COMPARATIVE ANALYSIS OF SOCIO-ECONOMIC DETERMINANTS OF RICE OUTPUT IN FEDERAL CAPITAL TERRITORY AND NASARAWA STATE

A.G. ACHUKWU, E.E. EDU, S.S. ONJEWU & U.S. MAGA
Corresponding Author: gracealadi3500@gmail.com

Abstract
This research work studied the comparative analysis of socio-economic determinant of rice output in federal capital territory and Nasarawa state Nigeria. A multi-stage sampling procedure. Was used to select 360 respondents in the study area. Primary data were collected using structural questionnaire containing both open and closed ended questions, while textbooks and journals were used as reference materials. The data collected from administered questionnaire were analyzed using statistical package for social sciences (SPSS version 26). The result revealed that in the FCT majority (60.0%) of the respondents were within the age range of 41 -50 years. Majority (77.8%) of the respondents in the FCT were males while in Nasarawa state also majority (62.8%) of the respondent in the FCT had primary education while in Nasarawa state a good number (46.7%) of the respondents had primary education. Majority (77.8%) of the respondents in the FCT were married with good number of them having a family size of 6-10 members. while in Nasarawa state also majority (88.9%) of the respondents having a family size of 6-10 members. Majority (88.8%) of the respondents in the FCT had their rice production system through rainfed system, while in Nasarawa state also majority (77.8%) of the respondents had their rice production through rainfed system. Results of multiple regression analysis indicated pseudo-R^2-value of 0.90 indicating 90.0% change in rice output was influenced by independent variables (X_1, X_2,X_3 ------ X_n) included in the equation. While in Nasarawa state. Result indicated Pseudo-R^2 value of 0.85, indicating 85.0% change in rice output was influenced by independent variables (X_1, X_2, X_3 ------- X_n) also included in the equation the finding of the research therefore concluded that the socio- economic determinants of rice output in the FCT and Nasarawa state were the income level of the farmer and years of rice farming experience of the farmer. The research work, recommended that loan and inputs should be provided to rice farmers in the study area so as to boost their rice production capacity for higher outputs.

KEYWORDS: Comparative, Analysis, Socio Economic, Determinant, Rice, Output.

Background to Study

Rice plays a vital role in ensuring food security across Africa, particularly in Nigeria. Over several decades, rice farmers have experienced the most rapid growth in both production and profitability among all staple crop farmers, largely due to the significant increase in demand in urban areas (Toit, 2023). This trend has led both farmers and consumers to shift their preferences from traditional staples like maize, yams, and cassava to rice. Rice has transformed from being considered a luxury to a necessity, and its consumption is expected to continue rising alongside per capita GDP growth. Consequently, its significance in the Nigerian diet as a crucial food item for ensuring food security will escalate as the economy continues to grow (Rahman, 2019).

Globally, Nigeria ranks as the 11th largest consumer of rice, yet it has the lowest annual per

capita consumption among the top 11 consuming countries, with a value of 35kg/year (Adekunle, Oguyemi and Oyeyiola, 2023). Despite this, Nigeria experiences one of the highest domestic prices for rice per kilogram, whether locally produced or imported. The elevated domestic prices can be attributed to factors such as high inflation, importation costs (including high tariffs and excise duties), and production costs for locally grown rice varieties (Adepoju, Ogunyemi and Oyeyiola, 2018). For decades, Nigeria has grappled with the challenge of its rice consumption surpassing local production, necessitating a balance through imports (Tijiani and Bakari, 2019). The country has an annual demand for 5 million metric tons of rice, yet only approximately 3.2 million metric tons are produced domestically (Federal Ministry of Agriculture and Rural Development, FMARD, 2022), resulting in a demand gap of 1.8 million metric tons. This inability to meet rice consumption needs through local production renders the country heavily dependent on imports (Onyenweaku and Ohajianya, 2023; Akinbile, 2023). Nigeria expends approximately N356 billion yearly to acquire around 2 million metric tons of processed rice (Toit, 2023; Adepoju *et al.,* 2018). Depending on costly imported food from global markets not only triggers domestic inflation but also harms Nigerian agricultural workers, displacing local manufacturing and contributing to escalating unemployment rates (Qaim, Anderson and Chege, 2016). By 2016, the price of rice had doubled compared to 2015, largely due to fluctuations in foreign exchange rates and shifts in government policies regarding rice imports.

The Study Area

The study was conducted in the Federal Capital Territory and Nasarawa State, Nigeria. The Federal Capital Territory (FCT) and Nasarawa State are important rice producing regions strategically situated within Nigeria's North Central Zone. As the nation's administrative capital, the FCT lies in the heart of the country covering an area of about 8,000km^2 with a population exceeding 2 million people (Adebayo and Adeyemo, 2023). It is located between the Latitude 8^{0}25 and 8^{0}25 north of the equator and longitude 6^{0}45 and 7^{0}45 East of Greenwich. Encompassing six area councils, the FCT terrain varies between undulating plains and hills that receive average annual rainfall of 1,100 to 1,600 mm (Adekunle *et al.,* 2023). The highlands consist of steppes and savannas ideal for rice cultivation using traditional manual approaches by communities like Gwagwalada, Abaji and Kwali (Adiel *et al.,* 2021). River tributaries, artificial lakes, and wetlands also make irrigation possible for lowland rice farmers in Bwari, Kuje and Abuja Municipal regions (Adiel *et al.,* 2021).

On the other hand, Nasarawa State has a total area of 27,117km^2 inhabited by over 2 million people with the majority residing in rural settings (Ayegba, 2022; National Population Commission, 2022). It is located between the Latitude 8^{0}05 and 9^{0}01 north of the equator and longitude 6^{0}05 and 7^{0}01 East of Greenwich. The state experiences a tropical climate marked by average temperatures between 25°C to 35°C and annual rainfall ranging from 1100 mm in the north to 1600 mm in southern parts (Ajewole, 2020). Soils in Nasarawa vary between reddish loams, clay, and sandy types with fertile alluvial deposits found along water channels (James *et al.,* 2020). These conditions permit unimodal rainfed and irrigated rice farming across villages in Nasarawa, Awe, Keana, Doma and Lafia local government areas (Ejechi and Ikememe, 2020; Ibrahim *et al.,* 2021).

Within each study area, the research locations will cover major local government regions known for substantial rain-fed and/or irrigated rice production (Adebayo, 2019; James *et al.,* 2020). In the FCT, top rice farming areas include Bwari, Kuje, Kwali, Gwagwalada, and Municipal Area Councils which represent unique agroecologies like floodplains, wetlands and hilly uplands (Omojola *et al.,* 2017). For Nasarawa, prime rice-producing communities will be surveyed across Karu, Keffi, Lafia, Akwanga, and Wamba Councils where alluvial soils nourish vast lowland rice irrigation and supplementary upland systems (Ogundele and Okoruwa, 2016).

Given their agroclimatic and hydrological similarity, the FCT and Nasarawa constitute Nigeria's main rice-producing territories apart from the irrigation schemes in Northern States (Fashola *et al.,* 2016). However, rice cultivation methods and intensities may vary across both areas considering differences in terrain, population density, rural infrastructure and institutional support access (Nwalieji and Uzuegbunam, 2019). A comparative examination of production indicators such as planting systems, inputs usage, mechanization tools can reveal key farming practice gaps. Rice production assessments across both locations would also explain income sustainability issues confronted by farmers (Ndiaye *et al.,* 2021). Therefore, selecting the FCT and adjoining Nasarawa State enables robust benchmarking of technological, agronomical and financial performance to inform policies for improving rice sector production in Nigeria's middle-belt (Bamire and Amujoyegbe, 2015; Fashola *et al.,* 2022).

Population, Sampling Technique and Sample Size

The target population for this comparative study comprises smallholder rice farmers operating in the major rice-producing Local Government Areas (LGAs) of the Federal Capital Territory (FCT) and Nasarawa State. The inclusion criteria for the study population involved active engagement in rice cultivation as the primary occupation. This included both smallholder farmers with limited land resources and larger-scale commercial farmers.

A multi-stage sampling technique was applied for selecting respondent rice farmers. The first stage involved purposive selection of two (2) major rice-producing LGAs (Abaji and Gwagwalada) from the FCT and two (2) major rice-producing LGAs (Doma and Obi) from Nasarawa State for data collection because of the presence of rice farmers. By employing purposive sampling, we aim to ensure that the chosen communities are the representative of the diverse rice farming context within Abuja and Nasarawa State.

In the first stage, agricultural zones within each area council were identified from each LGA will be purposively selected based on the intensity of rice farming activities. These zones represent the broader geographical areas where extension services are administered. In the second stage, three (3) extension blocks were randomly selected from each agricultural zone. Extension blocks are subdivisions of agricultural zones and represent more localized areas where farmers are grouped for service delivery. This selection ensures a broad representation of farmers' experiences with extension services within each zone.

In the third stage, cells, the smallest administrative units within extension blocks, were selected. From each extension block, one cells were chosen randomly, ensuring geographic diversity and comprehensive data collection. Finally, systematic random sampling was used to select rice farmers within each cell. Farmers were chosen from lists provided by local agricultural offices, ensuring that only those who have engaged with extension services are included. The total number of farmers selected from each cell will be proportional to the population of rice farmers in that area, resulting in a balanced representation across the entire study area.

The sample involves selecting one (1) zone from each LGA, three (3) extension blocks from each zone, and three (3) cells from each block. Finally, thirty (30) respondents were selected from each of the three (3) cells making a total sample size of 360 rice farmers.

Method of Data Collection

In carrying out this research, quantitative method of data collection was used to elicit information from communities as a primary source of data for this study. Relevant literature and reports of past studies in journals and monographs was reviewed as secondary sources of information. Information based on the specific objectives of the study were obtained through the qualitative method (well-structured questionnaire). The questionnaire

was used to determine the socio-economic characteristics of the respondents in study areas; the cultivation systems of the rice farmers; the factors affecting production of rice farmers; and the constraints facing rice farmers in both study areas. The completed questionnaires was be subjected to analysis.

Method of Data Analysis

Descriptive and inferential statistics were used for the purpose of this study in the course of data analysis:

$$Y = f(X_1, X_2, X_3, X_4, \ldots\ldots\ldots\ldots X_{14}) \quad \text{(Egu. 1)}$$

$$Y = B_0 + B_1 X_1, + B_2 X_2, + \ldots\ldots B_9 X_9 + E \quad \text{(Egu.2)}$$

where:
Y: Rice output (dependent variable)
X_1 = Age (years)
X_2 = Income level of respondents
X_3 = Years of rice farming experience
X_4 = Family size
X_5 = Farm size
X_6 = Income sources
X_7 = Sex of respondent: Male (1), Female (2)
X_8 = Marital status of respondents: Single (1), Married (2), Divorced (3), Widowed (4)
X_9 = Educational level of respondents – Number of years in school
β0: Intercept
β1, β2, …, β15: Coefficients of independent variables
ϵ: Error term

Socio-economic Characteristics of the Respondents

This present information on age, sex, educational level, marital status, family size, major source, income and other sources of incomes of the respondents apart from farming.

Table 1: Socio-economic Characteristics of the Respondents

Characteristic	FCT Frequency	FCT Percentage	Nasarawa state Frequency	Nasarawa state Percentage
Age range (years)				
21 – 30	6	3.3	8	4.4
31 – 40	13	7.2	18	10.0
41 – 50	108	60.0	95	52.8
51 – 60	50	27.8	41	22.8
61 and above	3	1.7	18	10.0
Sex				
Male	140	77.8	152	84.4
Female	40	22.2	28	15.6
Educational Level				
Non-formal Education	11	6.1	20	11.1
Primary Education	113	62.8	84	46.7
Secondary Education	15	8.3	30	16.7
Tertiary Education	13	7.2	10	5.6
Qur'anic Education	28	15.6	36	20.0
Marital Status				
Single	11	6.1	7	3.9
Married	140	77.8	160	88.9
Divorced	14	7.8	10	5.6
Widow	15	8.3	3	1.7
Family Size				
1 – 5	60	33.3	30	16.7
6 – 10	100	55.6	80	44.4
11 and above	20	11.1	70	38.9
Major Source of Income				
Farming	108	60.0	150	83.3
Trading	40	22.2	25	13.9
Civil servant	32	17.8	5	2.8
Other Sources of Incomes				
Forest	18	10.0	108	60.0
Business	150	83.3	40	22.2
Civil service	12	6.7	32	17.8
Total	180	100.0	180	100.0

Source: Field Survey, 2024.

Age Range of Respondents

Table 1 revealed that majority (60.0%) of the respondents in the FCT were within the age range of 41 – 50 years. 27.8% of them were within the age range of 51 – 60 years. 7.2% of them were within the age range of 31 – 40 years. 3.3% of the respondents were within the age range of 21 – 30 and only 1.7% of them were within the age range of 60years and above. This implies that majority of the rice farmers in the FCT were within the age range of 41 – 50, indicating their active and productive stage. In the same vein the result shows that in Nasarawa state, a good number 52.8% of the respondents were within the age range of 41 – 50years. 22.8% of them were within the age range of 51 – 60years. 10.0% of them were within the age range of 31 – 40years. Also 10.0% of the respondents were within the age range of 61years and above and only 4.4% of the

respondents were within the age range of 21 – 30years (Table 1). This implies that farmers who cultivate rice in the study area were within their active and productive stage and even more productive than the aged farmers.

This finding agreed with that of Olusegun (2020) who reported that majority of the rice farmers in Nigeria were within the age range of 30 – 60years and are therefore strong and energetic. The same result equally coincides with that of Nwahia *et al*., (2020) who reported that most of the rice producers in Nigeria are within the age range of 30 – 55years; and it is therefore, within this range that, most people fall into the productive sector of the economy.

Sex of the Respondents

Table 1 revealed that both in the FCT and Nasarawa state, majority of the respondents were males with 77.8% and 84.4% respectively. While females constitute 22.2% and 15.6% respectively. The high percentage of males may be due to the predominant nature of the people of the area, where values and believes of the people restricts women from participating in some outdoors activities; indicating that, majority of the rice farmers in the FCT and Nasarawa were males with FCT having more percentage of females than Nasarawa state.

This result corroborates that of Akinbode (2023) who posited that majority of the rice farmers in the North central Nigeria were males with few females. This finding is equally in conformity with that of FAO (2020) who revealed that majority of the rice growers in sub-Saharan Africa were males.

Educational Level of the Respondents

Table 1 shows that in the Federal Capital Territory (FCT), majority of the respondents had primary education as their highest educational level and this constitutes 62.8% of the respondents. 15.6% of the respondents had Qur'anic education, 8.3% of the respondents had secondary education, 7.2% of the respondents had tertiary education and 6.1% of them had a non-formal education. This implies that all respondents in the FCT had one form of education or the other, indicating that rice farmers in the FCT can read and write.

While in Nasarawa state, the same table shows that 46.7% of the respondents had primary education, 20.0% of the respondents had Qur'anic education, 16.7% of the respondents had secondary education, 11.1% of the respondents had a non-formal education and only 5.6% of the respondents had tertiary education. This implies that all respondents in Nasarawa state had one form of education or the other, indicating that rice farmers also in Nasarawa state could read and write.

This finding is in line with that of Akinbode (2023) who reported that, rice farmers in central Nigeria majority of them had one form of education or the other and they can therefore read and write. The result equally agreed with that of Nwahia *et al*., (2020) who revealed that, rice farmers of sub-Saharan Africa had one form of education or the other.

Marital Status of the Respondents

The result of marital status of rice farmers in the FCT revealed that majority (77.8%) of the respondents were married, 8.3% of the respondents were widow, 7.8% of them were divorced and only 6.1% of them were single. This implies that majority of rice farmers in the FCT were married, indicating that, they have one family responsibility or the other (Table 1).

While in Nasarawa state, the result shows that majority (88.9%) of the respondents were married, 5.6% of the respondents were divorced, 3.9% of the respondents were single and only 1.7% of them were widow. This implies that Nasarawa state had more married people into rice farming than FCT (Table 1).

This finding substantiates that of Savci (2021) who posited that majority of the farmers in West Africa are married with one family responsibility or the other. The result equally corroborated with that of Hassan (2021) who reported that farmers in Sub-Saharan Africa are usually married with many family responsibilities.

Family Size of the Respondents

Table 1 shows that in the FCT, a good number (55.6%) of the respondents had a family size of 6 – 10 members, 33.3% of them had a family size of 1 – 5 members and only 11.1% of the respondents had a family size of 11 and above members. While in the Nasarawa state also, the result revealed that good number (44.4%) of the respondent had a family size of 6 – 10 members. A proportionate number (38.9%) of the respondents had a family size of 11 and above members and 16.7% of them had a family size of 1 – 5 members. This implies that all rice farmers in the study area had one family responsibility or the other.

This result is in line with that of Rahman (2019) who reported that rice farmers in North central Nigeria, majority of them had family size of more than 5 members. The finding also substantiates that of Toit (2023) who revealed that farmers in West Africa had family size of more than five members which help them in one farming activity or the other.

Major Sources of Incomes of Respondents

Table 1 shows that in the FCT, majority (60.0%) of the respondents had farming as their major sources of income. 22.2% of the respondents had trading as their sources of incomes and 17.8% of them had civil services as their major sources of incomes. While in Nasarawa state, majority (83.3%) of the respondents had farming as their major sources of incomes. 13.9% of the respondents had trading as their major sources of incomes and only 2.8% of the respondents had civil service as their major sources of incomes in the study are. This implies that Nasarawa state had more population of farmers who consider farming as their major sources of their livelihood and wellbeing.

This finding disagreed with that of Olusegun (2020) who reported that farmers in the FCT are more dependents on farming as their major sources of incomes in the Federal Capital Territory than in Nasarawa state. The result equally substantiates that of Rahman (2019) who revealed that farmers in Nasarawa state, their major sources of incomes were from farming.

Other Sources of Incomes besides Farming

The same result also revealed that, in the FCT, the other sources of incomes of the rice farmers apart from farming is business and this constitutes the majority (83.3%) of the respondents, 10.0% of the respondents revealed forest and forest products and 6.7% of them revealed civil services as their other sources of incomes apart from farming. While in Nasarawa state, the result revealed that majority (60.0%) of the respondents had forest as their other sources of incomes besides farming. 22.2% of the respondents had business as their other sources of incomes beside farming and only 17.8% of the respondents had civil service as their other sources of incomes apart from farming. This implies that all rice farmers in the FCT and Nasarawa state had other sources of incomes apart from rice farming with Nasarawa having the lowest number in forest and forest productive exploitation (Table 1).

This finding coincides with that of Akinbode (2023) who reported that farmers in North central Nigeria and FCT had other sources of incomes apart from farming including forest exploitation, business and civil service.

Systems of Growing Rice in the Study Area

This present information on various systems of growing rice in both the Federal Capital Territory and Nasarawa State Nigeria and as well as reasons behind the systems.

Table 2: System of Growing Rice in the Study Area

Growing System	Frequency	Percentage	Frequency	Percentage
Rainfed system	160	88.8	140	77.8
Irrigation system	10	5.6	30	16.7
Flooded system	5	2.8	4	2.2
Dry seeded system	5	2.8	6	3.3
Intensification	0	0.0	0	0.0
Organics system	0	0.0	0	0.0
Reasons				
Nature of the soil	100	55.6	28	15.6
Lack of Gov't support	33	18.3	120	66.7
Lack of equipments	17	9.4	15	8.3
Lack of irrigation sites	30	16.7	17	9.4
Total	180	100.0	180	100.0

Source: Field Survey, 2024.

System of Growing Rice of the Respondents

Table 2 revealed that in the FCT, the most commonly used system of growing rice is rain fed system and this constitutes 88.8% of the respondents. 5.6% of the respondents practices irrigation system around riverine areas. 2.8% of the respondents practices flooding system of cultivation and also 2.8% of the respondents practices dry seeded method. This implies rice cultivation in the FCT was through rain fed system. While in Nasarawa state also majority (77.8%) of the respondents practices rain fed cultivation system, 16.7% of the respondents revealed irrigated system, 3.3% of the respondents said dry seeded method and 2.2% of them revealed flooding system (Table 2). This implies that irrigated rice cultivation system is more in practice in Nasarawa state than in the FCT, with majority of rice cultivation through rain fed system.

This finding therefore, was in conformity with that of Akinbode (2023) who reported that majority of the rice produced in North Central Nigeria and FCT was through rain fed cultivation system. The result was equally in line with that of Olusegun (2020) who posited that rice cultivation system in North Central Nigeria and FCT is through rain fed system.

Reasons for Adopting Rainfed System

Table 2 equally revealed that in the FCT, the major reason for adopting only rain fed system of rice cultivation was due to nature of their soil and the constitute a good number 55.6% of the respondents. 18.3% of the respondents revealed lack of government supports. 16.7% of the respondents revealed lack of irrigation sites and 9.4% of the respondents revealed lack of irrigation equipments in the FCT. This implies that, the major facts militating the use of irrigation system for rice cultivation in the FCT was the nature of the soil. While in Nasarawa state, the same finding revealed that majority (66.7%) of the respondents revealed nature of the soil as their major reason for adopting only rain fed system of rice cultivation. 9.4% of the respondents indicated lack of irrigation sites 8.3% of them revealed lack of supply of irrigation equipments. This implies that major reason for adopting rain fed system of rice cultivation in the study area was lack of government support for irrigation farming.

This finding agreed with that of Akinbode (2023) who revealed that lack of government support in Nasarawa state and nature of the soil in the FCT were the major reasons for adopting the practice of only rain fed system of rice cultivation in the study area. The finding also coincides with that of Olusegun (2020) who equally reported lack of government support for dry season rice cultivation in Nasarawa state and nature of the soil in the FCT are the only

major challenges against the adoption of irrigation rice cultivation system in the study area.

Factors Influencing the Use of Rice Cultivation Systems in the Study Area

This present information on factors influencing the use of rice cultivation system among respondents in the study area.

Table 3: Factors Influencing the Rice Cultivation System

	FCT				Nasarawa state			
Variables	Coeff.	S.E	t-value	P-values	Coeff.	S.E	t-value	P-values
Age	0.168	0.168	1.000	0.5951	0.154	0.157	0.981	0.593
Income L	0.894	0.339	2.637	2.146	0.771	0.992	0.777	2.137
Experience	0.664	0.330	2.012	1.439	0.369	0.456	0.809	1.348
Family S	0.146	0.146	1.000	0.647	0.144	0.134	0.851	0.115
Farm size	0.052	0.052	1.000	0.879	0.063	0.063	1.000	0.791
Income So	0.088	0.320	0.275	0.916	0.079	0.378	1.013	0.832
Sex	–2.161	0.504	-4.288	0.115	–3.224	0.507	-6.359	0.134
Marital Sta	1.025	0.447	5.016	5.016	1.734	0.458	3.797	6.015
Education	0.447	0.449	0.996	6.900	0.435	0.432	1.007	6.821
Const.term	1.937	0.683	2.847	0.005	1.826	0.611	2.989	0.006

Source: Field Survey, 2024.

A multiple regression analysis was used to investigate the factors relation of rice output in FCT and Nasarawa state. Three regression model such as linear, log-log and log- linear model were employ. The results of the three model were compared and selected the best one. Ordinary least square method (OLS) was use to explain the relationship between the dependent variable (Y) and independent variables (X, X_2, X_3 ---------- X_n). OLS has advantages over other method as it coefficients are linear, unbiase and has minimum variance error. Multiple regression analysis indicated Pseudo- R^2-values of 0.90, implying 90.0%change in rice output in the FCT and 0.89implying 89.0% change in rice output in Nasarawa state. However, 10.0% variation in the FCT and 15.0% variation in Nasarawa state maybe as a result of experimental error or as a result of not including other variables in the equation (Table 3).

Therefore, regression coefficient with respect to income level of respondents (X_2) was positive and significant (β = 0.894 Wald X^2 = 6.979 P = 0.008 Exp (β) = 2.446) indicating that one unit change or increase in income level of the respondents, holding other inputs constant will lead to increase in rice cultivation system in the FCT by 1.629. So also regression coefficients with respect to years of rice farming experience of the farmer (X_3) was equally positive and statically significant (β) = 0.664, Wald X^2 = 13.212, P = 0.00, Exp (β) = 0.511), indicating increase in years of rice farming experience by one unit, holding other inputs constant will lead to increase in rice cultivation system in the study area by 2.161 in the FCT. Note that coefficients

with respect to (X_1, X_4, X_5, X_6, X_7, X_8 and X_9) were not statically significant from the result. While in Nasarawa state the binary regression analysis indicated that 0.700, implying 75.8% change in regression coefficient with respect to income level also was positive and statistically significant ($\beta = 0.771$, Wald X2 = 5.893, Exp (β) = 2.137) implying that changing in income level of rice farmers in Nasarawa state by one unit, holding other inputs constants will lead to increase in rice cultivation system by 1.62. However (X_1, X_3, X_4, X_5, X_6, X_7, X_8 and X_9) were not statistically significant in Nasarawa state (Table 3).

The econometric method used in explaining relationship between dependent (Y) and independent variables (X_1, X_2, X_3……Xn) in binary regression analysis was ordinary least square method (OLS). OLS has Negelkerke (Pseudo) R^2 – value of 0.90, implying 90.0% change in value.

Conclusion

Based on the findings of the study, the research work concluded that the socio-economic determinants of rice outputs between Federal Capital Territory (FCT) and Nasarawa state are the same. The socio-economic factors that determines the rice output in the FCT are the same in that of Nasarawa state. They include income level and years of farming experience of the rice farmers in the study area.

Recommendations

Based on the conclusion of this research work the study recommended that:

i. Irrigated rice scheme programmes should be provided in the study area by the government and NGOs so as boost rice cultivation of the farmers.
ii. Rice cultivation inputs should be provided with subsidies in the study area by the government and NGOs so as to support rice productivity in the study area.

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