). All these will translate to reduction in the country's dependence on food import, and soaring food prices. Most often, government agricultural development programmes centred on the provision of farm inputs, irrigation facilities, credit and improved agronomic practices while the efficient management of all these resources or inputs is lacking. In view of this, it becomes imperative

that farmers needed to be taught some farm management practices such as farm budgeting, farm planning and recording, keeping of simple farm account and organic farming. The knowledge of organic farming is vital as it is an approach to ensure an integrated, environmentally and economically sustainable production system (Lampkin, 2006).

According to FAO (1992), farm management is the application of economic principles and agricultural production science to the job of organizing and operating farm business. The main objective of farm management techniques is to increase the efficiency with which farm resources are used in the production process such that maximum profits is realized. Farm planning, farm budgeting, farm recording and accounting are the sine-qua-non of effective management and backbone of farm enterprise aiming at profit maximization.

Keeping of farm records and accounts are usually associated with developed countries and commercial agriculture than the developing nations that still wallow in subsistence agriculture. Adoption of good farm management techniques have several advantages such as accurate resource utilization, profit making, adequate knowledge of the farm business among others. Studies have shown that most rural farmers are ignorant about farm management practices that can bring about successes in their operations. It is in consonance with this knowledge gap that this work was carried out in Ankpa Local Government Area of Kogi State to ascertain the adoption of various farm management practices among the rural farmers. Specifically, the study attempts to address the following objectives:

- a. To examine the socio-economic characteristics of the respondents,
- b. determine their levels of awareness of farm management techniques,
- c. determine their level of adoption of farm management techniques and,
- d. identify factors that constrain the farmers from adopting farm management techniques.

METHODOLOGY

The study was carried out in Ankpa Local Government Area (LGA) of Kogi State. The LGA is situated in the eastern senatorial district of Kogi State with a total population of 209,730 (National Population Commission, 2006) and a land mass of 262km². The LGA is made up of six major districts namely, Ankpa, Udama, Adawo, Adanawo, Enjema and Emekutu.

The residents of the area are mostly peasant farmers growing crops such as sorghum, maize, millet, cassava, yam, groundnut, sweet potatoes and beans. Economic trees such as cashew, oil palm, citrus and banana are also grown though in a small scale. For purposes of data collection, three districts were purposively selected for the study because of their greater involvement in farm operations. The entire farmers in the LGA constitute the target population for this study. Forty farmers were selected from Ankpa because of its vast landmark while thirty farmers each were selected from Adanawo and Udama districts using simple random sampling, thus making a total of 120 respondents for the study. Structured questionnaire was administered to the respondents. Descriptive statistics such as frequency, and percentages were used to analyze objectives one, three and four, while index of adoption method as well as sigma method of scoring adoption level as designed by Agbam (2006) was used to ascertain the adoption level of farm management techniques in the study area.

In the sigma method, ordinary frequency numbers or percentages were standardized by mathematical procedure in order to obtain normalized standard scores before using them in parametric statistical analysis. The percentage of farmers that adopted the farm management techniques was first obtained by:

$$\frac{\text{Number of adopters}}{\text{Total Number of Respondents}} \times 100$$

Total Number of Respondents = 1

This is then followed by dividing the percentage by two and subtracting it from 100 and then use the statistical table of normal deviates to check the answer. To increase the magnitude of this sigma distance using a constant, we have $(\text{answer} + 2)^2$. Since the sigma method assigns weights in reverse relation on a 10 point scale, the actual adoption score would be 10 minus the answer $(10 - \text{answer})$.

RESULTS AND DISCUSSION

The Socio-Economic Characteristics of Respondents

Table 1 show that majority 30.8% of the respondents were within their productive age ranges of between 36 – 40 years, the Male farmers constitute 80.8% while the females make up the remaining 19.2%. Majority (70.8%) of the farmers were married, 40.0% had primary education while about 32% had secondary education. This low educational level of respondents will have negative effects on their adoption level. Madukwe (1995) identified level of farmer education as a factor related to acquisition and adoption of improved farm practices.

According to the Table 45.8% of the respondents had farming as their major occupation while 20.8% and 18.3% were traders and artisans respectively.

Table 1: Distribution of Respondents based on their socio-economic characteristics.

Characteristic	Freq. (F)	Percentage (%)
Age (year)		
< 30	09	07.5
30 – 35	20	16.7
36 – 40	37	30.8
41 – 45	26	21.7
46 – 50	18	15.0
> 50	10	08.3
Gender		
Male	97	80.8

Female	23	19.2
Marital Status		
Married	85	70.8
Single	12	10.0
Divorced	09	07.5
Widowed	14	11.7
Educational Level		
No formal education	14	11.7
Adult education	02	01.7
Quoranic education	06	05.0
Primary education	48	40.0
Secondary education	38	31.6
Tertiary education	12	10.0
Main occupation		
Farming	55	45.8
Civil servant	18	15.0
Trading	25	20.8
Artisan	22	18.3

Source: Field Survey, 2009.

Awareness Level Of Improved Farm Management Techniques /Practices

The awareness level of the respondents of some farm management practices is shown in Table 2. According to the result in the Table 21.7% of the respondents were aware of crop record keeping as a farm management technique. Other farm management techniques that the farmers were aware are Livestock records (14.2%), Labour records (12.5%), and farm accounts (10.0%). Operational efficiency and profit maximization can be sustained if farmers adopt some farm management techniques.

Table 2: Distribution of Respondents according to their Level of Awareness of Farm Management Techniques.

Farm Management Techniques	Awareness Freq.	Level (%)
Whole farm planning	9	07.5
Partial farm planning	6	05.0
Enterprise budgeting	4	03.3
Partial budgeting	2	01.7
Complete budgeting	10	08.3
Labour records	15	12.5
Crop records	26	21.7
Livestock records	17	14.2
Supplementary records	10	08.3
Income records	09	07.5
Farm records	12	10.0

Source: Field Survey, 2009.

Adoption Of Some Selected Farm Management Techniques Using Sigma Method

The adoption scores for eight selected farm management techniques are shown in Table 3. The study indicated that whole farm planning and farm accounts recorded the highest adoption scores of 2.08 each, followed closely by crop and income records having adoption scores of 1.97 each. Complete budgeting and labour records had 1.55 each. On the whole, the selected farm management techniques had an adoption score of 13.8 thus implying the low level of adoption of farm management techniques by the farmers of the study area.

Table 3: Distribution of Adoption score for some selected Farm Management Techniques

Farm Management Techniques	No of Adopters	% of Adopters N=120	Adoption score
Whole farm planning	6	5	2.08
Farm accounts	6	5	2.08
Crop records	5	4.2	1.97
Income records	5	4.2	1.97
Complete budgeting	4	3.3	1.55
Labour records	4	3.3	1.55
Livestock records	3	2.5	1.49
Supplementary records	2	1.7	1.11

Total score = 13.8 Mean = 1.73

Source: Field Survey, 2009.

Factors Constraining the Adoption Of Farm Management Techniques

Table 4 presents the various factors that hindered the adoption of farm management techniques by farmers in the study area. From the result in Table 4, 48.3% of the farmers were ignorant of the existence of these techniques, 30.8% had problems of labour and inputs, while 13.3% had the problem of fund to establish or expand their farmlands. The complex nature of some of these techniques such as farm accounts, farm budgeting and labour records made adoption very difficult for the farmers.

Table 4: Frequency Distribution of Respondents based on factors constraining the adoption of farm Management Techniques

Factors	Frequency	Percentage
Lack of enough inputs and labour	37	30.8
Ignorance about farm Management	58	48.3
Lack of extension agents	2	01.6
Lack of relevant textbooks	3	02.5
Low level of Mass Media Campaign	4	03.3
Lack of funds	16	13.3

Source: Field Survey, 2009.

CONCLUSION

The need to increase farm yields is apt especially now that the world is undergoing some levels of economic recess. For increase in farm yields, income generation and food security rural farmers have to adopt some farm management techniques. Results of this study carried out in Ankpa Local Government Area (L.G.A.) of Kogi State showed that 45.8% of the people are farmers, having the awareness of some farm management practices such as crop records (21.7%), Livestock record (14.2%), and Labour records (12.5%), lack of inputs and labour (30.8%), and lack of funds (13.3%) constrained their full adoption of farm management techniques available to them. And for improvement in their farm operations mass literacy should be introduced to enable farmers perform their operations better.

RECOMMENDATIONS

Based on the findings and conclusion of this study, the following recommendations are made.

- a. Government and/or non – governmental organizations should help deploy extension agents to the rural areas to educate rural farmers on the essence of adoption of farm management techniques.
- b. Credit facilities and necessary inputs should be provided to rural farmers to enable them purchase and adopt farm inputs relevant to their farm situations.
- c. Provision of relevant and adequate information on farm management techniques by extension agents to farmers.
- d. Workshops and seminars should be organized on a regular basis for farmers to enable them receive training on farm management techniques.

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