

ENVIRONMENTAL FACTORS AND HUMAN MIGRATION IN RURAL AREAS OF IDO-OSI L.G.A, EKITI STATE, NIGERIA

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***Abstract:** Environment often affects human activities and it is a major determinant of human migration. This paper examines the relationship between environmental factors and human migration in rural areas of Ido-osi Local Government Areas of Ekiti State, Nigeria. The objectives include identify the socio-economic characteristics of the migrants; examine the effects of human activities on the environment; assess the factors promoting migration and the mitigation put up to protect the environment; and evaluates the relationship between environmental factors and human migration. Both primary and secondary sources of information were employed in the study. Four hundred copies of questionnaire were administered on migrant household heads using purposive sampling technique. Simple percentages and stepwise multiple regression analysis were used to analyze the data. Findings revealed that none of the migrants was less than 30years and that majority of the migrants had spent over 7 years at their present location. Climate, agricultural practices, soil and droughts together contributed 63.7% of variation in migration. The study showed that majority of the migrants practiced shifting cultivation and grows food crops. In addition, the study revealed that climate and other ecological conditions favoured agricultural production in the area. The study therefore recommends that law relating to land use should be espoused and fully implemented in order to ensure sustainability of the environment. This could help to reduce incidence of biodiversity loss and environmental degradation while still promoting agriculture to attract rural migration and development.*

***Keywords:** Biodiversity; Environmental factors; Migration; Natural resources; Surroundings*

INTRODUCTION

Environment is the totality of all the physical and human factors within the environment of man. It is an ecological phenomenon with a socio-economic factor that is very crucial for human life, its survival, and that by implication determines human migration (Nwana 2001). Aniah (1995) pointed out that man and his environment are intractably linked together. Invariably, land, air and water that are used for various purposes as well as the general resources of an ecosystem influence man and vice versa.

Obviously, environment often influences human migration through the push or pull factors. Human migration is triggered by over stretching the environmental resources. Indeed, the interaction of man with his environment had resulted in overgrazing, over-hunting, deforestation and other unfriendly agricultural practices (Modebelu and Duvie, 2015). Nwokoro and Chima (2017) observed that the natural resources in man's immediate environment are often depleted. This is most pronounced in rural areas where people tend to destroy the environment in their quest for survival. When the resources become inadequate or depleted, people tend to migrate to places where their needs can be met. In the main time, the rural communities bear the brunt. In most developing countries of Africa including Nigeria, extraction of natural resources such as farming, fishing, hunting, fuel-harvesting, lumbering, quarrying and rural craft usually dominate the rural economies (Ikurekong and Jacob, 2013) where the natural resources are often depleted. In the main time, the number of people in these areas is about two-third of Nigeria's population (Ayichin, 2005). The changing environmental factors consequently prompt human movement. Dillon *et al.* (2011) suggests that migration is an *ex ante* diversification strategy against environmental factors.

Although there are a number of studies carried out on environment and human migration in Nigeria, only very few focused on this unique space known as Ido-osi Local Government, the present study area. Against this background, this study examines the relationship between environmental factors and human migration in selected rural areas of Ido-osi LG, Ekiti State. The objectives of this study include to identify the socio-economic characteristics of the migrants; examine the effects of human activities on the environment; assess the factors promoting migration and the mitigation put up to protect the environment; and evaluates the relationship between environmental factors and human migration. The main environmental factors in this study include climatic conditions such as rainfall and droughts, soil, loss of biodiversity and floods among others.

Environmental Factors

Environmental factors that can propel migration include scanty or excessive rainfall, soil degradation, agriculture, lumbering, deforestation, mining and quarrying activities, invasive nuisance species, desertification, water pollution, industrial pollution and biodiversity loss among others. A vulnerable population, opened to external influences from deteriorating environmental factors such as inadequate rainfall, soil degradation, nature of agriculture practice, lumbering, deforestation, to mention just a few, often move.

Migration: Migration being a multidimensional phenomenon has been defined from different perspectives. For instance, sociologists emphasize the social consequences of mobility whereas geographers focus on the significance of time and space in mobility. Economists, on the other hand, study the economic aspect of it. Generally, migration is conceptualized as movement from an origin to a destination. According to Demko *et al.* (1970), migration is the most complex component of population change.

There are several global environmental changes which may cause human migration. Climate change is, of course, a major factor, change in rainfall pattern, forest fire, increase or decrease in temperature. Land degradation in terms of loss of nutrients, soil erosion, deforestation and pollution, among others can bring about change that could eventually lead to migration.

MATERIALS AND METHODS

The study area for this study is Ido-osi Local Government Area of Ekiti State. It is located between latitude $7^{\circ}45' N$ and $7^{\circ}54' N$ of the equator and Longitude $5^{\circ}0' E$ and $5^{\circ}15' E$ of the Greenwich Meridian (figure.1). It experiences both wet and dry seasons. The temperature of the area ranges from $32^{\circ}C$ to $35^{\circ}C$. It also has high relative humidity of 85%. The population of the local government area is about 159,114 people (National Population Commission, 2006). Ido-osi local government area is characterized by crystalline rocks, ranging from the Precambrian to the Paleozoic. The agricultural produce includes palm produce, rubber, tobacco, cotton, cocoa (although in small scale) and a wide variety of fruits.

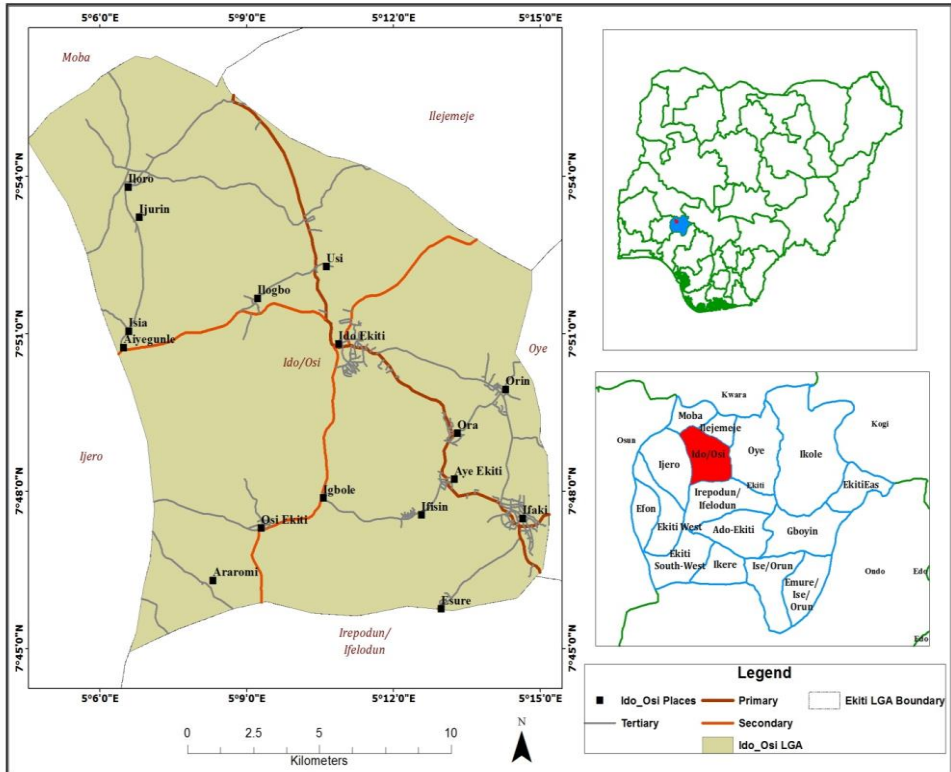


Figure 1. Ido-Osi LGA. Inserted maps show Ekiti State and Nigeria.
Source: Ekiti State Ministry of Information (2018)

Data for this study were generated through the primary and secondary sources. Purposive sampling technique was employed to sample respondents that migrated to Ido-osi Local Government Area rural areas due to some environmental factors. Sample size was determined using Taro Yamane’s (1967)’s formula which stated as followed:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n= the sample size

N= the population size

e= the acceptable sampling error

*95% confidence level and p=0.5 are assumed

thus n=400

A total of 400 respondents were selected from the rural migrant household heads with copies of a questionnaire. The copies of questionnaire were distributed between the 1st week of August to the 3rd week of September of the year 2019. The data collected were analysed with simple percentages, tabulation, multiple regression and stepwise regression.

RESULTS AND DISCUSSION

Socio-economic characteristics

Data on social and economic characteristics of respondents are presented in Table 1. As shown in Table 1a, 80% of the respondents are males, while the remaining 20% are females. About 84% of the respondents are Yoruba, 16% is from other ethnics of Tiv, Agatu, and Epira, among others (Table 1). This perhaps implies that there are less number of migrants who migrated to the areas. The table further indicates that about 90% of the respondents are above 35 years, 10% are from age 30 to 35, about 48% has senior secondary school education or its equivalent, 40% possesses primary education certificate while 10% B.Sc. or HND.

Table 1: General Information of Respondents

Characteristics	Location					Total	%
	Usi	Ora Ekiti	AayeEkiti	Ugbo	Ido		
Gender							
Male	48	16	32	40	184	320	80
Female	32	8	0	8	32	80	20
Total	80	24	32	48	216	400	100
Ethnicity							
Yoruba	56	24	32	48	176	336	84
Hausa	0	0	0	0	0	0	0
Ibo	0	0	0	0	0	0	0
Others	24	0	0	0	40	64	16
Total	80	24	32	48	216	400	100
Age							
< 18years	0	0	0	0	0	0	0
19-25	0	0	0	0	0	0	0
26-30	0	0	0	0	0	0	0
31-35	8	0	0	0	32	40	10
>36years	72	24	32	48	184	360	90
Total	80	24	32	48	216	400	100

Education							
No form Ed.	0	0	0	0	0	0	0
Islamic edu.	0	0	0	0	8	8	2
FSLC	24	0	0	0	136	160	40
SSC	40	24	16	48	64	192	48
B.Sc/HND	16	0	16	0	8	40	10
Others	0	0	0	0	0	0	0
Total	80	24	32	48	216	400	100
Religion							
Christianity	56	24	32	40	152	304	76
Islam	24	0	0	8	64	96	24
ATR	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0
Total	80	24	32	48	216	400	100
Family Size							
<3	0	0	0	0	32	32	8
4-6	32	24	24	30	26	136	34
7 & above	48	0	8	18	158	232	58
Total	80	24	32	48	216	400	100

The table indicates that 76% practice christianity, while 24% practice Islam, 58% of the migrants has family size of 7. Majority of the migrants in Ora Ekiti and Aaye Ekiti have between 4-6 family size.

Environmental and Human Factors

When question on climatic conditions which seems to have played a major role in food production in this study area was asked, 84% of the respondents agreed that they have averagely good climate. Only 16% agreed that their climate was fair (Table 2). Table 2 also presents the suitability of land considering its productivity, about 86% of the respondents agreed that the land (at the destination) is good for agriculture. Also, 98% of the respondents agreed that they have adequate rainfall. This tends to support the established fact on record that Ekiti has a favourable rainfall. The good rainfall known for the area will continue to encourage migrant farmers to the area. Considering the human factors that can trigger migration, Table 2 further shows that about 2/3 of the respondents cleared their lands every year before planting. Only about 6% did not clear their lands before planting. Clearing of farmland that often precedes bush burning can lead to deforestation. As revealed in Table 2, about 40% of the respondents engaged in collection of wood fuel. Out of the 40% who engaged in wood-fuel collection, majority indicated that they collect wood fuel regularly.

Table 2: Environmental and Human factors

	Location					Total	%
	Usi	Ora Ekiti	AayeEkiti	Ugbo	Ido		
Suitability of Climate							
Location	Usi	Ora	AayeEkiti	Ugbo	Ido	Total	%
Very good	0	8	0	8	32	48	12
Good	0	8	8	8	16	32	8
Average	64	8	8	16	160	256	64
Fair	16	0	16	16	8	64	16
Poor	0	0	0	0	0	0	0
No idea	0	0	0	0	0	0	0
Total	80	24	32	48	216	400	100
Suitability of Agricultural Land							
Very good	8	8	24	8	56	104	26
Good	32	16	8	40	144	240	60
Average	40	0	0	0	16	64	16
Fair	0	0	0	0	0	0	0
Poor	0	0	0	0	0	0	0
No idea	0	0	0	0	0	0	0
Total	80	24	32	48	216	400	100
Adequacy of rainfall amount							
Adequate	80	24	24	48	208	392	98
Not adequate	0	0	0	0	8	8	2
No idea	0	0	0	0	0	0	0
Total	80	24	32	48	216	400	100
Frequency of land clearing at the beginning of planting season							
Every year	72	16	16	40	88	232	58
Not regular	0	8	8	0	8	24	6
No idea	8	0	8	8	120	144	36
Total	80	24	32	48	216	400	100
Collection of fire wood							
Yes	64	8	8	0	80	160	40
No	16	16	24	48	136	240	60
Total	80	24	32	48	216	400	100
How regular							
Always	52	8	7	0	73	138	86.2
Occasionally	12	0	1	0	7	22	13.8
Total	64	8	8	0	80	160	100

Cutting down of forest trees may not be too good for a country such as Nigeria particularly in a region where rain fall is high and forest biodiversity is high. This factor can easily cause environmental degradation, damaging to the potential available farmlands and may lead to loss of biodiversity.

Information on Migration

Table 3 reveals that about 84% of the respondents are from other States. Only about 18% migrated to Ido-osi Local Government from other parts of Ekiti State. The large number of people that migrated into the State suggests that the environment is probably good for agriculture, as reported in Table 2. Among the migrants from States that were sampled in this study, about 16% was from Benue State, while 10% from Kogi State.

Table 3: Origin of Migrants

Location	Udi	Ora	AayeEkiti	Ugbo	Ido	Total	%
Ekiti State	16	8	0	48	0	72	18
Benue State	40	0	16	0	8	64	16
Kwara State	8	16	0	0	0	24	6
Kogi State	8	0	0	0	32	40	10
Oyo	8	0	8	0	0	16	4
Other States	0	0	8	0	176	184	46
Total	80	24	32	48	216	400	100

Occupation of People

The work one engages in often determines where one resides. Those who engage in agriculture often live in places very close to their farmlands. In this study, about 70% of the respondents indicated that they engaged in farming and other primary occupation in their origin, 4% were hunters, while 8% civil servants (Table 4).

Table 4: Occupation of Respondents in the Previous Locations

Previous Occupation							
Location	Udi	Ora	AayeEkiti	Ugbo	Ido	Total	%
Farming	80	16	8	32	144	280	70
Hunting	0	0	0	0	16	16	4
Civil servant	0	0	8	0	24	32	8
Others	0	8	16	16	32	72	18
Total	80	24	32	48	216	400	100
Present Occupation							
Farming	80	16	24	40	168	328	82
Hunting	0	0	0	0	16	16	4
Civil servant	0	0	8	0	0	8	2
Others	0	8	0	8	32	48	12
Total	80	24	32	48	216	400	100
Types of Farming							
Shifting culture	56	16	8	32	136	248	62
Pastoral farming	0	8	0	8	0	16	4
Mixed farming	24	0	0	0	80	104	26
Others	0	0	24	8	0	32	8
Total	80	24	32	48	216	400	100

The number of respondents who engages in farming rose to over 80% having migrated to Ido-osi, Ekiti State. Table 4 further indicates that while the number of hunters remains 4%, those in other economic activities declined from 18% to 12%. Also, about 64% of the respondents practice shifting cultivation. Only about 4% engages in pastoral farming.

Impact of Environmental Factors on Migration

Attempt to unveil the relationship between the environment and migration prompted a number of questions in this study. When respondents were asked whether the environment affect them, 98% agreed that they were affected positively. The environment enhances pursuance and production of their primary or economic activities. Further attempt made to determine whether environmental factors trigger migration shows that the movement of the migrants to the area was 100% determined by environmental factors.

Movement of most migrants to this area was purely based on some perceived favourable environmental factors (see Table 2).

Relationship between Environmental Factors and Migration

Data generated on environmental factors presented in table 2 were tested using Multiple and Stepwise regression analysis.

Y (Independent Variable) = Migration

X (Dependent Variables) = Environmental factors (X₁.....X_n)

x₁ = Climate

x₂ = Soil Degradation

x₃ = Agricultural Practices

x₄= Mining and Quarry

x₅ = Logging and lumbering

X₆ = Deforestation

X₇= Droughts

X₈= Floods

X₉= Loss of Biodiversity

X₁₀= Desertification

X₁₁=Pollution

Table 5: Relationship between Migration and Environmental factors

Model	R	R Square	Unstandardized Coefficients	Standardized Coefficients	F
1	.798 ^a	.637	-.406	.028	1.460
2	.798 ^b	.636	-1.272	1.032	2.097
3	.795 ^c	.633	-.033	1.504	3.014
4	.750 ^d	.562	-.492	8.031	3.422

Generally, 63.7% of variation in migration is explained by environmental factors as indicated in Table 5. The result of the stepwise indicating the contribution of each environmental factor shows that climate (X₁) has the highest contribution of 56.2, followed by agricultural practices (X₃) with a joint contribution of 7.1, soil degradation (X₂) has a joint contribution of 0.3 and droughts (X₇) with a joint contribution of 0.1 while other factors such as desertification, floods, logging, lumbering, pollution,

loss of biodiversity, mining and quarry contributions are negligible and insignificant.

CONCLUSION

This study has examined environmental factors and migration in selected areas in Ekiti State. Climate being a key factor in agriculture played a major role in food production in the area. As observed by majority, it supported substantial agricultural production. Human activities such as bush clearing and bush burning practiced by about two-thirds of the people every year in the area can lead to deforestation and increasing loss of biodiversity. Availability of agricultural facilities had encouraged migration in the State. Apparently, nearly 9 of every 10 migrants moved from other States of the country to Ido-osi LG of Ekiti State. Therefore, laws that would protect the land must be espoused and implemented. This could help to reduce incidence of biodiversity loss and environmental degradation while still promoting agriculture to attract rural migration and development.

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