

# River Ethiope and Socio-Economic Development of Abraka And Obiaruku In Delta State

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## ABSTRACT

This study examined the impact of river Ethiope on the socio-economic development in Abraka and Obiaruku, Delta State. The study adopted the stratified random sampling technique. Data collection was based on direct interview and questionnaire administration. Data collected were based on any possible impact of river Ethiope on the socio-economic developmental level of the study area; as well as the relationship between the importance and of river Ethiope and economic development in the study area. A total of 100 questionnaire copies administered were retrieved correctly. Data extracted from the questionnaire were statistically analysed using the descriptive statistics, Student's t-test statistics and Pearson's Bivariate correlation analysis. Findings revealed that there is no significant difference in the socio-economic impact of river Ethiope between Abraka and Obiaruku; there is no significant relationship between the importance of river Ethiope and socio-economic development in the study area; socioeconomic development of the study area does not significantly depend on the presence of river Ethiope. Therefore, socio-economic development of the study area depends on other development drivers, thus, the need to ascertain such factors is here recommended.

**Keywords:** Economic development, recreation services, river basin, tourists' attraction, water use. tical Instability, Development, Environment, Institution Quality, Nigeria

## 1. Introduction

Apart from being a major source of water supply to the inhabitants of the adjoining settlements, river Ethiope has attracted significant economic development to the regions along its courses. Thus, Okolie et al. (2005) asserted that the role of rivers in the development of human society is quite enormous. The rise of human societal civilization together with settlement development can intimately be linked with rivers for access to drinking water, irrigation, transportation routs, fish habitation and production, Hydro-electric power (H.E.P) generation and sites for recreation and tourism. Indeed, Mertes (2009) stated that the first great African Civilization began along the banks of the Nile, about 5000Bc. The agricultural wealth along the Nile valley gave the Egyptians their power status. Thus it is often referred to as “No Nile River, no Egypt”.

Generally, however, according to Ukugbeyinje (2004), a river is a mass of water flowing over the land surface from its source which may be a spring, lake march or as collected surface run-off of rain water, generally in an upland area. A river is the most important example of running water especially in the humid areas. “Rivers are truly perceived as processes through time and not as things in space (Godwin, 1999). Water in rivers are generally got from precipitation through the drainage basin from the surface runoff as well as other sources like ground water discharge and release from springs stored water in the natural ice and snow packs such as glacier (Noel, 2011). River generally are of multi-ferrous importance to the human existence, ranging from agricultural, industrial, economic, social, religious, political to domestic use (Iwena 2009). For instance, the Buddhists and Hindus in India see the Ganges as their source of spiritual blessing (Arnold, 2011).

River Ethiope is one of the tributaries of Benin river; it is located in the mid western part of Nigeria. This river takes its source at Umuaja and flows Southwards to Igun, where it changes its direction to the Northwest into the Atlantic Ocean (Okolie et al 2005; Omo-Irabor et al., 2007). River Ethiope is a prominent river in Delta State and Nigeria due to its high economic and social value to the residence and entire populace at large. River Ethiope serve as important center for tourist attraction; an important employer of labour; it has led to settlement expansion; it has led to the establishment of tourist centres which have further led to the attraction of people from different geographical areas. River Ethiope has been observed to have a very high importance in terms of tourist attraction. People from all works of life visit the river as center for recreation and tourism. This further leads to settlement

development due to the influx of people from different places that come to spend their money, creating business opportunities and employment within the adjoining settlements such as Abraka and Obiaruku.

Some rivers of great importance of their adjoining settlement include Mississippi in North America; Rhine in Europe; River Niger in West Africa; Congo river in Central Africa; Amazon in South America; others on smaller scale include the Benin River, River Ramos, Ethiope and Asse in Southern Nigeria (Iwena, 2009).

The roles of rivers in settlement development in modern times have rather increased cutting through agricultural, social, religious, economics, energy production, transportation to recreation and tourism. This according to Daniel (2006) is engendered by scientific and technological breakthrough. Ecologically, rivers have been known to have cooling effects on the climate of their immediate environment, provision of habitats to numerous aquatic lives even succour to terrestrial organisms (Ukugbeyinje, 2004). The significance of a particular river is principally dependent on its size, numbers of tributaries and its watershed; and the socio-cultural inclination as well as technological capacity of the inhabitants of the immediate environment or settlements (West et al, 2006; Mertes, 2009).

Study by Mertes (2009) observed that in Asia, people have revered the life-giving importance of rivers for thousands of years. Many of the ancient legendary leaders of China were respected because of their abilities to control water so that fields could be irrigated and floods prevented. Similarly, study by Dutt (2009) observed that the Hindus in India considered the Ganges as a sacred river. Several Hindus pilgrims travel all around the world to the Ganges to perform various religious ceremonies. Agriculturally, the banks of the Ganges provide an extensive fertile plain for the cultivation of rice, sugar cane, chilies, sesame, jute, legumes and so many other crops. Studies by Efe et al (2006); Iwena (2009) reported that rivers are sources of minerals and ornaments like coral and the provision of sand banks, reefs, spits and beaches which are tourism potentials; leading to the emergence of recreation centres for people to relax or engage in boating sports, fishing, e.t.c. and that give comfort and pleasure to fun seekers. Studies by Esimike (2006); Awaritefe (1991) revealed that the expansion of international tourism has led to significant employment creation to a wide majority of population.

Therefore, the main objective of this paper is to

examine the impact of river Ethiope on the socio-economic development of Abraka and Obiaruku in Delta State. In order to achieve this, the following research questions were answered: (i) What is the economic importance of River Ethiope to the inhabitants of Abraka and Obiaruku? (ii) Does River Ethiope have any social effect in the study area? (iii) Is there any relationship between the presence of river Ethiope and settlement development? (iv) Are there significant differences in the economic activities amongst the settlements?

## 2. The Study Area

This study was carried out in Abraka and Obiaruku which are adjoining settlements along river Ethiope. Geographically, the study area is located between latitude  $5^{\circ}48'N$  and  $5^{\circ}55'N$  of the equator and also between Longitude  $6^{\circ}06'E$  and  $6^{\circ}14'E$  of the Greenwich Meridian (figs. 1.1). The topography of the study area is low lying without remarkable hills, and falls within the interior coastal lowlands of Western Nigeria. The study area is well drained by river Ethiope, which flows West direction from Umuaja in Ndokwa L.G.A of Delta State, through Ethiope East L.G.A to empty itself water into the Atlantic Ocean at Sapele in Okpe L.G.A. The river is a fast flowing body of water which has a high velocity rate of about 1.65m/sec at the Abraka region and lower at Umutu (1.85m/sec) the upper course of the river which is very close to the source of the river at Umuaja. This study area falls within the humid tropical climate of AF Koppen classification; with mean annual rainfall and temperature of 30.6% and  $30^{\circ}C$  respectively. According to the USDA soil classification taxonomy, the soils of the study area fall under the oxisols, alfisols and psamment. The vegetation of this study area is typical of the moist tropical lowland rainforest and riparian cover. The land area of the study area provides necessary physical environment for farming. The farming practices are mainly arable farming that are concentrated on food crop production. Tree crops are cultivated as monoculture plantation. The major economic activities within the study area include farming, fishing, banking, hospitality services, small-scale industries etc. Shifting cultivation which is the major system of crop production in many tropical countries (Richards, 2012) is fully in practice within this study area.

Additionally, other vital socio-economic activities in the area include tourism/ recreation activities. The presence of River Ethiope and other smaller rivers in the area has brought about the development of

tourism/ recreational centers in the area; this has become a pull factor attracting people from both far

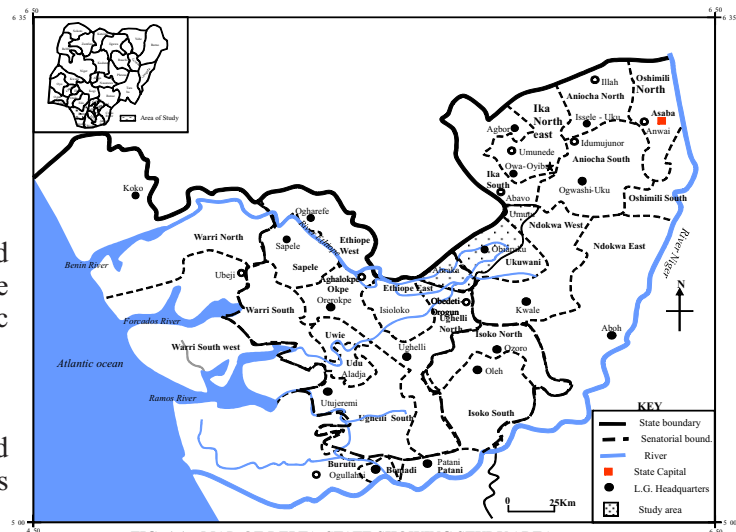


FIG. 1.1 : MAP OF DELTA STATE SHOWING STUDY AREA

and near to the area which has in one way or the other contributed to both social and economic development of the area

## 3. Materials and Methods

This study made use of the survey design to carry out an investigative study on the impact of river Ethiope on the socio-economic development of Abraka and Obiaruku. This study adopted the stratified random sampling technique. Abraka and Obiaruku were divided into 5 each based on the existing quarters in each of the settlements. Within each quarter, the simple random sampling approach was used to collect the required data for even representation of all parts of the study area. Data collected were on the contribution of river Ethiope to the socio-economic development of Abraka and Obiaruku. The data were collected through direct field observation and the use of questionnaire. 50 copies of questionnaire were administered at Abraka and Obiaruku respectively, making a total of 100 copies of questionnaire administered in the study; while in each of the two communities, 10 copies of questionnaire were administered in each of the quarters. Data collected were statistically analysed using the descriptive, student-t test and Pearson's Bivariate techniques.

## 4. Results and Discussion

### 4.1: Socio-Economic Impact of River Ethiope in Abraka and Obiaruku

The socio-economic impact of river Ethiope to the study area include the provision of fishes, centers for recreation and tourism, attracts population, it leads to settlement expansion and development, it leads to the creation of job opportunities, it support marketing, renders hospitality services and supports agricultural production..

**Table 1: Socio-economic Impact of River Ethiope in Abraka and Obiaruku**

S/N	Socio-Economic Impact Scale (SEIS)	Abraka				Obiaruku			
		SA	A	D	SD	SA	A	D	SD
1	Provision of fishes	28	12	6	4	24	14	8	4
2	Centers for recreation and Tourism	36	12	2	0	28	18	4	0
3	Attracts population	40	6	2	2	32	12	4	2
4	It leads to settlement Expansion	24	14	6	6	22	14	8	6
5	Creation of job opportunities	26	14	8	2	28	10	10	2
6	Support to marketing	20	18	6	6	22	16	6	6
7	Renders hospitality services	36	8	4	2	30	14	4	2
8	Supports agricultural Production	16	16	8	10	16	16	8	10
	Total	226	100	42	32	186	114	52	32
	Percentage (%)	57%	25%	10%	8%	48%	30%	14%	8%

Source: Fieldwork

Table 1 presents the responses of the respondents to the impact of river Ethiope in Abraka and Obiaruku. In Abraka, out of the 25 respondents, 25% agreed and 57% strongly agreed that river Ethiope has socio-economic impact in Abraka. 10% disagreed and 8% strongly disagreed that river Ethiope has socio-economic impact in Abraka. Generally, 82% of the respondents agreed that river Ethiope has socio-economic impact in Abraka, while only 18% respondents disagreed. However, in Obiaruku, 30%

of the respondents agreed, 48% strongly agreed. While 14% disagreed, 8% strongly disagreed that river Ethiope has impact in Obiaruku. From the responses, 78% of the total respondents agreed that river Ethiope has socio-economic impact in Obiaruku, while only 22% disagreed. Table 2 presents the results of Student-T statistics on the difference in the socio-economic impact of river Ethiope between Abraka and Obiaruku.

**Table 2: Results of T-test on the differences in the socio-economic impact of river Ethiope between Abraka and Obiaruku.**

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Abraka	28.2500	8	8.44732	2.98658
	Obiaruku	25.2500	8	5.23041	1.84923

Paired Samples Test									
		Paired Differences				t	df	Sig. (2-tailed)	
				Std. Error	95% Confidence Interval of the Difference				
					Mean				Lower
Pair 1	Abraka - Obiaruku	.00000	4.14039	.46385	-.46146	.46146	2.049	7	.080

The results show that there is no significant difference in the socio-economic impact of river Ethiope between Abraka and Obiaruku at 5% level of confidence. Therefore, the hypothesis which states that there is no significant difference in the socio-economic impact of river Ethiope between Abraka and Obiaruku at the 5% level of confidence is accepted. This means that river Ethiope has impact on the socio-economic development in Abraka and Obiaruku.

#### 4.2: Importance of River Ethiope to Inhabitants of Abraka and Obiaruku

River Ethiope serves much importance to the inhabitants of the study area. It serves as source of water supply, it is an avenue for fishing, source of water for crop production, source of water for industrial use, it helps to modify the temperature of the environment, it is home for fishes, and serve s transportation route within the study area.

**Table 3: Importance of River Ethiope to Inhabitants of Abraka and Obiaruku**

S/N	Importance of river Ethiope to inhabitants	Abraka				Obiaruku			
		SA	A	D	SD	SA	A	D	SD
1	Source of water supply	12	28	6	4	20	16	10	4
2	Avenue for fishing	16	12	12	10	22	12	6	10
3	Source of water for cop production	26	14	6	4	24	16	6	4
4	Source of water for industrial use	24	8	10	8	28	8	8	6
5	Temperature modification	22	16	4	8	28	16	4	2
6	Home for fishes	36	12	2	0	40	6	2	2
7	Threat to human existence	14	12	12	12	20	12	10	8
8	Transportation channel	10	8	18	14	10	8	16	16
	Total	160	110	70	60	192	94	62	52
	Percentage (%)	40%	28%	17%	15%	48%	24%	16%	12%

Source: Fieldwork

Table 3 presents the response of the respondents on the importance of river Ethiope to the inhabitants of Abraka and Obiaruku. In Abraka, 28% agreed, 40% strongly agreed, 17% disagreed, while 15% strongly disagreed. While 68% of all the respondents agreed, 32% disagreed that river Ethiope is not of importance to the inhabitants of Abraka. In Obiaruku, 24% agreed, 48% strongly agreed, 16% disagreed, while 12% strongly disagreed. While 72% of all the respondents agreed, 28% disagreed that river Ethiope is not of importance to the inhabitants of Obiaruku. However, comparison the responses between Abraka and Obiaruku shows that those who agreed that river Ethiope are of importance to the inhabitants are higher in Abraka than in Obiaruku.

#### 4.3: Relationship between the Importance of River Ethiope and Socio-Economic Development in Abraka and Obiaruku.

The relationship between the impact of river Ethiope and socio-economic development involved the assessment of the importance of river Ethiope to the inhabitants of Abraka and Obiaruku, as well as the assessment of the socio-economic impact of river Ethiope to Abraka and Obiaruku as well. Table 4 presents the results of the Pearson's Bivariate statistical analysis on the relationships between the importance of river Ethiope and socio-economic development in Abraka and Obiaruku.

In Abraka, the correlation values are 0.07 and 0.87. This shows that the relationship is not significant. Therefore, there is no significant relationship between the importance of river Ethiope and socio-economic development in Abraka. While in Obiaruku, the correlation values are 0.17 and 0.67. This shows that the relationship is not significant. There is no significant relationship between the importance of river Ethiope and socio-economic development in

**Table 4: Pearson's Bivariate Result for the relationship between the importance of river Ethiope and socio-economic development in Abraka and Obiaruku.**

Correlations at Abraka			
		Socioeconomic	Importance
Socioeconomic	Pearson correlation	1	-0.070
	Sig. (2-tailed)		0.869
Importance	Pearson correlation	-0.070	1
	Sig. (2-tailed)	0.869	
Correlations at Obiaruku			
Socioeconomic	Pearson correlation	1	0.177
	Sig. (2-tailed)		0.674
Importance	Pearson correlation	0.177	1
	Sig. (2-tailed)	0.674	

Obiaruku. Therefore, the hypothesis which states that there is no significant relationship between the importance of river Ethiope and socio-economic development in both Abraka and Obiaruku at the 5% level of confidence is accepted. This shows that, the socio-economic development of the study area does not depend on the presence of river Ethiope. There are other factors responsible for economic development of the study area, which river Ethiope may be a contributory aspect of.

**Table 5: Impact of river Ethiope on economic development in Abraka and Obiaruku**

S/N	Impact of river Ethiope on economic development	Agree	Strongly Agree	Disagree	Strongly Disagree
1	It creates employment opportunities	40	22	12	4
2	urbanization	22	32	24	22
3	Transportation services	12	16	32	40
4	Economic support and growth	34	36	16	14
5	Improve housing development	30	30	24	16
6	Attracts social amenities	24	26	26	24
7	Attracts investors	20	30	26	24
8	Home to relax the mind	30	50	8	12
	Total	212	284	168	156
	Percentage (%)	25%	35%	21%	19%

Source: Fieldwork, 2020



Table 5 presents the impact of river Ethiope on economic development in Abraka and Obiaruku. Out of all the responses, 25% agreed, 35% strongly agreed, 21% disagreed and 19% strongly disagreed. This shows that higher proportion of the respondents agreed that river Ethiope has impact on economic development, while lower proportion of the respondents disagreed that river Ethiope has impact on economic development.

### 5: Conclusion

This study examined the resultant impact of river Ethiope on the socio-economic development in Abraka and Obiaruku, and ascertained the extent to which the presence of river Ethiope has impacted on both Abraka and Obiaruku with respect to socio-economic development. Findings revealed that the presence of river Ethiope in the study area contributes to the socio-economic development. However, the development of the study area does not depend on the presence of river Ethiope. This means that even without the presence of river Ethiope in this study area, development can still be achieved because of other factors acting as drivers to the socioeconomic development of the study area. The study is of paramount importance in the assessment of developmental factors and the prevailing conditions that can attract or has attracted development to the study area. It is also important in the economic assessment of what importance the river Ethiope has and the contribution to economic development in the study area. Since this study did not show that presence of river Ethiope has negatively impacted on the study area, there is the need to evaluate the extent to which the river Ethiope can be of higher importance to contribute to the economic development of the study area.

### References

- Arnold, D. C. (2011): Spiritual relevance of the Ganges source to the Buddhists and Hindus in Indian. *Indonesia Anal.* 4: 76-82.
- Awaritefe, O.D. (1991): A modern Geography of Nigeria. Lecture Series Number 1, Department of Geography, Bendel State University.
- Dutt, A.K. (2009): "Ganges" Microsoft Encarta (R) 2009. Redmon, W.A. Microsoft corporation.
- Efe, S.I and Okadigwe, L. (2006): Relief and Drainage System of Abraka. In Akinbode, A and Ugbomeh, B.A (ed), Abraka Region. Agbor central books ltd.
- Godwin, S. A (1999): Stream flow analysis of river basin. *International journal of environmental studies*. 5: 41-52.
- Iwena, A.O (2009): Essential Geography. Ikeja; Tonad publishers limited. Revised edition.
- Mertes, L.A.K. (2009): "Rivers" Microsoft /R/ Encarta /R/ Redmond, W.A. Microsoft corporation.
- Noel, C. (2011): Questioning Geography: Fundamental Debates; Wiley Blackwell. Pp84-85.
- Norton, D & Comapany, C. (2008): The effect of river basin on settlement development in northern China. *Chilian journal of hydrological analysis*. 7: 123-140.
- Okolie, E.C., Osemeikhean, J. E. A, Atakpo, E.A. and Oseji, J.O. (2005): Geographical investigation of the source of river Ethiope in Ukuani Local Government Area of Delta State. *Nigerian Journal of Physics*.
- Omo-Erabor, O.O. and Olabaniyi, S.B. (2007): Investigation of the Hydrological Quality of Ethiope River Watershed in Delta state, Southern Nigeria.
- Richards, P.W. (2012). Ecological studies in the rainforest fores of Southern Nigeria 1. The structure and floristic composition of the primary forest. *J. of Ecology*, 27: 1-61.
- Ukubeyinje, E. (2004): Introductory Geomorphology. Ughelli: Eregha Nigerian Company Ltd.
- West, T. D., George G. and Copper, F. (2006): Economic analysis of river basins in settlement development. *Canadian journal of environmental studies*. 12: 214-223.