



## ASSESSMENT OF THE EFFECTS OF ASABA'S GROWTH ON RURAL COMMUNITIES: RESOURCE ALLOCATION, EMPLOYMENT AND INCOME IMPLICATIONS FOR URBAN DEVELOPMENT POLICIES

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### Abstract

*The study assesses the effects of Asaba's Growth on Rural Communities and how it affects livelihood and employment. The development of Delta State Capital Asaba, pre-supposed improvement in infrastructure and the emergence of various forms of non-farm income sources for inhabitants but very little is known about how the development of Asaba capital of Delta State has affected resource allocation, employment and income generation in the area which need to be investigated. A total of 400 respondents were determined using Taro Yamane formula. Data for this study were generated from personal observation, responses in questionnaire and participant interviews, as well as focus group discussion. Data analysis was done using both descriptive and inferential statistical methods. Responses from key informants and focus group respondents were transcribed and critically reviewed to sieve out the modal points. Result shows that Participants at the field interviews (focus group discussions and key informants' interviews) across the twelve communities of the capital territory revealed that indigenes of the area had access to large contiguous farmlands on which they engaged in various agricultural activities. Apparently, land ownership was by inheritance from forebears and allocation by the leaders and elders of the various communities under study. On loss of agricultural farmland on account of Asaba being made capital majority of the respondents (57%), said "No" (Figure 2). This is intriguing given the scale of land takings by various activities. Respondents to the interviews and focus group discussion stated that erosion was beginning to affect their farmland. It was found that there is no significant difference in land allocation and ownership in Delta State capital territory following state creation. It shows that there has been a significant decline in the measure of farmland owned by individuals after Asaba. The increased personal revenues of residents of the communities enabled them to better their living conditions, building better houses and retiring from tedious farm work. Based on findings it was recommended that government should provide support through infrastructural development to enable easy access to far-reached areas of these communities, which can help to encourage farmers in the capital territory to continue with their occupation.*

**Keywords:** *Urbanization, Rural, Environment, Land and Resources.*

### Introduction

At the core of sustainable urbanization, lies the concern for the preservation of the environment and livelihoods in previously rural communities. Urbanization of rural areas has generated a lot of issues among scholars who are interested in preserving land for the future and for sustained livelihoods. Certain schools of thought advocate for land allocation according to contending needs of individuals, with the highest bidder taking prominence in land use. However, there are smaller voices emanating from the rural population with silent cries for attention on the need to preserve prime agricultural land (Enaruvbe and Atedhor, 2015; Naab *et al.* 2013; Achamyeleh, 2020). Rural land serves the



purpose of producing food for any population, as well as a base for building homes and industries. Land for most persons, is a major resource and a fulcrum to generate other goods from the environment. In the same vein, non-farm work rather than enlarged and improved farming practices has been identified as a more assured means of increasing employment opportunities in the rural areas and also a means to improved livelihood standards (Harris, 1990).

The concept of peri urban refers to a situation where institutions and processes are a mix between urban and rural. Peri urban areas are characterized by a mix of urban and rural features. Some of the land uses that peri urban areas are put include play parks, airports, water, power and sewerage facilities etc. The increasing demand for land in the peri urban areas has been attributed to increased population in African cities, with the people pushing to convert agricultural land to residential uses because of the increased rent demanded and paid in the cities. Peri urban areas are characterized by fierce competition for the use of land between agricultural purposes and the development of urban structures. In addition, the increased urban activities in the peri urban areas results in reduced agricultural activities and consequently the reduction of rural employment opportunities in the peri urban fringes. Insecurity of land tenure and transition of rural land ownership to urban ownership rights make the rural land owners to sell off agricultural land to private developers for fear that the government would compulsorily take possession of such land, thereby leading to the fragmentation of agricultural land and unauthorized building of substandard residential houses on land so acquired in order to meet the housing needs of the rural poor who can barely afford to pay rent on urban standardized residential buildings.

### **Urbanization and Resource Use in Delta State Capital Territory**

Urbanization is facilitated by people such as landowners, estate agents, architects, institutions and local interest groups that enable construction and industrialization of rural areas. Sometimes, urban areas are not progressively developed from rural areas, but are deliberately set-out by local charters from secular and ecclesiastical lords, for example, the groups of towns founded by the Dukes of Zahringia which were studied by Hanm in a publication made in 1932 and establishment of a new Federal Capital Territory (FCT) in Nigeria in the year 1976 (Dawam, 1994; Slater, 2009). Urbanization is also achieved when rural land use is transformed from primary production activities such as agriculture to secondary production activities such as industrialization, construction of roads infrastructure and provision of social amenities (Ibrahim and Hassan, 2018).

Urbanization impacts on the environment negatively through over-population, deforestation, pollution and desertification. Overpopulation not only leads to stress on available agriculture farmland and use of farming practices which are harmful to the environment, in a bid to boost food production (Perotti *et al.*, 2016). Desertification results from deforestation processes that exposes the top soil to the direct effects of wind and rain that culminates in extensive soil erosion, thus leading to the degradation of soil nutrients (Telkar and Pote, 2015) rendering the soil unsuitable for farming. Deforestation is somewhat inevitable in a developing nation such as Nigeria because of the need to engage in building of houses and industrialization processes. However, where the land cover is clear, photosynthesis is reduced and animals lose their natural habitats. There is also increased danger of loss of rare and valuable herbs and vegetation (Agbogidi, 2010). Negative impacts of urbanization include the formation of heat islands (urban heat islands are formed when industrial and urban areas are developed and there is an abundance of heat), increased global warming, poor sanitation, poor waste management and drug abuse due to unemployment. Therefore, although urbanization improves access to higher paid jobs and employment, increased population of urban areas endangers urban residents to other negative factors such as over-crowding (Chen, Cheng and Huang, 2023).



Traditional land allocation for residential and agricultural purposes in Delta State capital Territory is usually based on agreement between families and traditional chiefs. If an area is declared an urban area or town, land allocation in that area becomes subject to the existing land use regulations and policies (Land Use Act 1991 as amended). Traditionally land in Asaba and fringe communities is owned and allocated to families according to farming and residential needs. This piecemeal allocation of land for agricultural land use that is based on demand creates the avenue for land fragmentation which ultimately results in low agricultural productivity from small units of farmland.

Urbanization is said to have a negative effect on the land available for agriculture because land which was formerly used for farming purposes, is converted for construction purposes (Satterthwaite *et al.*, 2015). Residential houses are pushed out of the city centre to make way for the establishment of industries, while prime agricultural land in the peri urban areas are displaced by construction activities. A study of urban growth pattern of Benin City, Nigeria revealed that the reasons for urban growth was natural increase, rural urban migration and increased infrastructure. In the same vein, the pattern of urban expansion was linked to the major routes that lead out of town to the neighbouring communities such as Sapele Road, Agbor Road and Ugbowo-Lagos Road. The study also found out that Ugbowo Lagos road accounted for the highest expansion rate due to the presence of many higher educational institutions and the need for workers in those institutions to live very close to their places of work (Ogunbodede and Balogun, 2013).

### **Urbanization Policies and Emerging Issues in Delta State Capital Territory**

A Territory can be described as a geographical space which outlines the extent of a political jurisdiction. The benefits of adopting a capital territory approach to the development of urban centres include better and more robust planning and coordination of urban development, sustainable institutional framework for urban growth, more distinctive, efficient and effective management of urban infrastructure, facilities and utilities. Gottmann, (1975) defines a territory as “a portion of geographical space that coincides with the spatial extent of a government’s jurisdiction. It is the physical container and support of the body politic organized under a governmental structure. It describes the spatial arena of the political system developed within a national state or a part thereof endowed with some autonomy. Capital territories are administrative tools that are used for the management and synchronization of government’s activities in every state (Ikwuyatum, 2016). Some of the challenges in the administration of capital territories include overlapping and duplication of functions with municipal authorities such as local government councils and other pre-existing statutory agencies in revenue collection and service provision, and lack of adequate legal framework to resolve the duplications and overlapping problems. Originally a political invention, a territory must necessarily occupy space and is identified by the human activities that take place within the territorial space.

Capital cities are set up to serve as administrative centres and also to cater for the development needs of the surrounding communities. Capital cities are formed in line with the central place theory and as a result, they are characterized by social and infrastructural amenities that serve the businesses, industries and residential areas that they are associated with. Central to the development of capital cities, is urbanization. For capital city development to be achieved, urbanization of rural communities has to take place.

Delta State Capital Territory presents a scenario for analyzing how the urbanization of the state capital Asaba, has influenced the socio-economic conditions of residents of the other communities designated alongside Asaba, as the area comprising Delta State Capital Territory.



Development of Delta State Capital Territory is modelled along the provisions of the general Nigerian Town and Planning Ordinance (1946) implemented by both the state Ministry of Lands and Surveys and the Ministry of Urban Renewal. Delta State Capital Territory Development Agency was established in the year 2015 and charged with the task of ensuring that Asaba and other communities within the capital territory are well planned, with effective infrastructure and clean and healthy environment.

Over time in the Delta State Capital Territory, houses have been built on traditional farmlands, and the only access to such buildings had been what previously served as farm roads. In the same vein, the fact that houses were built haphazardly on empty plots of land without recourse to zoning or physical planning increased the incidence of construction on natural drainages, thereby leading to erosion and massive flood. Results of this study will help planners and government officials to incorporate vital socioeconomic factors in the building blocks of urbanization.

The development of Delta State Capital Asaba, pre-supposed improvement in infrastructure and the emergence of various forms of non-farm income sources for inhabitants of the twelve other communities of Issele-Azagba, Okpanam, Ibusa, Achalla-Ibusa, Okwe, Ugbolu, Oko-Anala, Oko-Amakom, Oko-Obiokpu, Anwai, Azagba Ogwashi and Aboh-Ogwashi-Uku which together with the state capital Asaba, constitute Delta State Capital Territory. However, 30 years after the creation of the capital territory, there appeared to be no significant levels of development in this regard. Many scholars have studied the impact of the development of capitals on indigenous communities, but very little is known about how the development of Asaba capital of Delta State has affected resource allocation, employment and income generation in the area in the other communities of the capital territory.

### **Objectives of the Study**

1. Examine changes in infrastructural development in Delta State Capital Territory, 30years after creation of Asaba, the capital of Delta state.
2. Find out if there have been any changes or improvements in the employment status of residents of the capital territory as a result of the development of Asaba, capital of Delta state.
3. Identify possible changes in income of residents of the capital territory as a result of development of Asaba, the state capital.
4. Highlight changes in land ownership and land allocation patterns in the communities after the creation of the state capital and establishment of Delta State Capital Territory.

### **Research Hypotheses**

**Hypothesis 1:** There is no significant difference in land allocation and land ownership patterns in the communities of Delta State Capital Territory, after Asaba became the capital of Delta state.

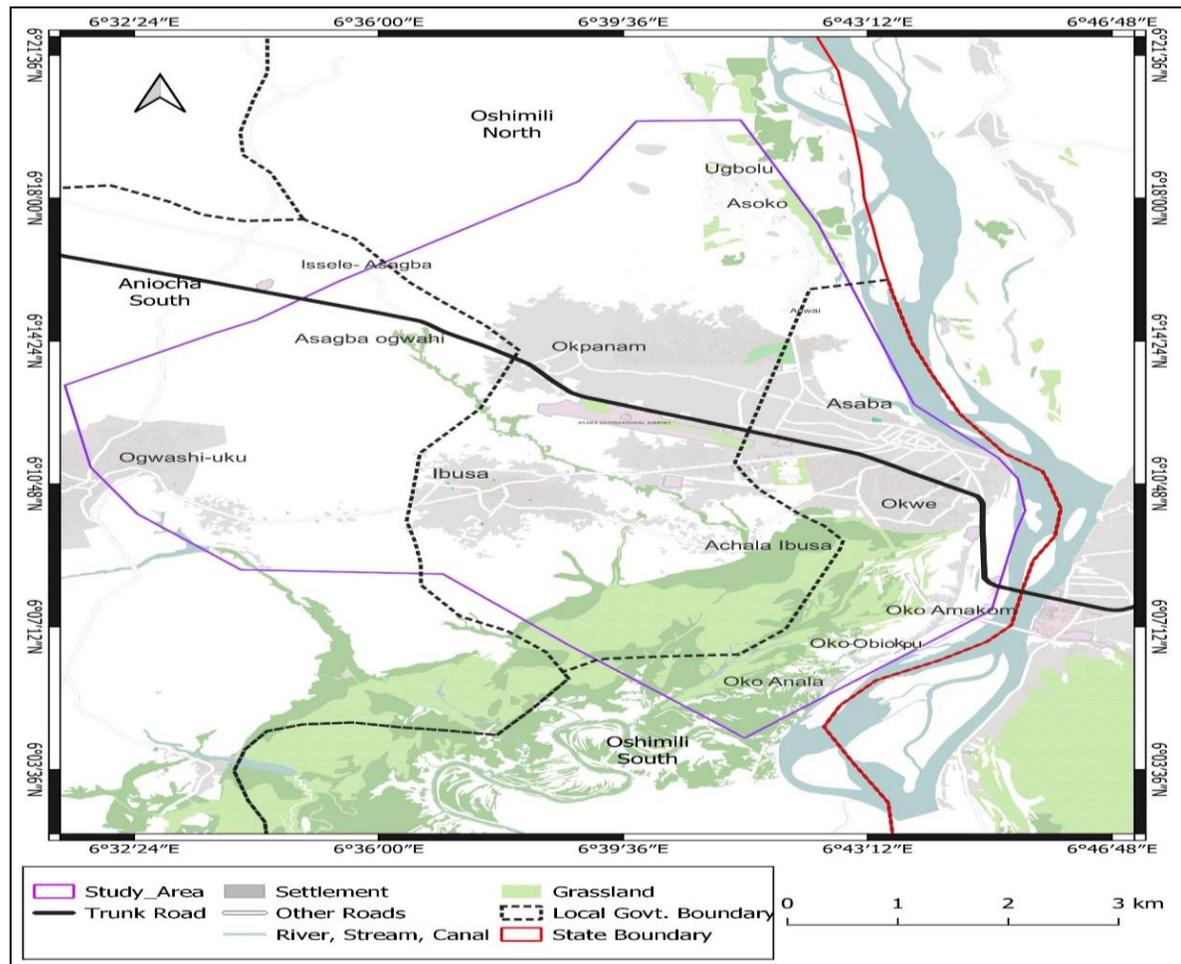
**Hypothesis 2:** There is no significant difference in income of residents of the communities in Delta State Capital Territory after Asaba became the capital of Delta state.

**Hypothesis 3:** There is no significant difference in occupation of residents of the communities in Delta State Capital Territory after Asaba became the capital of Delta state.

**Materials and Methods**

**Study Area**

This research was carried out in the communities which alongside with Asaba, constitute the area delineated as the Delta State Capital Territory. These communities are Issele-Azagba, Okpanam, Ibusa, Achalla-Ibusa, Okwe, Ugbolu, Oko-Anala, Oko-Amakom, Oko-Obiokpu, Anwai, Azagba Ogwashi and Aboh-Ogwashi-Uku. These communities alongside Asaba, make up the Delta State Capital Territory, as prescribed in the official Gazzete of Delta State (2015). The area lies about 47metres above sea level and is situated within Aniocha South, Oshimili North and Oshimili South local government areas of Delta State (Figure 1). Average annual temperature in the area is 26.8<sup>0</sup>C/80.2<sup>0</sup>F while average annual precipitation is about 1,910mm. The study area is located within longitude 6<sup>0</sup> 38' E and 6<sup>0</sup> 45' E of the meridian and latitude 6<sup>0</sup> 06'N and 6<sup>0</sup> 19'N of the Equator, and covers an estimated land area of 363.175sqkm.



**Figure 1: Map of the Study Area**

Source: Author, (2021)



## Data Collection

Data used in this paper were generated from personal observation, responses in questionnaire and participant interviews, as well as focus group discussion. Target respondents were those aged fifty years and above, since the aim was to get responses from people who have lived in the study area before and after creation of the state capital who would also have been part of the economically active group of the population. Copies of the questionnaire were distributed to 400 respondents in the study area. These were apportioned to the various family units and quarters that make up the villages in the communities, using selective random sampling. Stakeholders in the sampled communities which include community leaders and members of the various socioeconomic groups were individually interviewed during organized interviews and focus group discussion sessions. Their contributions and responses were recorded using voice recorders as well as note taking.

## Data Analysis

Data analysis was done using both descriptive and statistical methods. Responses from the sampled completed and returned questionnaire were coded and analyzed using relevant statistical analysis to elicit commonalities as well as highlight relationships between determined dependent and independent variables. Responses from key informants and focus group respondents were transcribed and critically reviewed to sieve out the modal points. Altogether, the results of the statistical analysis and modal responses from key informants, participants in the focus group discussion sessions and questionnaire respondents formed the basis for the conclusions reached in this study.

## Results and Discussions

### Resource Allocation, Land Ownership and Occupation Patterns in Delta State Capital Territory

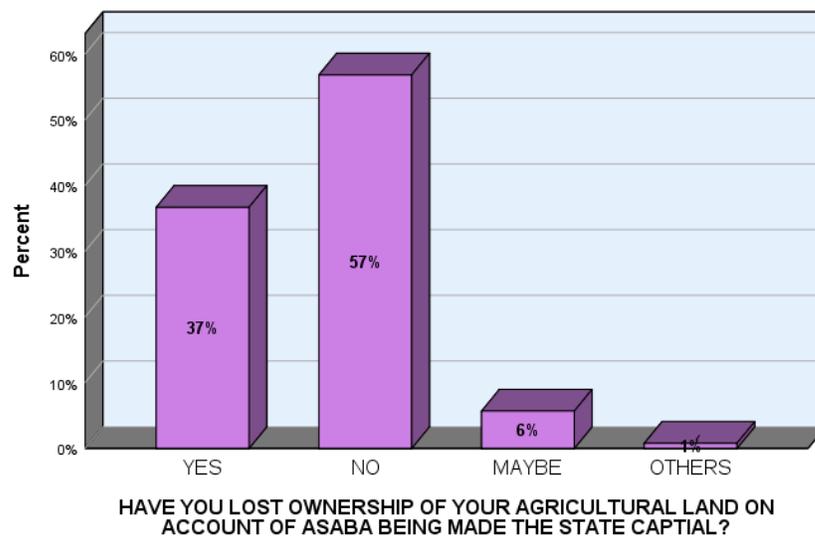
Participants at the field interviews (focus group discussions and key informants' interviews) across the twelve communities of the capital territory revealed that indigenes of the area had access to large contiguous farmlands on which they engaged in various agricultural activities, including crop farming, before Asaba became the state capital. Traditional land tenure system was also in practice because indigenes had access to more land than they could farm. It was such cases of unhindered access to farmland by locales that birthed communities such as ANWAI, Azagba Ogwashi and Aboh-Ogwashi. In the case of ANWAI, the land is 'owned' by Umudaiké village of Asaba. The village had so much farmland in their possession that they invited farmers from Enugu and Ebonyi States to farm on their land. ANWAI is an acronym for Agricultural Institute for West Africa now Dennis Osadebay University Asaba. The name of the institution thereafter took over that of the community, such that the area is now known as ANWAI. Anwai community constitutes two camps namely Camp Ebedei and Camp Albert, drawing from the names of the leaders who exercise control over the stretches of farmland under their control. Aboh-Ogwashi and Azagba Ogwashi also stem from the same originating factors. They each owe allegiance to Agedeisi village of Ogwashi Uku kingdom who is their 'landlord'. Occupants of these two communities are mostly migrant farmers from neighbouring states who settled there and pay yearly rents to farm on the land. This historical development of Anwai, Azagba Ogwashi and Aboh Ogwashi-Uku communities (all of which are constituents of our study area) lends credence to the fact that the area had vast highly fertile farmlands and undeveloped lands which enabled them to give land out to migrant farmers on lease, even though they were farmers themselves. This was against the backdrop of low socioeconomic activities in the area before the onset of Asaba as a State Capital and the subsequent emergence of a capital territory that introduced new vistas and more complex land use dynamics into the region.



Apparently, land ownership was by inheritance from forebears and allocation by the leaders and elders of the various communities under study. It was strange for anyone who is an indigene of the community(s) to buy land or to sell land. It was because of the impracticable nature of land sales and purchase in the first place that made the communities especially Anwai and Aboh Ogwashi-Uku to invite strangers to farm on the unused portions of their vast highly fertile land. In return, the owners of the farmland received both money and farm produce as gifts from their tenant farmers. Across all the communities, the common attribute among members of the communities was the ability of farmers in these areas to explore other parts of adjoining communities for fertile farmland, while they leave the farmlands which have just been harvested, to fallow. There was no fear of theft of either farm inputs or products, or fear of attacks in the farms. Also, the people managed to provide food produce for their households at subsistence level. Issues of erosion and flooding in the communities were very much alien to inhabitants of communities in the study area. There was also, lots of youth participation in agriculture which resulted in high crop yield in the years before the institution of state capital in Asaba.

Therefore, upon being asked: “Have you lost agricultural farmland on account of Asaba being made capital”? Majority of the respondents (57%) said “No” (Figure 2). This is intriguing given the scale of land takings by various activities. This response is, however, justified by the fact that collectively, the communities had more than enough land for their farming needs and therefore did not count outlying land sold to immigrants and developers as loss. It is important to reiterate that ownership and allocation of farmland in most parts of the study area is coordinated by the leaders and elders of the communities.

What has happened rather is that spare and unused agricultural farmland which hitherto was being cultivated by migrants in the communities had been recovered by the landlords and converted to development purposes by both government and private individuals.



**Figure 2: Rate of Loss of Agricultural Farmland Due to the Making of Asaba as Capital**  
**Source: Field Survey Data Analysis (2021)**

Respondents to the interviews and focus group discussion stated that erosion was beginning to affect their farmland. In the case of Okpanam, respondents said that water which ran off the surface of residential built-up areas in their community flooded their farmland, thus damaging the food crops. In Oko-Anala, Oko-Amakom and Oko-Obiokpu communities, farmers resorted to timing their crop production to coincide with the period when their farms are not flooded. As a result, their crops are usually harvested before they mature. These are conditions which were not present in the period before Asaba was made state capital. At the same time, farmers in Anwai, Oko-Amakom, Okwe, Aboh Ogwashi-Uku, Achalla Ibusa, changed their choice of farming from subsistence to intensive cropping activities such as rice cultivation, plantain plantation and catfish farming on the floodplains of the River Niger in response to urban growth and population expansion (Figures 3 and 4).



**Figure 3: Fish Farming in the Capital Territory**

Source: Field Survey, 4<sup>th</sup> April (2022)



**Figure 4: Fish Farming in the Capital Territory.**

**Source: Field Survey, 4<sup>th</sup> April (2022)**

In response to Hypothesis 1 which states that there is no significant difference in land allocation and ownership in Delta State capital territory following state creation, hypothesis was tested using the variables (i) measure of farmland owned by individuals in the periods before and after Asaba was made the state capital and (ii) measure of land available after Asaba was made state capital.

### **Test of Hypothesis 1**

$H_0$ : There is no significant difference in land allocation and land ownership patterns in the communities of Delta State Capital Territory, after Asaba became the capital of Delta State.

The independent variables (1) measure of farmland available before Asaba was made the state capital and (2) measure of farmland available after Asaba was made the state capital, were tested using student t-test. Table 1 gives the number of respondents and their responses to the question put to them concerning the measure of farmland owned in the periods before and after Asaba was made the state capital.



**Table 1: Group Statistics for Independent Samples – Test of Hypothesis 1**

Category	No. of Respondents	Total Land Area in Acres	Mean	Standard Deviation	Standard Error Mean
Available farmland before Asaba became capital	299	1422	4.76	12.319	0.712
Available farmland after Asaba became capital	301	505	1.68	2.778	0.160

Source: Field Survey Data, (2021)

The mean measure of farmland per respondent in the periods before and after Asaba became capital was found to be 4.76 acres and 1.68 acres respectively. This shows that there has been a significant decline in the measure of farmland owned by individuals after Asaba became capital.

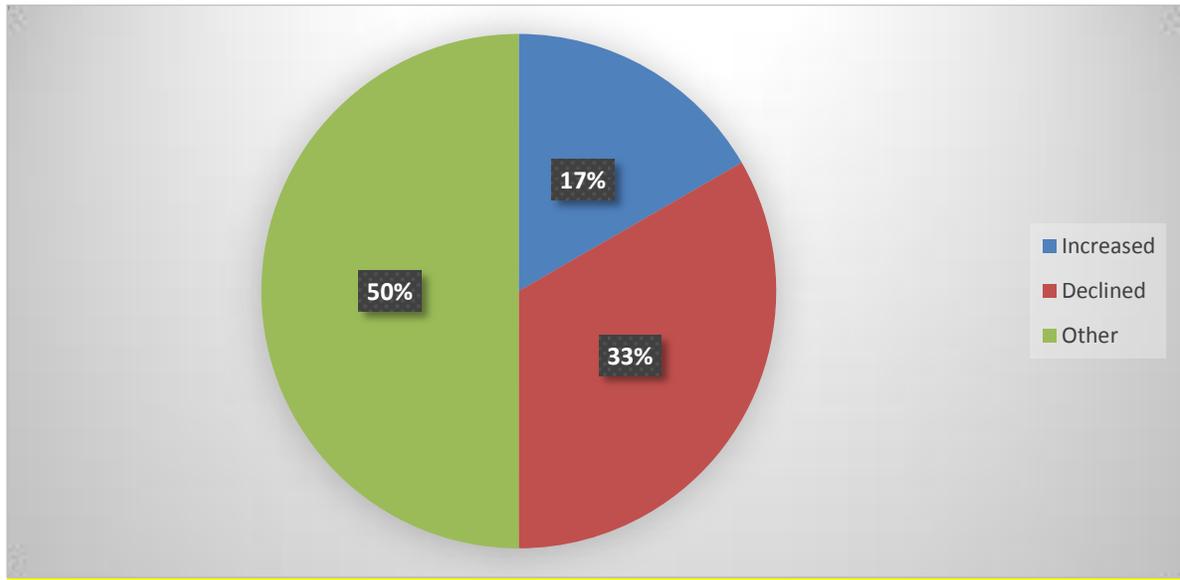
Table 2 presents two vital pieces of information to test the Hypothesis as follows: (i) Levene’s Test for equality of variances (ii) T-test for equality of means. The result of Levene’s test on the values reveals that  $p < 0.05$  with an F-value of 34.572. Put differently, the ‘Sig’ value in the first section of Table 2 is 0.0001 and this is less than the level of confidence of 0.05 upon which the hypothesis is stated, making the test statistically significant at a 0.05 level of confidence. As a result, we reject the null hypothesis which states that there is no significant difference in the measure of available farmland. This means that there is a significant difference in the measure of available farmland in the periods before and after Asaba was made state capital. This result confirms that after Asaba became the capital of Delta State, there was a significant reduction of farmland and by implication, land dedicated to agricultural land use in surrounding communities. This was also shown by the second section of Table 2 where a positive *t*-value indicates that the mean of the first category (measure of land area before Asaba became the state capital) is significantly higher than the mean of the second category (measure of land area after Asaba became the state capital). The mean difference (3.080) also corresponds with the computation in Table 1 which reflects about 47.8% decline in agricultural land in the study area, after Asaba became state capital. This also conveys a message that an average of 3.08 acres or 47.8% of farmland had left the ownership of the respondents for other forms of land use.

**Table 2: The Independent Samples T-test for Validating Hypothesis 2**

	Levene's Test for Equality of Variances	T-Test for Equality of Means					
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
<b>Equal variances assumed</b>	34.572	0.0001	4.231	598	0.0001	3.080	0.728
<b>Equal variances not assumed</b>			4.218	328.040	0.0001	3.080	0.730

Source: Field Survey Data Analysis, (2021)

Figure 5 illustrates the result of our field survey, as a higher percentage of the respondents (83%) revealed a reduction in the level of agricultural activities, which was also reflected by the declining measure of farmland in the study area.



**Figure 5: Status of Farmlands after the Creation of Delta State Capital Territory**  
**Source: Field Survey Data, (2021)**

**Impacts of Land Use Changes on Communal Income**

This section describes the effect of the enactment of Asaba as capital on the incomes of respondents. In line with the expected improved economic opportunities offered by the capital territory to surrounding communities, it is expected that the income of the people should improve their welfare. Table 3 gives a representation of the distribution of income among the respondents of the field survey. From the table, we can observe that average annual income among the respondents who were willing to supply us information on this aspect (314 respondents) was ₦1,550,829.62. This gives us an average of about ₦4,250 per day.

**Table 3: Descriptive Statistics on Estimated Annual Income**

	N	Minimum	Maximum	Mean	Std. Deviation
Estimated Annual Income	314	16,000	15,600,000	1,550,829.62	1,997,908.100
Valid N (List-wise)	314				

**Source: Field Survey Data, (2021)**

Participants at the key informant and focus group discussion sessions across the communities stated that there was increased earnings and income generation by members of their communities. In Achalla Ibusa and Aboh Ogwashi-Uku communities, rise in individual income was said to have been enabled by the sale of land to private developers, strangers and immigrants to the capital territory. Aboh Ogwashi-Uku is the host community to Ogwashi-Uku Polytechnic, where key informants and participants of the focus group discussion sessions informed us that the community had witnessed a lot of investments in hostel accommodation, hotels and shopping centres. Other communities such as Anwai, reported that there had been increased patronage of their farm produce since the enactment of Asaba as the state capital.



### **Advent of Market Hubs**

Respondents at the focus group discussion sessions as well as key informants in Ugbolu, Anwai, Aboh Ogwashi-Uku, Azagba Ogwashi and Achalla Ibusa stated that business activities in the area had transited from subsistence farming, to large scale farming, targeted at the growing population of the capital territory. As a result of this, farmers in the capital territory are continuously adopting modern farming methods and techniques to boost food production. Development of the capital territory created access roads in constituent communities, resulting to the influx of traders to purchase farm produce in the communities. The influx of buyers of food crops into the communities also led to the advent of market centres which are conducted in make-shift sheds. These local markets are scheduled to hold once every 5-days. Market days are counted traditionally as Eke, Ori, Afor and Nkwo. Markets in the various communities take their turns to host buyers of the food products. As a rule, no two proximate communities host buyers on the same market day. This is done to ensure adequate patronage of farm produce that are in the most part, highly perishable, because they are sold in raw unprocessed form.

The ability of local farmers to expand food crop production and sell them in the market centres introduced new sources of income which empowers them to educate their children, contribute to community development and as well build modern houses. However, our respondents in Okwe, Oko-Anala, Oko-Amakom and Oko-Obiokpu communities complained of inability to convey food products to final consumers. As a result of their handicap, the market centres are riddled with middlemen who on account of their monopsony powers, exploit the local farmers, and offer unfair prices for agricultural produce.

### **Comparison of Farm and Non-Farm Activities as Determinants of Annual Income**

Results of the key informant interviews and focus group discussion sessions conducted in the study area showed that the establishment of the capital territory presented various opportunities for members of the communities to earn non-farm income. Non-farm income includes rent paid by immigrants to the communities for residential housing. Respondents informed that rent in the core of Asaba the state capital, was high because there were few houses available relative to demand for housing by both government and private individuals/private investors. As a result of this, migrants and visitors to the capital territory search for and obtain accommodation in the other communities such as Achalla Ibusa, Okpanam, Okwe and Ugbolu, from where they commute to work in the state capital, Asaba. Besides, some of the government institutions are located in the communities of the capital territory (for example, Nigerian Immigration Service and Asaba International Airport), therefore creating economic opportunities such as transportation, personal services and retail trade ventures in the communities within the capital territory. The houses built by locales therefore served as stop-gap between government provision of permanent structures for its offices and institutions and the development of owner-occupier houses by migrants.

Some other sources of non-farm income in the study area include revenue derived from the ownership and use of land for purposes other than farming. A regression analysis carried out to test determinants of annual income among farmers and non-farmers in the communities revealed the diminishing value generated from farming activities in the communities as a result of the influence of the capital territory.

## Test of Hypothesis 2

$H_0$  - There is no significant difference in income of residents of the communities in Delta State Capital Territory after Asaba became the capital of Delta state.

With income as the dependent variable, independent variables for both computations were gender, highest educational qualification and measure of land owned by the sampled individual farmers and non-farmers. Data samples are shown in Tables 4 and 5. From these, it can be seen that education and land ownership are the significant determinants of income among farmers. Therefore, a unit rise in education caused annual income to rise by 318775.3 units, while a unit rise in land ownership caused annual income of the farmers to rise by 44310.64 units.

**Table 4: Determinants of Annual Income among Farmers**

Variables	Coefficients	Standard Error	T-statistics	Probability
Constant	-148140.2	331783.0	-0.4465	0.6557
Gender	92951.88	192902.1	0.4819	0.6304
Education	318775.3	86156.24	3.6999	0.003
Land Ownership	44310.64	30127.32	2.4708	0.0429
Coefficient of Determination	<b>0.0716</b>			
Adjusted Coefficient of Determination	<b>0.0576</b>			

Source: Field Survey Analysis, (2022)

The results in Table 5 show that education and land ownership are the significant determinants of income among farmers. The result showed that a unit rise in education caused annual income to rise by 452635.1 units, and a unit rise in land ownership caused annual income of farmers to rise by 222364.7 units.

**Table 5: Determinants of Annual Income among Non-Farmers**

Variables	Coefficients	Standard Error	T-statistics	Probability
Constant	207336.4	688934.1	0.3009	0.7638
Education	452635.1	120436.1	3.7583	0.002
Gender	-21796.44	346950.5	-0.0628	0.9500
Land	222364.7	65771.87	3.3808	0.0009
Coefficient of Determination	<b>0.1331</b>			
Adjusted Coefficient of Determination	<b>0.1193</b>			

Source: Field Survey Analysis, (2022)

The fact that education was a significant determinant of income for farmers, and particularly for non-farmers, shows that the capital territory had created increased opportunities which made educational attainment very relevant. The intermingling of indigenous people in indigenous communities with mixed populations in Asaba the state capital gave the expected effect which increased the potential for those who attained higher educational levels to take advantage of emerging non-farm job opportunities.

The values weighed heavier for the influence of land ownership on individual annual income. This therefore signifies that land in the capital territory has increasingly become commodified and commercialized.

Table 6, shows that non-farm income is higher than farm income in Oko-Anala, Oko-Amakom, Okpanam, Okwe, Aboh Ogwashi-Uku, Achalla Ibusa and Azagba Ogwashi communities. Interestingly, non-farm income is highest for Aboh Ogwashi-Uku, a community farthest from Asaba city core. This can be explained by the report of the participants at the focus group discussion sessions who revealed that there were increased commercial transportation activities in the area, with the use of motor-cycles (*Okada* business).

**Table 6: Average Annual Income (Naira) for Farmers and Non-Farmers across the Twelve Communities**

Communities	Mean Estimated Distance from Umuagu Community in Asaba Core (km)	Farmers		Non-Farmers	
		No.	Farmers	No.	Non-Farmers
Oko-Anala	14.45	10	2,366,000	15	2,533,333
Oko-Amakom	9.62	26	795,192.3	8	1,625,000
Oko-Obiokpu	13.09	28	137,428.6	6	112,666.7
Okpanam	5.85	13	530,000	25	769,600
Okwe	4.97	6	979,333.3	28	1,886,643
Ugbolu	13.98	28	472,571	6	430,000
Issele Azagba	17.6	9	2,825,000	27	2,481,333
Aboh Ogwashi-Uku	19.76	19	709,742.1	13	4,424,000
Ibusa	11.34	10	477,200	20	357,600
Achalla Ibusa	9.78	20	490,900	14	1,241,857
Anwai	5.74	30	381,566.7	0	0
Azagba Ogwashi	16.71	3	1,300,000	31	2,777,903

Source: Field Survey Data, (2021)

Surprisingly, Okpanam which is a very proximate commercial hub to the state capital had relatively low non-farm income compared to farm income. This can be explained by the fact that our target respondents for the questionnaire survey were of an average age of 64 years. At that point in life, many of our respondents would be retired and therefore receiving less of non-farm income. Anwai clearly had zero (0) data for non-farm income because the community is 100% agrarian. The community is made up of Camp Albert and Camp Ebedei which are both farming communities with migrant farmers who farm on leasehold basis.

Relatively high income recorded for non-farmers in Issele Azagba and Azagba Ogwashi which are contiguous communities can be explained by the fact that many indigenes of the communities own residential houses which provide alternative and relatively cheaper accommodation for those who work in Asaba city core. These communities also play host to Delta State Polytechnic Ogwashi-Uku, and provide accommodation for the teeming student community. Since rent paid by the student population is relatively higher, unregulated and the students often do not have much choice than to patronize these house owners, high income is made from this sector. There is also a major market located along the express way for sale of agricultural commodities in Issele Azagba which enables the farming population of both communities to have access to high patronage of their farm products. In Oko-Anala, relatively high income recorded for non-farmers can be explained by the fact that respondents to the questionnaire survey consisted of retired persons who earn good pension from their previous employment, business persons and a few farmers. Farmers in Oko-Anala were also engaged in the cultivation of high value commodities such as rice and yam which was patronized by traders from outside the community and this explains the relatively high income recorded for farmers in that community.

On a general note however, it is evident that average annual income of non-farmers is higher than income of farmers, almost double that of farmers. This indicates that non-farm employment is yielding more incomes than farm employment, also an indication of the positive economic effect of the establishment of the capital territory, on the communities.

### **Increased Employment Opportunities**

Findings from the focus group discussion sessions and key informant interviews revealed that the creation of state capital in Asaba provided residents avenues to new and increased employment opportunities. Residents of the communities who had attained higher levels of education and also possess requisite skills were employed to serve in government institutions located in the capital territory, while other skilled individuals were employed to work in small and large scale industrial facilities which required their labour input. Many others provided skilled and unskilled labour in the construction of residential houses, industries and government projects such as road construction. There had also been increased engagement of residents in sand mining on the banks of the River Niger, particularly in Oko-Amakom. Stone mining activities were prominent in Okpanam community. Sand and stone mining activities in these communities were encouraged by the high level of construction of residential housing and industries in the area, for example in Ugbolu and Anwai communities (Figure 6).



**Figure 6: Stone Mining Activities on the Outskirts of Ugbolu and Anwai**  
Source: Field Survey, 8<sup>th</sup> March, (2022)

In addition, employment opportunities were provided by other cottage industries such as water packaging companies, feed mills and cement block molding industries. These cottage industries emerged in response to the need to service the growing population of the capital territory.



Some respondents stated that members of the local vigilante groups were employed by the state government on contract basis, to provide protection and guard government projects and facilities such as markets, educational institutions and recreation centres.

Another form of employment which was very prominent in our study area, particularly among the young population, is commercial motor-cycle transportation. According to the respondents to our interviews and group discussions, this facet of the employment circle rose in response to poor road infrastructure and the need for buyers of food products to gain access to farmers in the communities. The commercial motor-cycle transport providers readily conveyed both traders and goods easily on the narrow paths which led from the state capital Asaba, to the communities. Commercial motor-cyclists nicknamed *okada* became a popular means of transportation in Aboh Ogwashi-Uku, Ibusa and Anwai because they helped to link previously inaccessible farm routes for purchase and sale of food produce. This also presented another form of non-farm employment to youths in these communities. However, there was general acclaim for the recent revolution in road infrastructural development within the communities particularly in Ugbolu and Azagba Ogwashi, which the people say had helped in no small measure to ease transportation of both man and food produce to the outside world.

There had been increased involvement of youths in the land market, a situation linked to increased awareness in the financial attractiveness of the land market. The spike of youth involvement in the land market was a cultural shift precipitated by the commercialization of land in Asaba. The communities most affected by this trend were Anwai and Azagba Ogwashi.

Participants of focus group discussion sessions in Oko-Obiokpu, Oko-Anala and Oko-Amakom communities also confirmed increased participation by members of their communities, in the determination and choice of government projects. This identified bottom-top approach to rural development helped them to embrace government's efforts at infrastructural development. However, they lamented their inability to gain access to government paid employment.

### Test of Hypothesis 3

$H_0$  - There is no significant difference in occupation of residents of the communities in Delta State Capital Territory after Asaba became the capital of Delta state.

This hypothesis was tested at a 0.05 confidence value using independent samples of the t-test and the results are shown in Tables 7 and 8. Table 7 shows that the mean number of respondents who had changed occupation in the communities before and after establishment of the capital territory, was 6.0 and 3.54 respectively.

**Table 7: Group Statistics for the Independent Samples for Test of Hypothesis 3**

Group	N	Mean	Std. Deviation	Std. Error
				Mean
Before Capital Territory development	13	6.00	6.377	1.769
After Capital Territory development	13	3.54	2.904	0.806

Source: Field Survey Data, (2021)

Table 8 in turn, shows the outcome of Levene's test on the result. The test reveals that  $p < 0.05$  with an F-value of 5.998. Hence, the 'Sig' value in the first section (Levene's test for equality of variances) of Table 8 is 0.022. Thus the value 0.022 is less than the level of confidence of 0.05 upon which the hypothesis was stated, and the test is significant at a 0.05 level of confidence. The null



hypothesis of no significant difference is therefore rejected. This means that there is a significant difference in occupation patterns before and after the making of Asaba as capital. This result shows that there was increased access to other forms of occupation in the fringe communities, after establishment of the capital territory.

**Table 8: The Independent Samples T-Test for Validating the Hypothesis**

	Levene's Test for Equality of Variances		T-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variances assumed	5.998	0.022	1.267	24	0.217	2.462	1.943
Equal Variances not assumed			1.267	16.773	0.223	2.462	1.943

Source: Field Survey Data, (2021)

**Conclusion and Recommendations**

The territorial approach adopted by Delta State government to develop its capital city Asaba alongside twelve other communities namely Issele-Azagba, Okpanam, Ibusa, Achalla-Ibusa, Okwe, Ugbolu, Oko-Anala, Oko-Amakom, Oko-Obiokpu, Anwai, Azagba Ogwashi and Aboh-Ogwashi-Uku has generated some concerns with respect to the infrastructural and socio-economic needs of residents of the capital territory. These concerns include infrastructural development, sustenance of livelihoods, building capacity to increase and improve food production and accommodation requirements of the increased population of the increasing population in the capital territory. This study showed that infrastructural development in Asaba provided improved access to the other communities in the capital territory, thereby boosting economic activities in the communities through increased sale of farm produce, adoption of various non-farm methods of generating revenue such as rents paid on family housing units, and commercial motor-cycle transportation (Okada). It is recommended that the government should provide support through infrastructural development to enable easy access to far-reached areas of these communities. This can help to encourage farmers in the capital territory to continue with their occupation. Skilled and unskilled labour in these communities should be consistently patronised for government projects, to boost their income earnings and improve their standard of living. It is expected that when residents of these communities are comfortable in their occupation and standard of living, there will be reduced push for them to move to the urban areas. Land ownership and land allocation in the capital territory should be properly monitored to check the activities of land speculators. In the same vein, when the processes of land acquisition in the capital territory are properly managed, private investors will be encouraged to set up their trades in the capital territory.

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