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Availability and Utilization of Agricultural Information as Predictors of Rice Production in Agricultural Development Programme in Ebonyi State, Nigeria

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Abstract
The objective of the study is to determine the correlation between availability and utilization of agricultural information as predictors of rice production in Agricultural Development Programme (ADPs) in Ebony state, Nigeria. The survey research design was used for the study. The research constructed three research objectives, three research questions and one research hypothesis. The research questions were analyzed using simple linear regression and multiple regression analysis. While the hypothesis was tested using T-test statistics at 0.05 level of significance. The findings of the study revealed that there is a positive relationship between availability and utilization of agricultural information and rice production in Ebonyi state ADP programme. The findings is an indication that adequate provision of agricultural information to farmers and its proper utilization is advantageous to greater rice production among farmers in Ebonyi state and Nigeria in general. The study therefore, recommends amongst other things that government agencies should disseminate relevant agricultural information to farmers particularly those in the rural areas so as to encourage them to greater production of rice in the state.
Keywords: *Availability, utilization, rice production and agricultural development.*

1.1 Introduction

Availability and utilization of agricultural information play a critical role in enhancing agricultural productivity and in addressing the problem of food insecurity being witnessed globally. Utilization of agricultural information particularly in our agricultural libraries will improve the efficiency of agricultural development projects and programmes. According to Merike (2024), access to reliable, timely and relevant agricultural information helps significantly and in many ways to reduce farmers' risk and uncertainty, and empowering them to make good decisions. Moreover, enhancing agricultural production in Nigeria is often linked to farmers' access and use of agricultural information.

Utilization is seen as the ability to make effective and independent use of the available agricultural information (Ugocha, 2021). In which case, utilization of agricultural information available in agricultural libraries or other types of libraries is a necessity for farmers. Utilization according to Zarmai *et al.,* (2014), refers to the actual systematic implementation of a scientifically sound, research – based

innovation with an accompanying process to access the outcome (s) of the change. According to Mohonga (2024), people may not tend to use all information they seek primarily because they are not always when they obtain them due to the fact that some individuals do not know what they need. However, information sources may also have contributory linkages to the utilization of information, essential in packaging and adapting information for local relevance. The benefits derived from utilizing agricultural information according to Amaechi and Ossai-Onah (2015) include having access to current and timely agricultural information, adequate and accuracy of information and access to varied agricultural materials. Today, farmers are increasingly looking for frequent interactions with various information sources not only to carry out their farming and marketing tasks efficiently, but also to ensure delivery of safe and quality agricultural products to consumers. The emerging information requirement is demand-driven, as opposed to supply-led public information system during the evolution.

Macquire, Obrist, Forge and Imboden (2018) report that a country like Canada produced nearly 70 million tons of rice in 2016, making it one of the world's major rice exporters. However, here in Nigeria, a recently released quarterly report on crop prospects and food situation of the United Nation's Food and Agricultural Organization (FAO) reveals that there has been a drop in the total coarse in rice production in the country. According to Nzeka and Taylor (2017), sources indicate that competition from neighboring countries has prompted informal exports of Nigerian grains by 40 percent, reportedly, the country's highest agricultural exports level over the past 15 years. This shows that Nigeria's rice farming is low when compared to other neighboring countries. The rice farming in Nigeria consists mainly of peasant farmers. According to Asogwa, Abu and Ochoche (2024), majority of the rural farmers live in the rural areas and operate at subsistence level with land holding average of less than five hectares. They are faced with the problems of low productivity, inadequate access to logistic support and input, crop infestations, pest and diseases, and massive loss of crops. This ugly scenario cannot be separated from unavailability and non-utilization of agricultural information in its entirety.

Agricultural information remains critical to both the farmers and the government in tackling agricultural matters at all levels. In 1996, when Ebonyi state was created, Agricultural Development project (ADP) was established with the mandate to support increased agricultural production and to raise the standard of living of the rural population. The Agricultural Development Programme (ADP) idea was conceived as a means of achieving rural development through improved standard of living and welfare of the small-holder farmers throughout the state by raising their productivity and farm income through integrated rural development. More often, the activities of extension workers to rice farmers seem not to produce the required effect as cases of poor yield by rice farmers still occurs including damage to crops and seedlings. One wonders whether the farmers actually receive timely and accurate information for rice production. It is in the light of the above that this research seeks to unravel the utilization of agricultural information on the productivity of rice farmers in Afikpo Agricultural Development (ADPs), Ebonyi State, Nigeria.

1.2 Statement of the Problem

Agricultural activity like any other economic activity requires relevant and timely agricultural information for optimum productivity. Provision, availability, dissemination and utilization of agricultural information by farmers are key factors for improved and enhanced rice production both in developed and developing countries of the

world.

Despite the fact that information is recognized as an important resource in agricultural productivity, the extent to which information is provided, and used by rice farmers in Ebonyi state is not adequately demonstrated through empirical studies. Although, there are research work by different authors such as Aina (2006), Fawole (2008), and Ali (2023), amongst others, they have focused on different types of agricultural information other than information on rice production. There is therefore poor research coverage of rice production in relation to agricultural development areas. The implication is that rice production information and the activities there to ADP in Ebonyi state remains substantially obscure to the public. This research therefore aims to cover that gap in knowledge on the utilization of agricultural information as predictors of rice production, using Ebonyi Agricultural Development Programme (ADP) as a focal point.

1.3 Objectives of the Study

The general objective of the study is to determine the utilization of agricultural information and its relationship with rice production in Ebonyi State Agricultural Development Programme (ADP) as focal point.

The specific objective of the study are to;

i. investigate the significant relationship between availability and accessibility of agricultural information on rice production by farmers in ADP programmes in Ebonyi state, Nigeria.
ii. determine the relationship between provision and utilization of agricultural information and its influence on rice production in Ebonyi state, Nigeria.
iii. find out the relationship between types of agricultural information provided to rice farmers and rice production in Ebonyi state, Nigeria.

1.4 Research Questions

The following research questions are posed to guide the outcome of the study;

i. In what ways does availability and accessibility of agricultural information influence rice production by farmers in ADP programmes in Ebonyi state, Nigeria?
ii. How does the availability and utilization of agricultural information influence the production of rice in Ebonyi state, Nigeria?
iii. What is the relationship between types of agricultural information available to rice farmers and rice production in Ebonyi state, Nigeria?

1.5 Hypothesis

HO_1: There is no significant relationship between utilization of agricultural information and rice production in ADP programme in Ebonyi state

2.1 Literature Review

Agriculture is one of the most important issues which has always been under consideration throughout the world especially in developed and developing countries, as it plays the vital role in the development of such countries.

Tadesse (2008) conceptualizes agricultural information as the various set of information and messages that are relevant to agricultural production activities of farmers such as crop production and protection, animal production and management and natural resources production and conservation.

Onah (2023) say that agricultural information refers to agricultural related data that have been useful contexts or forms for effective decision making in agricultural activities. Bello and Obinne (2012) citing Aina (1990) posit that agricultural information covers all published knowledge on general aspects of Agriculture and consist of

innovations, ideas and technologies of Agriculture.

According to Agolu (2000), Agriculture information can be in coded documented form or uncoded (oral) form. He notes that the dissemination of Agricultural information is vital to improving agricultural production because it is a media through which people get acquainted with News and better farming methods, fertilizers, improved seedlings, modern pest control measures, pesticides, herbicides and furmigicides.

Soyeme (2021), conceptualized agricultural information as information passed to help improve economic yield from farm produce and by extension the farmers living condition. Therefore agricultural information includes agricultural messages via extension service embodied in agricultural technologies and shared between the actors in the agricultural extension systems.

Access to Agricultural information generation and dissemination are necessary for the development of Agricultural products. Access to agricultural information is critical to the growth and production of the Agricultural sector. Agriculture according to Chinyemba (2023) is key frontier in the drive towards sustainable green economies and farmers because they interact with everything found on water and land. It empowers farmers to respond to different type of risk, market incentives and competition more efficiently. Agricultural information is central in enhancing accelerated agricultural productivity facilitating poverty alleviation and rural urban migration. The use of agricultural research information is undoubted by a requirement for development among Nigerian rural populace as farming is one of the major occupation prevalent in these areas in which the level of agricultural information provided to and utilized by rice farmers is relatively proportional to their level of productivity proportional to their level of productivity (Soyeme & Haliso, 2023).

Aina (2006) identifies the types of agricultural information as technical, scientific, commercial, commercial, social-cultural and legal. Each of these categories has been revealed to be useful to the farmer in Africa. The technical/scientific agricultural information arises from research and development at research institutions, government departments, Universities and international organizations, whereas commercial information relates to information pertaining to the sales of agricultural commodities, co-operatives export activities etc. and the socio-cultural information implies information on traditional agricultural practices (Indigenous knowledge).

3.1 Methodology

A correlational survey research design was used in the conduct of this study which was limited to rice farmers in Ebonyi state. The population of the study is 1,562 respondents. It consists of rice farmers in the three (3) agricultural zones of Agricultural Development Programmes (ADP), Ebonyi state such as Ebonyi North, Ebonyi South and Ebonyi Central (Ministry of Agriculture and National Resources, Ebonyi State, 2025). Out of this number, a sample size of 521 respondents were drawn using a statistical formula provided by Taro Yamane (1967, P. 280). The questionnaire was formulated using four (4) points likert rating scale. The distribution of the questionnaire was done by research trained assistants, each person for one agricultural zone. The research analysis was done using the research questions. While the data collected were analyzed using simple linear regression and multiple regression. The research hypothesis was tested at 0.05 level of significance.

4.1 Data Analysis and Result

Out of the 521 copies of the questionnaire administered, four hundred and eighty six (486) copies of the questionnaire

were dully completed and returned for analysis, giving a response rate of (93.3%). Thirty five (35) copies of the questionnaire were non-response rate, giving a non-response rate of (6.7%). Therefore, the return rate of 486 (93.3%) is adequate representation of the entire population.

Research Question One: In what ways does availability and accessibility of agricultural information correlates with rice production of farmers of ADP programmes in Ebonyi State.

Table 1.1: Summary of the Linear Regressions Analysis of availability and accessibility of agricultural information with rice production of farmers of ADP programmes in Ebonyi State

Model	R	R-Squared	Adjusted R-Squared	Std. Error of Estimate	Decision
1	0.14[a]	0.18	.016	2.19	Positive

Predictor: (constant), availability and accessibility

Data presented on Table 1.1 shows the summary of linear regression analysis for the relationship between availability and accessibility of agricultural information and rice production of farmers in ADP programmes in Ebonyi state. The analysis show that the correlation (r) between the predictor variables (availability and utilization) and the criterion variable (rice production) is 0.14 implies that a positive relationship exists between availability and utilization of agricultural information and rice production of farmers in ADP programmes in Ebonyi state. This further explain that availability and utilization of agricultural information will improve greater yield of rice production by farmers in Ebonyi State.

Research Question Two: How does availability and accessibility of agricultural information by farmers in Ebonyi state influence rice production in Ebonyi State?

Table 1.2: Summary of the Linear Regression between availability and accessibility of agricultural information and its influence on rice production of farmers Ebonyi State

Model	R	Adjusted R-Squared	Std. Error of Estimate	Decision
1	0.22[a]	0.48	2.57	Positive

Predictor: (constant), influence

Table 1.2 show the summary of linear regression analysis for the relationship between availability and utilization of agricultural information and its influence on rice production of farmers in Ebonyi state. The analysis show that the correlation (r) between the predictor variable (influence) and the criterion variable (rice production) is 0.22. The r of the analysis being 0.22 implies that there is a positive relationship between availability and utilization of agricultural information and its influence on rice production of farmers in Ebonyi state. This positive relationship implies that availability and utilization of agricultural information by farmers motivates farmers towards higher productivity of rice in Ebonyi ADP programmes. Therefore, Agricultural libraries (special libraries) in Ebonyi are advised to stock their library with current and up-to-date agricultural information on rice production.

Model	R	R-Squared	Adjusted R-Squared	Std. Error of Estimate	Decision
1	0.30[a]	.040	.42	3.17	Positive

Information presented on Table 1.3 show the summary of linear regression analysis for the relationship between types of agricultural information provided to rice farmers and rice production in Ebonyi state. The analysis show that the correlation (r) between the predictor variable (types of agricultural information provided) and the criterion variable (rice production) is 0.30. The R is analysis being 0.30 implies that a positive relationship exists between types of agricultural information provided and rice production by rice farmers in Ebonyi state. This implies that types of agricultural information available to farmers to a great extend determine the quality and quantity of rice production in Ebonyi state.

Testing of Hypothesis

HO_1: There is no significant relationship between utilization of agricultural information and rice production in Ebonyi state in ADP proramme in Ebonyi State, Nigeria.

The null hypothesis was analyzed using T-test statistics at 0.05 level of significance.

Table 1.4: Summary of the t-test analysisof significant relationship between availability and utilization of agricultural informationand rice production in Agricultural Development Programme in Ebonyi State

Variable	No of Item	t-cal	t-tab	Df	P	Decision
Availability and utilization of agricultural information and rice production by farmers	5	17.043	2.408	8	0.05	Significant

When t-test statistical formula was applied to determine if availability and utilization of agricultural information has a significant relationship on rice production by farmers in Agricultural Development Programme in Ebonyi state as shown on Table 1.4, it was found out that at 0.05 level of significant and 8 degrees of freedom (df), the t-test calculated value (t-cal) was found to be 17.043 is greater than the critical value or the table value t-tab 2.408, (t – cal 17.043 > t – tab 2.408; df 8: P. 0.05), it means that availability and utilization of agricultural information has a significant relationship with rice production by farmers. Therefore, we reject the null hypothesis.

Summary of Findings

Based on the three research questions formulated to guide this study, the following were stated as the summary of findings;

i. The findings showed that there are variety of agricultural information provided to rice farmers

ii. There is a significant relationship between provision of agricultural information, availability, accessibility and rice production by rice farmers

iii. Findings also indicate that there is a great correlation that exist between availability, utilization of agricultural information and rice productivity in ADP programme of Ebonyi state

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Conclusion and Recommendations

Based on the findings of this research, the researcher therefore concludes that the availability and utilization of agricultural information predicts productivity of rice farmers. In order words, as long as rice farmers have access to timely and relevant agricultural information, there is the possibility of rice farmers experiencing optimal productivity level.

Therefore, the research recommends as follows,

1. Firstly, there should be proper dissemination of agricultural information by relevant institutions and agencies to farmers in the three agricultural zone in Ebonyi state.
2. Secondly, establishment of community based library services should be given utmost attention in Ebonyi state by Ebonyi State public library services.
3. Thirdly, there should be repackaging of agricultural information to suit and meet the information needs of illiterate rice farmers in Ebonyi State, using local dialect or other means to reach out to illiterate farmers.

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