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Special Issue - Food Justice and Food Sovereignty in the context of the Right to Food

EFFECT OF ROAD INFRASTRUCTURE ON FOOD SOVEREIGNTY IN AKWA IBOM STATE, NIGERIA

Effiong JB[1]*, Aboh CL[1] and SB Azu[2]

John Effiong

*Corresponding author email: johneffiong@unical.edu.ng
johneffiong@yahoo.co.uk

[1]Department of Agricultural Extension and Rural Sociology, Faculty of Agriculture, University of Calabar, Calabar, Cross River State, Nigeria

[2]Department of Agricultural Education, Faculty of Vocational and Entrepreneurial Education, University of Calabar

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ABSTRACT

The study was designed to assess the effect of road infrastructure on food Sovereignty in Akwa Ibom State, Nigeria. The specific objectives of the study were to: ascertain the socioeconomic characteristics of the respondents; identify the food sovereignty in the study area and ascertain the effect of road infrastructure on food sovereignty in the study area. The survey research design was adopted for the study. The population of the study comprised all rural farming households in Akwa Ibom State. The study adopted multi-stage and simple random sampling techniques. Three blocks were selected from each of the three Agricultural Zones in the state. Three cells were randomly selected from each of the blocks sampled, which gave a total of twenty-seven (27) cells. A total of 450 respondents were selected using simple random sampling technique. Data were collected with the aid of a semi structured questionnaire. Data obtained were analyzed using percentages, means and standard deviation as well as ranking. The results of the socio-economic characteristics of the respondents showed that 58.90% of the respondents were males (265), while 41.10% of them were females (185). A good number of the respondents, 53.60%, were married (241), while 24.20%were single (109). Also, the results showed that 19.60% of the respondents had no formal education (88), while 30.70% attained secondary level of education (134), and about 33.70% of the respondents had tertiary level of education (152). The socio-economic characteristics of the respondents also indicated that 40.0% of the respondents had farm size ranging from 1-2 hectares, while 5.80% had farm size of 5 hectares and above. A good number of the respondents had access to credit (59.60%), while a small proportion (40.40%) had no credit facilities. The study revealed that 21.30% of the respondents had income ranging from ₦351,000 to ₦450,000, less than one US$ while a small proportion of the famers (8.90%) had income of about ₦251,000 to ₦350,000 only from farming activities. The main sources of food sovereignty of the people were crop farming and livestock production, though some were involved in trading and artisanal activities. The study noted that road projects have reduced accident ($\bar{x}$=2.75), increased farmers' income ($\bar{x}$=3.20), increased trading and shopping activities ($\bar{x}$ =2.62), and reduced floods ($\bar{x}$ =2.64) among others. It was also concluded that road projects have positive effects of food sovereignty although some of the abandoned projects have caused some hardship and environmental challenges. The study recommended the completion of all abandoned road projects carried out in rural Akwa Ibom State in particular, and Nigeria in general. The study, however, concluded that in Akwa Ibom State, rural road projects have brought the much needed relief from accidents, wastage, spoilage, and food sovereignty to many hitherto isolated rural communities.

Key words: Akwa Ibom State, Effect, Farmers, Food, Sovereignty, Road infrastructure

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INTRODUCTION

Road project is an aspect of socioeconomic empowerment, saddled on the leadership body of nations across the world to ensure convenient movement of the human, material and financial resources [1]. Road infrastructure development project as a socioeconomic empowerment initiative by governments is an important public disposition, channeled towards rural development [2]. Interconnectivity defines the dependability and connectivity between specific access paths and other major roads within a defined zone, as well as how such roads aid effective navigation between two or more settlements, towns and cities among others. Accident reduction defines an aspect of road construction projects, in terms of the sufficiency of commuting, aided symbols and other components for supporting safe driving as well as accident minimization within and around an area. Accessibility refers to the ease at which rural environments can be assessed due to available constructed roads. These dimensions of road infrastructure development projects go a long way in amplifying the socio-economic landscape of both its immediate and potential beneficiaries. In the context of the current study, the amplified socioeconomic landscape of its immediate beneficiaries is composed of rural dwellers with respect to their living standard [2,3].

Food Sovereignty in Akwa Ibom State

The agricultural zones that constitute Akwa Ibom State include: Uyo, Ikot Ekpene and Oron. These zones are given brief description in terms of the rural farmers' livelihood activities, output, income and poverty level.

Uyo Agricultural Zone: This zone is made up of Uyo, Ibiono and Itu Local Government Areas. The core livelihood activities in the zone are primarily agriculture and non-agriculture-based occupations [4]. However, most of the agro-based activities are predominant within Ibiono and Itu Local Government Areas with more or a larger percentage of non-agricultural activities within and around Uyo Local Government Area. However, the major agricultural produce in Ibiono, Itu and Etinan include but not limited to: Cocoa, oil palm, banana, plantain, cassava, rubber, oranges, amongst others with minimal involvement in rice production. Furthermore, besides direct food and/or cash crop production in these areas, there are other forms of ancillary commercial activities to include: transportation, fishing, commercial banking and mining among other things. However, Uyo Local Government Area has more of non-agro activities particularly in mining and mineral explorations [5].

The output of farmers in Uyo agricultural zone compared to other zones in the state is relatively higher, especially due to the mining and cash crop activities. Most of the production aftermath in terms of income generation for both private and government are predominately from the areas mining and cash crop activities. This major

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advantage predisposes the area as to be at least 30% of its population living above the one United States Dollar poverty standard [6]. The zone is particularly supported in terms of economic activities by the close proximity with the state capital city that is Uyo Metropolis.

The Ikot Ekpene Agricultural Zone: This zone is made up of Oruk Anam, Abak and Ikot Ekpene Local Government Areas. The core livelihood activities in the zone are primarily agriculture with minimal activities in non-agriculture. The agricultural activities predominant within Ikot Ekpene, Abak and Ikono/Ini Local Government Areas include but not limited to: banana, plantain, cassava, oranges, corn, yam, cashew, groundnuts, and rice amongst others, with a seemingly low efforts in cash crop production. The only cash crop that is highly cultivated in this zone is up-land and swamp-land rice [7]. In addition, the output of rural farmers in Ikot Ekpene agricultural zone compared to other zones in the state is relatively lower, especially due to the low proceeds from food crops that accounts for over 78% of the livelihood activities in the zone. This disadvantage predisposes the area to be at least 78% of its population living below the one US$ poverty standard [5]. The zone is poorly supported by limited public service institutions.

The Oron Agricultural Zone: This zone is made up of Oron, Mbo and Eket Local Government Areas. The major rural farmers' livelihood activities in the zone are similar to that of Ikot Ekpene and Uyo agricultural zones in terms of agricultural and non-agricultural based occupations, such as transportation, fishing, commercial banking, plantain, cassava, oranges, yam, and groundnut production. The only difference in this zone with the other zones is that there is an equal/fair concentration of agricultural activities in cash crop, food crop and other commercial business activities [8]. The major agricultural produce in Oron, Mbo and Eket Local Government Areas include: Cocoa, oil palm, banana, plantain, cassava, rubber, oranges, rice production, cashew nuts, groundnuts, avocado among other things. Moreover, apart from direct food and/or cash crop production, there are other forms of ancillary commercial activities to include: transportation, hotel & recreation, tourism, wildlife conserved domains, food/cash crop processing, fishing, commercial banking, mining among other things. However, Oron Local Government Area has more of non-agro activities particularly in hotel and recreation, tourism and wildlife. [8,9].

The output of farmers in Oron agricultural zone is relatively high, especially due to the non-agro activities particularly in hotel & recreation, tourism, and wildlife. Most of the production results with respect to income generation for both private and government are mainly from the areas of non-agro activities mentioned. This advantage position places about 47% of its population above one U.S. Dollar [5,9].

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The zone is particularly supported in terms of economic activities by its close proximity to neighboring states, especially Abia and Cross River.

Food Accessibility and Food Sovereignty

A study by Effiong and Asikong [10] showed the impact of road projects on rural development in Cross River State, using the survey research design on a sample of 21,60 respondents. A road project was measured using road accessibility and road drainage, while rural development was measured in terms of income level and rural-urban drift. The regression analysis was adopted for the hypotheses test and the results showed that road projects in terms of accessibility had a positive effect on income levels in the study area. The study concluded that the dimensions of road projects to include road accessibility and road drainage were sufficient predictors of rural development. The study recommended, among other things, annual increment in capital expenditure by government policies that are rural-road project driven.

A study by Effiong [11], on road infrastructure and development analyzed a sample of 150 respondents. The study used copies of questionnaires designed in a six Likert scale format. Road infrastructure projects were decomposed into accessibility, durability, and traffic lights, while rural development was measured in terms of farming output (that is sales value and volume). The multiple regression analysis was used for the hypothesis test and the results showed no statistically significant effect of road infrastructure projects on rural development. The study concluded that rural development in the study area can be attributed to other factors outside the dimensions of road infrastructure projects used in the study. Similarly, Akinola in a cross-cultural study found out that the dimension of road infrastructure projects, particularly road accessibility had no statistically significant effect on rural development. The result from the study showed that rural developments among rural Nigerian people do not differ in any dimension. The study recommends consistent improvements in rural infrastructure in a bid to reduce rural-urban drift.

The study by Akinola, Fion and Khandker *et al.* [12, 13, 14], investigated the relationship between road infrastructure projects and rural development. Road infrastructure projects were measured in terms of road accessibility and road durability, while rural development was measured in terms of farm income. The study adopted the quasi-experimental research design on a sample of 4,301 respondents. Questionnaires were administered and information received was subjected to the correlation coefficient test:the results showed that road infrastructure projects' dimensions used in the study were significantly related to rural development. The study recommended, among other things annual road maintenance and improved funding of rural road projects for food sufficiency.

In the same vein, Ovubude, National Population Commission, Aluko and Effiong & Asikong [10, 15, 16, 17] investigated the effect of road infrastructure projects on rural

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communities in the North-East Geo-political Zone of Nigeria. Road infrastructure projects were measured in terms of road accessibility and road life-span, while rural development was measured in terms of farming income. The study adopted the survey research design, which afforded the use of questionnaires on randomly selected rural farmers from selected rural communities in the zone. The Double-log regression analysis was adopted for the study and the result showed that the dimensions of road infrastructure projects had a direct effect on farming income. The study concluded that the rationale for relatively cheap perishable farm produce in the North-East Geo-political Zone of Nigeria is predicted on the unavailability of rural road projects and, therefore,it is recommended that sufficient trunk B and C roads should be comprehensively developed throughout the nation in order to achieve sustainable food sufficiency in the area. Effiong & Asikong [16] investigated road infrastructure projects as a predictor of food sufficiency levels using multiple regression test. Road accessibility and road durability were used as measures of road infrastructure projects, while farm produce sales value and sales volume were used as rural development measures. The sample of 200 respondents was randomly selected from the population of the study and administered the questionnaire having 35 items. The Semi-Double Log regression was used for the hypotheses test and the results showed that road infrastructure projects had a positive but weak effect on food sufficiency level in terms of the value and volume of their farm produce. The study concluded that rural development in terms of the degree to which it increases or decreases. The study recommended among things improved government farming subsidies, increased expenditure on road project. Over the years, the challenges faced by rural dwellers have continued to engage the attention of the international community, donor agencies, government, and rural community dwellers. Akwa Ibom State's rural communities, like other rural settlements in other parts of sub-Sahara Africa, are defined by a wide range of negativities, such as widespread poverty, poor feeder or access roads, poor educational infrastructure, lack of access to modern healthcare services, poor communication services, high level of illiteracy, lack of access to social amenities like pipe-born water, toilet, and lack of employment opportunities as well as social isolation. These are frequently used as parameters for characterizing the state of living and life in rural communities in Akwa Ibom State [9].

Rural development interventions in the state have largely focused on promoting unsustainable palliative measures, such as periodic pouring of laterite, stones, sandy and grading, with the implication that the long-term solutions to the remote and immediate problems of rural communities are still elusive. In the state in view, whose rural economy is agriculture-based, rural farmers are the worst affected when it comes to rural infrastructure decay and neglect [16,18]. Farmers produce crops and livestock outputs that cannot be preserved due to lack of storage facilities [11].

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October 2024
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Perishable farm produce constitute the greatest source oflosses to farmers due to poor access roads and lack of modern storage system [28, 29]. The rural market is near non-existent as a result of poor feeder roads. Consequently, commercial buyers of farm produce do not patronize local producers because of transportation-related obstacles and farmers are usually forced to discharge their farm produce at fairly low prices [19]. This scenario has contributed to large-scale poverty among farmers and other rural dwellers, who, as a result, cannot maintain even the minimum standard of living. Many rural farmers and their neighbours cannot pay for healthcare services; some cannot even afford to send their children to school, while a large proportion of them live in desperate housing situations [20].

RESEARCH METHODOLOGY

The study was carried out in Akwa Ibom State. The state is located in the south-south geopolitical zone (the Niger Delta Region) of Nigeria. The main ethnic entities in the state are Ibibio, Oron and Annang. The determinant language spoken in the state is Ibibio. The population of the state is estimated at 1.6 million [17]. The state is divided into 31 local government areas and occupies 25,156 square kilometers. It is located in the tropical rainforest belt of Nigeria. The state lies between latitude of 41.29 and 65.59 north of the Equator and longitude 73.55 and 96.29 east of the Greenwich Meridian.

The state is ecologically diverse, with the northern part predominantly semi tropical rainforest, the central belt is largely a tropical rainforest belt, while the southern part of the state is both a rainforest and mangrove swamp. The major soil types in the area are loamy soil, clay soil and sandy soil. The average temperature range is 29° – 36°C. The main occupations in the area are farming, fishing, artisanal fishing and civil service-based activities. The state blessed with abundant mineral resources.

SAMPLE AND SAMPLING TECHNIQUES

The study adopted a multi-stage sampling techniques as shown below: Stage one: involved a random selection of three (3) agricultural extension blocks from each of the three (3) agricultural zones in the state, making up nine (9) blocks. The blocks selected included: Uyo, Ibiono and Itu (Uyo Agricultural Zone); Oruk Anam, Abak and Ikot Ekpene (Ikot Ekpene Agricultural Zone); Oron, Mbo and Eket (Oron Agricultural Zone). Stage two: This involved a random selection of three (3) cells from each of the blocks totaling twenty seven (27) cells. Stage three: it involved a random selection of two percent (2%) of the population from each of the twenty seven (27) cells totaling Four Hundred and Seventy Eight (478) respondents used for the study.

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Volume 24 No. 10
October 2024
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ISSN 1684 5374

RESULTS AND DISCUSSION

The result of socioeconomic characteristics of the respondents presented in Table 1 indicated that the respondent varied widely in their socioeconomic characteristics. The results revealed that 58.9% of the respondents were males, 41.1% were females and a large of them (53.6%) was married. The results equally showed that 19.6% of the respondents had no formal education, 30.7% attended secondary school, while 33.7 percent attended tertiary level of education; similarly, only 5.8% of the farmers cultivated 5 hectares and above, and 13.8 %e earned less than 50,000 Naira annually, while 20.6% received over 450,000 per annum. It was noted, further, that 59.9% of the households had access to credit facilities from varied sources such as bank (39.8%), private money lenders (31.8%) and cooperative society (11.1%). The results in Table 1 suggest that a good number of the rural households in the study area had various levels of educational attainment. While a relatively large proportion of them did not attend formal education, a substantial number of the households possessed some level of formal education. This implies that the rural households in the study area are not typically illiterate as is being consistently presumed in literature. This supports the findings of Effiong and Aboh [21, 28] who found that a good number of farmers and rural dwellers are educated. It was equally observed that the respondents were predominantly small-scale farmers with relatively low income and large household sizes. Notwithstanding their low income status, the results indicate that the respondents had access to multiple sources of credit, including bank, cooperative societies, private money lenders, and others. However, it could be assumed that the usually high interest rates charged on credit facilities discouraged the rural households from accessing such financial opportunities. This result corroborates that of Effiong and Aboh; Aboh and Effiong [20, 21] who associated rural peoples' apathy towards credit interventions with high interest rates, and low income status among rural households. The findings are equally in line with the claims of Khandker, Bakht and Koolwal [14] that rural households are not homogenous in terms of their socio-economic characteristics.

Food Sovereignty activities in the area

The result in table 2 showed the mean distribution of the respondents based on their sources of sovereignty activities in the study area. The result revealed that all the variables recorded mean scores above the decision rule of 1.50, except fabrication of farm tools ($\bar{x}$ = 1.20) and village extension agents ($\bar{x}$ = 1.30). Specifically, the study noted that food sovereignty in the study area was achieved through arable crops farming such as corn, vegetables, cassava, yam, and cowpea ($\bar{x}$ =2.02), arable and tree crop farming ($\bar{x}$ = 2.02), selling of provisions ($\bar{x}$ = 1.92), village mill operators ($\bar{x}$ = 1.95), village health workers ($\bar{x}$ = 1.99) and livestock farming ($\bar{x}$ = 1.85) among others.

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The implication of this result is that food sovereignty in the area was achieved through a wide range of livelihood activities for which rural road infrastructure had great effects. The farmers cultivated crops (both arable and tree crops), reared livestock of different classes and predominately practiced mixed farming. Some households were transport service providers, village health workers and farm produce markers. all these activities rely heavily on road network or at least, good access road to strive. Every area of the food sovereignty livelihood activities needs good road infrastructure; farmers require roads to move farm produce, marketers and other village-based business owners rely on roads to succeed. This result supports the findings of Nneoyi *et al.* and Ijioma *et al.* [22, 23, 25] who noted that rural households survive on a wide range of activities, including farming, livestock production, artisanal activities, and trading amongst others. Similarly, the findings agreed with Khandker *et al.* [14] that road infrastructure is fundamental to the livelihoods of rural people.

The result equally agrees with Aboh and Effiong [7] that rural road projects have the capacity to improve the lives of rural people by reducing poverty and enhance their standard of living through improved economic activities. The result in Table 3 showed the distribution of the respondents according to the effects of rural road infrastructure on food sovereignty in the study area the result revealed that all the variables identified (except two) recorded mean scores above the cut-off mean of 2.50, which suggests that the respondents accepted all the effect. Specifically, the study observed that rural road infrastructure in the area has both negative and positive effect. Some of the positive effects include easy access and movement to and out of farms ($\bar{x}$=2.50), reduction in road accident ($\bar{x}$ =2.90), upgrade from peasant to commercial farming ($\bar{x} = 2.83$), increased trading/shopping activities ($\bar{x}$ = 2.62), and access to processing facilities as well as visitors coming to the village to invest and do business among others. It was equally noted that rural road infrastructure brought some negative effects to food sovereignty in the area. These negative effects were increase in crime rate after the road project ($\bar{x}$ = 2.68), livestock were destroyed during the road projects ($\bar{x}$ = 2.70), reduction in arable land ($\bar{x}$ = 2.59) and demolition of houses during road construction ($\bar{x}$ = 3.08) as well as the cutting down of economic trees and crops during road construction. The implication of this result is that although rural road infrastructure generally brings substantial positive effects to rural communities, roads are equally associated with some collateral damages to houses, shops, economic trees, crops, farmlands and ecological disturbances as a result of construction. In the case of rural road projects in Akwa Ibom state, it was noted that farmers now enjoy the luxury of having easy access to the markets and farms, which in turn reduces the quantity of goods that would normally have been destroyed for lack of storage facilities, farm outputs have

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increased, farmers have increased their farm holdings, government officials are now coming to the community for investment, even as the income returns from farming and other business activities have increased. The communities that were previously not accessible to the outside commercial world because of bad roads have been opened up as a direct consequence of road projects in the area. Farmers who previously could not move their farm produce out of the community to the market, and traders who could not access the community are now moving freely without obstacles. This result confirms the submissions of Effiong and Aboh [18, 24] who noted that farm produce are perishable and lack of access roads have caused great losses to the farmers. The study also corroborates the findings of Effiong and Asikong [10], who maintained that rural road infrastructure development is a liberation of rural areas from food scarcity. In Effiong's [11] view, rural households enjoy better economic returns from farming and related activities when road network is good and accessible.

The findings are, similarly, in line with Effiong and Aboh [24, 26, 27], who noted that rural roads construction frequently brings about destruction of forest lands, arable land, economic trees, and housing structures. These represent negative consequences despite rural road infrastructure being the most important in enhancing the socioeconomic development of rural areas.

CONCLUSION AND RECOMMENDATIONS FOR DEVELOPMENT

Recommendations were made based on the findings of the study as follows:

i. There is need to set up an independent panel of inquiry to review the state of work on all the roads in the state.
ii. Adequate environmental impact assessment should be done to accommodate compensation for farmlands, farms, and food sovereignty adversely affected by rural road projects to avert conflict and resistance from the rural dwellers, who are critical stakeholders in the said projects.
iii. Government should assist in providing more rural roads to link communities not captured by road project interventions.
iv. State government should partner with development agencies to provide more rural roads.
v. Road projects were not completed. This affected food sovereignty in the area. Therefore, all contractors who handled such projects should be returned to site to complete such abandoned road projects.

The provision of rural road infrastructure is generally seen as fundamental requirement for rural development and transformation. In Akwa Ibom State, road projects have brought much needed relief and food sovereignty to many previously isolated rural neighborhoods. However, the construction of these roads were poorly

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SCHOLARLY, PEER REVIEWED
Volume 24 No. 10
October 2024
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ISSN 1684 5374

supervised and monitored as over 60% of the roads were not completed according to specifications, with some of them completely abandoned. This has caused some hardship for the people in affected communities. It is equally important to note that some of the landowners and farmers whose properties were affected by the road projects were not duly compensated. Notwithstanding, the road projects have improved economic activities in the area and enhanced food sovereignty through farming activities.

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Volume 24 No. 10
October 2024
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Table 1: Socio-economic characteristics of the respondents Distribution of the respondents according to socio-economic characteristics

Variables	Frequency	Percentage (%)
Sex		
Male	265	58.9
Female	185	41.1
Total	**450**	**100**
Age		
15-25	134	29.8
26-35	156	34.7
36-45	83	18.4
46-55	52	4.6
56 and above	25	5.5
Total	**450**	**100**
Marital Status		
Single	109	24.2
Married	241	53.6
Widowed	82	18.2
Divorced	18	4.0
Total	**450**	**100**
Education		
No formal education	88	19.6
Primary education	72	16.0
Secondary education	134	30.7
Tertiary education	152	33.7
Total	**450**	**100**
Occupation		
Farming	174	38.7
Trading	131	29.7
Artisan	120	26.7
Civil Servants	25	5.5
Total	**450**	**100**
Farm size		
< 1ha	177	39.3
1-2 ha	180	40.0
3-4 ha	67	14.9
5 ha	26	5.8
Total	**450**	**100**

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SCHOLARLY, PEER REVIEWED
Volume 24 No. 10
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Annual Income		
< 50,000	62	13.8
50,000-150,000	84	18.7
151,000-250,000	75	16.7
251,000-350,000	40	8.7
351,000-450,000	96	21.3
451,000 and above	93	20.6
Total	**450**	**100**
Household size		
1-5 person	203	45.1
6-10 persons	170	37.8
11 and above	77	17.1
Total	**450**	**100**
Access to Credit		
Yes	268	59.6
No	182	40.4
Total	**450**	**100**
Sources of Credit		
Bank	179	39.8
Cooperate society	50	11.1
Private money lender	143	31.8
Family/Friends	42	9.3
Personal Savings	36	8.0
Total	**450**	**100**

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Table 2: Distribution of the respondents based on food sovereignty

S/N	Livelihood activities	Mean ($\bar{x}$)	SD
1.	Crop farmers (arable crops only)	2.02	0.84
2.	Tree crop farmers	1.80	0.65
3.	Arable crop and tree crop farmers	2.02	0.87
4.	Livestock farmers	1.85	0.53
5.	Mixed farming	1.86	0.65
6.	Trading on farm produce	1.50	0.42
7.	Village mill operators	1.95	0.74
8.	Transport service providers	1.79	0.42
9.	Village health workers	1.99	0.65
10.	Farm inputs supplies/distributors	1.70	0.58
11.	Farm labourers	1.75	0.55
12.	Farm produce marketing agents	1.80	0.73
13.	Loan/grant agents	1.85	0.86
14.	Storage service providers	1.65	0.45
15.	Fabrication of farm tools	1.20	0.57
16.	Processing of farm produce	1.60	0.48
17.	Village extension agents	1.30	0.90
18.	Advertisement agents	1.80	0.67
19.	Provision shop	1.92	0.83

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Volume 24 No. 10
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ISSN 1684 5374

Table 3: Effects of Road Infrastructure on Food Sovereignty Distribution of respondents based on the effect of road infrastructure on food sovereignty

S/N	Impacts of Road Infrastructure on food sovereignty	Mean ($\bar{x}$)	SD
1.	Easy access and movement to farm	2.5	0.61
2.	Reduction in road accidents	2.75	0.84
3.	Increase in road accidents	2.83	0.77
4.	More difficulty moving farm produce from farm	2.61	0.86
5.	Reduction in time spent to carry produce to market	2.72	0.16
6.	Outside buyers are now coming to the farm to buy farm produce	2.61	0.48
7.	Price of produce has increased due to influx of visitors/buyers	2.53	0.64
8.	Farmers' incomes have increased	2.68	0.97
9.	All the farmlands have been destroyed by road projects	3.20	1.96
10.	Economic trees like cocoa, oil palm, mango etc have been cut down	2.54	0.74
11.	Arable land for farming has reduced	2.59	0.85
12.	Our house was demolished during the road construction	3.08	0.45
13.	There is no grazing field for livestock	2.27	0.68
14.	Our livestock were destroyed during the road construction	2.70	0.95
15.	Crime rate has increased after the road project	2.68	047
16.	Increased business activities in the area	2.90	0.72
17.	Access to processing facilities	2.50	0.22
18.	Easy movement to mills and stores	2.64	0.18
19.	Government officials are now coming	2.59	0.63
20.	Our housing system has been improved	2.42	0.60
21.	Private and government investors are now coming to our village	2.67	0.93
22.	My farm size has increased	2.56	0.16
23.	I have upgraded from peasant to commercial farming	2.83	0.64
24.	I have increased the herd of animals I rear	2.44	0.36
25.	Incident of flood has reduced in the community	2.64	0.71
26.	Easy movement to neighbouring village	2.50	0.46
27.	There is reduction in rural urban migration	2.59	0.56
28.	Increase in farm output	2.61	0.80
29.	Increase access to credit facilities	2.53	0.42
30.	Increased trading/shopping activities	2.62	0.35

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REFERENCES

1. **Ekong EE** Rural Sociology. Dove Educational Publishers. 2010; 128-137.

2. **Omole FK, Owoeye JO and AO Ogundiran** Towards Efficient Transport Connectivity for sustainable market patronage in Nigeria: *International Journal of Developing Societies.* 2012; **2:** 88-96.

3. **Effiong JB, Etuk EA and D Alyamah** Perceived Determinants of oil spillage on agricultural lands in Ibeno Local Government Area, Akwa Ibom State, Nigeria. *African Journal of Food, Agriculture, Nutrition and Development*. 2023; **23(2):** 22397 – 22409. https://doi.org/10.18697/ajfand.117.22425

4. **Andem AB, Udofia UU and UU George** Bioaccumulation of some heavy metals and total Hydrocarbon in the tissues of periwinkles on the intertidal regions of Qua Iboe River basin, Ibeno, Akwa Ibom State, Nigeria. *Grenner Journal of Biological Sciences*. 2013; **7:** 258-264.

5. **Davidson EE, Ebiegberi O and A Adedoton** Effect of anthropogenic activities on the water resource management treatment of toxic element using mineral systems. *Integrated Journal for Environment, Science and Technology.* 2019; **1:** 3308-3313.

6. **Eba M** Cocoa in Ikom: Origin and cultivation. *Journal of Identifiers.* 2010; **1:** 23-41.

7. **Aboh CL and JB Effiong** Level of Participation in Telferia production among women farmers in EsitEket Local Government Area, Akwa Ibom State, Nigeria. *International Journal of Agriculture and Rural Development.* 2019; **2:** 3839-3842.

8. **Aboh CL and JB Effiong** Contribution of vegetable production to food security in Uruan Local Government Area, Akwa Ibom State, Nigeria. Global *Journal of Pure and Applied Sciences.* 2019; **1:** 1-6.

9. **Aguma JB** Transport investments and poverty reduction in developing countries: A case study of investment in the rural roads in Uganda. Leeds: University of Leeds. 2005.

10. **Effiong JB and AB Asikong** Mid-term Assessment of the activities of Fadama III Development Project in Cross River State. *Global Journal of Agricultural Sciences.* 2012; **1:** 31-35.

11. **Effiong JB** Challenges and prospect of Rural Women in Agricultural production in Nigeria. Lwati: *A Journal of Contemporary Research.* 2013; **2:** 183-190.

12. **Akinola SA** Coping with infrastructural deprivation through collective action among rural people in Nigeria. *Nordic Journal of African Studies.* 2007; **1:** 30-46.

13. **Fion DN** The Effect of Road Transpiration Network on Agricultural Product Marketing in Giwa L.G.A., Kaduna State. Zaria: Ahmadu Bello University Press. 2002.

14. **Khandker SR, Bakht Z and G BKoolwal** The Poverty Impact of Rural Roads: Evidence from Bangladesh. Economic Development and Cultural Change, 2009; **1:** 685-722.

15. **Ovubude NN** The Role of Transport in Rural Development A case study of Badagry Local Government Area of Lagos State. Ago-Iwoye: Ogun State University Press. 2000.

16. **National Population Commission (NPC).** 2006, Abuja.

17. **Aluko AA** Transport and integral rural development in Omu and Makunwa. Benin City: University of Benin Press. 2000.

18. **Effiong JB and CL Aboh** Rubber Production Technological and the related Socio-economic environments in Akwa Ibom State, Nigeria. *Global Journal of Agricultural Sciences*. 2018; **1:** 15-22.

19. **Effiong JB, Ijioma JC and LC Okolo** Participation of Women Farmers in rice production in Bende Local Government, Abia State. *International Journal of Agricultural Extensional and Rural Development.* 2015; **2:** 1-9.

20. **Aboh CL and JB Effiong** Utilization of information and communication technologies among undergraduates: A case study of the faculty of agriculture, University of Calabar, Nigeria. LWATI: *A Journal of Contemporary Research*. 2019; **2:** 26-33.

21. **Effiong JB and CL Aboh** Effect of Agrochemicals on the health of farmers in Akpabuyo Local Government Area, Cross River State, Nigeria. *European Journal of Scientific Research.* 2019; **1:** 142-147.

22. **Nneoyi IO, Ndifon HM, Angba AO, Effiong JB and OC Akinmosin** Impact of conflict on agricultural production in the Niger-Delta: Evidence from Cross River State, Nigeria. *A Journal of Food, Agriculture and Environment*. 2013; **10:** 445 -449.

23. **Ijioma JC, Effiong JB, Ogbonna MO and NO Okorie** Small Scale Farmers participation in cassava (manihot esculenta) production in Osisioma Ngwa Local Government Area of Abia State, Nigeria. LWATI: *A Journal of Contemporary Research.* 2012; **4:** 55-65.

24. **Effiong JB** Assessment of the effect of conflicts on yam production farmers in Cross River State, Nigeria. *Agricultural Science Digest.* 2023; **4:** 536-539.

25. **Effiong JB** An analysis of Agricultural livelihood activities prevalent among rural farmers in Itu Local Government Area, Akwa Ibom State. *African Journal of Agricultural Research and Development.* 2012; **5:** 3-45.

26. **Effiong JB, Ijioma JC and MO Effiong** Endogenous determinants of adoption of improved rubber production technologies among farmers in Akwa Ibom State, Nigeria. *Asian Journal of Agricultural Extension, Economics and Sociology*. 2016; **8:** 1-8.

27. **Effiong JB** Youth Participation in Community development, evidence from Yakurr Local Government Area, Cross River State. *International Journal of Social Science Tomorrow*. 2012; **1:** 1-5.

28. **Effiong JB, Aboh CL and CF Aya** Perception of farmers on the contribution of vegetables to livelihoods in Yakurr Local Government Area, Cross River State, Nigeria. *Global Journal of Pure and Applied Sciences.* 2021; **27:** 85-91.