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Evaluating the Socioeconomic and Environmental Factors of Out-migration in Aguata Local Government Area of Anambra State

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Abstract

Out-migration resulting from environmental degradation and socioeconomic factors are key processes of rural population redistribution in the developing world. However studies that integrate socioeconomic and environmental factors in the study of rural out-migration are lacking in literature. This study therefore used survey data, to investigate the combined influence of socioeconomic and environmental factors on rural out-migration in Aguata Local Government Area, Nigeria. In achieving this, the study examined the characteristics of rural out-migrants and ascertained human and physical environmental factors, which influence rural out-migration in the study area. Descriptive statistics is used to explain pattern of rural out-migration in the study area. Given the mix of myriads of socioeconomic and environmental factors that drive migration, Principal Component Analysis (PCA) is used to identify the underlying dimensions of these migration determinants. The result of the findings show that migration stream is high among the youths and young adults of age range 18-37, mostly to places of commercial and educational activities. The factors that predominate in influencing their out-migration are insecurity, scarcity of food as a result of insufficient means of livelihood and erosion problem, which can be attributed to social, economic and physical environmental factors respectively. It was however recommended that social sector in government should establish human development centres in the study area, where youths who want to learn skills will be empowered, so that they will be able to establish a sustainable means of livelihood in their rural origin areas, among others.

Keywords: *Aguata, Nigeria; Rural Out-migration, Environmental and Socioeconomic factors.*

INTRODUCTION

Migration, together with mortality and fertility, remains one of the vital processes which influence the size, composition and distribution of population (Ejekwumadu, Madu and Ajaero 2009). Rural out-migration represents one of the primary forms of population redistribution in developing countries, with profound impacts on the destination regions as well as the rural origin areas (Bilsborrow, 2002, United Nations, 2008, Gray, 2009). Migration is therefore a complex phenomenon because it studies the behavior of man in the society, the characteristics of population distribution, the spatial distribution of population, economic development of people in the society, regional planning and development, (Etzo, 2008). Consequently, the determinants of various forms of migration may be social, political, economic, environmental, and cultural in nature (National Geographic, 2005)

For instance, in examining the causes of rural out-migration, researchers have recently drawn attention to the relationship between rapid rate of environmental change in many rural areas including soil degradation, deforestation, low agricultural productivity, soil erosion and the displacement of populations from their areas of usual residence (Bates, 2002). Environmental pressure as a fundamental cause of migration has been generally downplayed until recently, when increased attention to the impacts of climate change has refueled the debate (Morrissey, 2009, Massey, Axinn & Ghimire, 2007 and Zolberg, 2001). In attempt to clear this confusion, IOM, (2007) gave a much better and general term called 'environmental migrants', and defined it as "persons or group of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad". The key problem with the concept of environmental migrants, is the implicit assumption that there is a direct causal link between environmental change and migration (Tacoli, 2009). Hence, most frequently cited figure predicts that by 2050, there could be as many as 200 million 'environmental

migrants' forced to move because of environmental degradation, lowered productivity of agricultural and natural resources, resulting from climate change (Meyers, 2002).

On the other hand, various researchers including Nigerians have examined the socio-economic determinants of migration. Adesiji, Omoniwa, Adebayo, Matanmi, and Akangbe. (2009) examined the factors associated with drift of youths from rural to urban areas in Kwara State, Nigeria using multistage sampling technique and found out that majority (71.7%) of the youth were between the ages of 15 and 20 years, while more than half of the respondents (51.7%) were male, and majority (90.8%) were in secondary school. In addition, they discovered that most migrants identified social amenities (43.3%) as the main source of attraction to the city and their main reason for leaving the village is because of the absence of social amenities (58.3%). Aworemi and Abdul-Azeez (2011) used the logistic regression model to appraise the factors of rural-urban migration into Lagos State, Nigeria and discovered that unemployment, education, family reasons, inadequate social amenities in the rural communities, avoidance of boredom in agriculture and health reasons are the major factors influencing rural-urban migration in Nigeria. Ajaero and Okafor (2011) studied the characteristics and determinants of rural-urban migration in Ajeromi- Ifelodun LGA of Lagos State using Principal Component Analysis (PCA), and found out that males and people aged 15-50 years migrate more than other population groups into the study area. The PCA identified five underlying determinants of migration into the area, such as to satisfy personal interest, and to better their condition of living. These components together explained 84.5% of the variance of the analysis.

Furthermore, in developing world, Nigeria inclusive, migration has been seen as a key livelihood diversification and survival strategy for poor and non-poor households. Studies in Mali and Niger by Hampshire (2002), explained that rural out-migration is perceived to be as a result of poverty, particularly in the case of seasonal migration, in which the poor migrate in search of alternative livelihoods in response to the low agricultural production. Nigeria, despite her enviable human and material resources, is still characterized among the very poor, with no fewer than 54% of Nigerians living below poverty level (Akinyele, 2005). The rural populace moves out in large numbers temporarily or permanently, to towns and cities seeking new opportunities, improved livelihoods and better standard of living (Aworemi and Abdul--Azeez, 2011). In a work done in south-eastern Nigeria by Okali, Okpara and Olawoye, (2001), rural out-migration was examined in Aba to be pull factor, where many of the rural-urban migrants have the goal of learning a skill (such as shoe making, tailoring etc,) and trade. Another research done by Chukwuezi (1999) in Anambra state, found out that many Igbo families encourage their family members to migrate because of the belief that their continued stay in the village will not bring financial success. From the foregoing, it can be seen that there has been a major dichotomy in studies of determinants of migration. In as much as major areas of research have been on the influence of human factors on human migration, some scholars have also explored how sudden physical factors such as drought, rainfall erosion menace, climate change and low agricultural productivity have affected the migratory behavior of people. However, this study adopts a holistic approach in which both the social and environmental factors would be integrated in evaluation the determinants of rural out-migration in Aguata Local Government Area, Nigeria. The choice of the study area is because it experiences erosion and is also very close to Onitsha, the commercial nerve center of Southeastern Nigeria. This work will therefore examine the interplay of both the environmental and socioeconomic factors in determining rural out-migration in a rural area in a developing country using the study area as a case study.

METHOD

Study Area

Aguata is a local government area (LGA) in Anambra State southeast of Nigeria (fig.1a and 1b). It is made up of 14 communities namely, Uga, Umuchu, Igboukwu, Akpo, Ekwulobia, Achina, Isuofia, Aguluezechukwu, Ezinifite, Ikenga, Amesi, Ora-eri, Umuona and Nkpologwu. Aguata is situated at the southeast of Anambra state on latitude 5^{o} 55'N and 6^{o} 04'N, and longitude 6^{o}58'E and 7^{o} 10'E. (See fig. 1c) It is bounded at the north by Orumba North, at the east by Orumba South LGA,at the west by Nnewi South LGA, north-west by Aniocha LGA of Anambra state, and at the south by Ideato Local Government Area (L.G.A) of Imo state (fig..2).

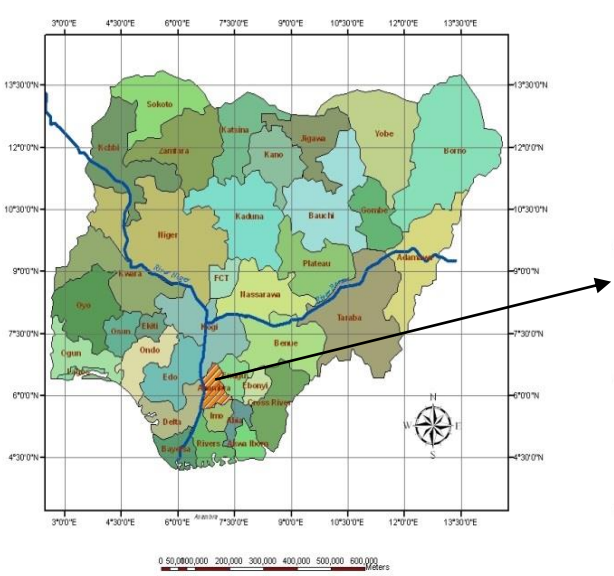

Figure 1a: Map of Nigeria

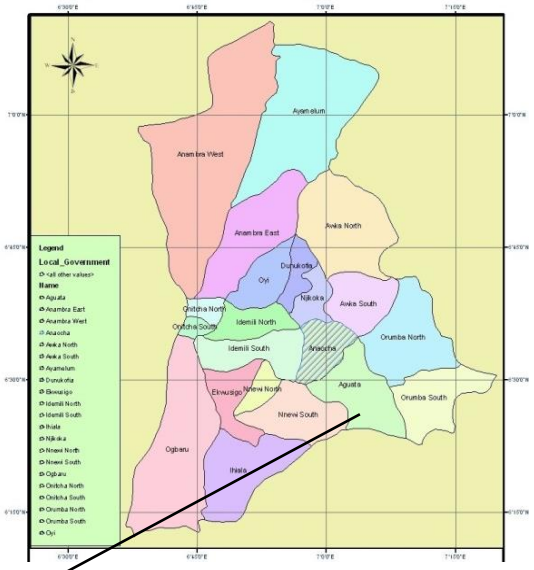

Figure 1b: Map of Anambra State

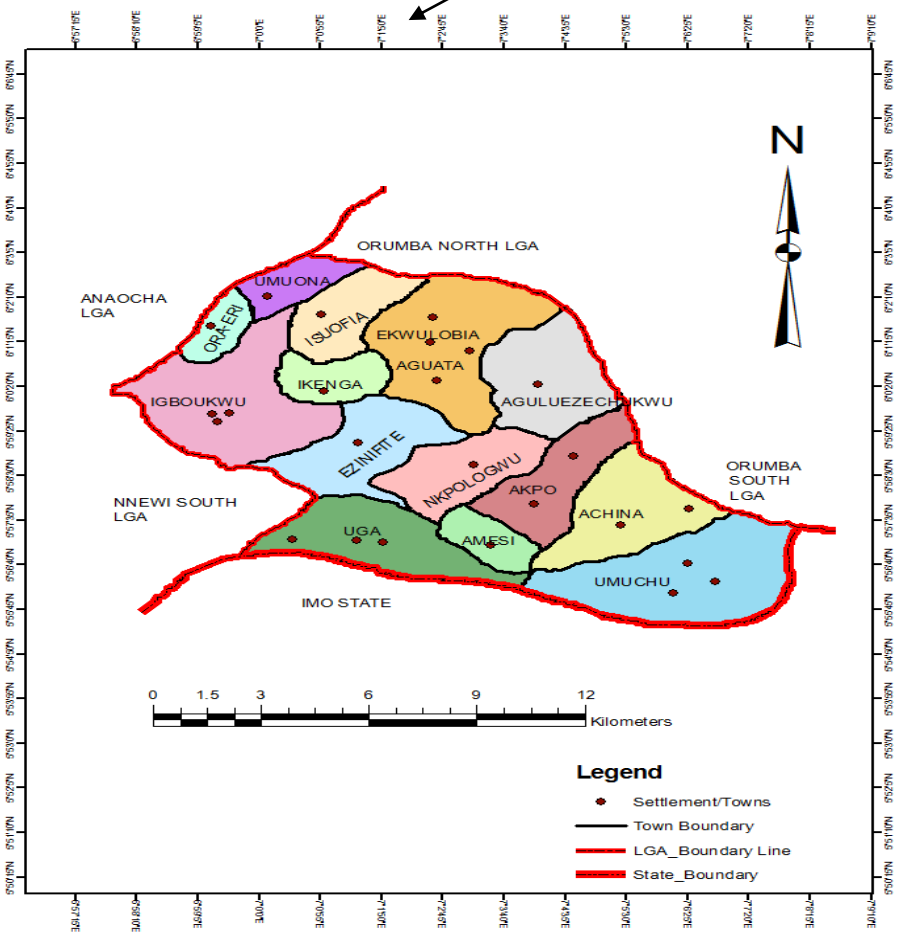

Figure 1c: Map of Aguata Local Government Area.
Source: Ezeomedo (2014)

Aguata has a rugged relief as it lies partly on the Awka-Orlu upland and the flood plain of Mamu river, which is an area of moderate relief (Ofomata, 1975). Geologically, the study area is overlaid by Agulu-Nanka formation, made up of highly sediments of friable sandstones, shales and limestone. They are mainly of cretaceous periods. The sandstones which mainly dominated the area, is susceptible to erosion, which is typified by the nearby and infamous Agulu-Nanka gully sites (Ofomata, 1985). The area has much of surface drainage systems through which the excess water is removed from the land. The components of the drainage system form the tributaries of Mamu and Anambra rivers which empty into the River Niger (Ofomata, 1985). The climate according to Koppen's climatic classification, is tropical Wet and Dry climate (Aw). The rainfall is controlled by the position of Inter-Tropical Divergence, which is experienced for 8 months of the year from April to November with July and September as the months of highest rainfall of about 350mm (Ogbukagu, 1976, Anyadike, 2002). The vegetation lies within the humid tropical rainforest region of Nigeria.

The population of the study area according to 2007 population census stands at 370,172 persons -192,760 males and 177,412 females (National Population Census, 2007).

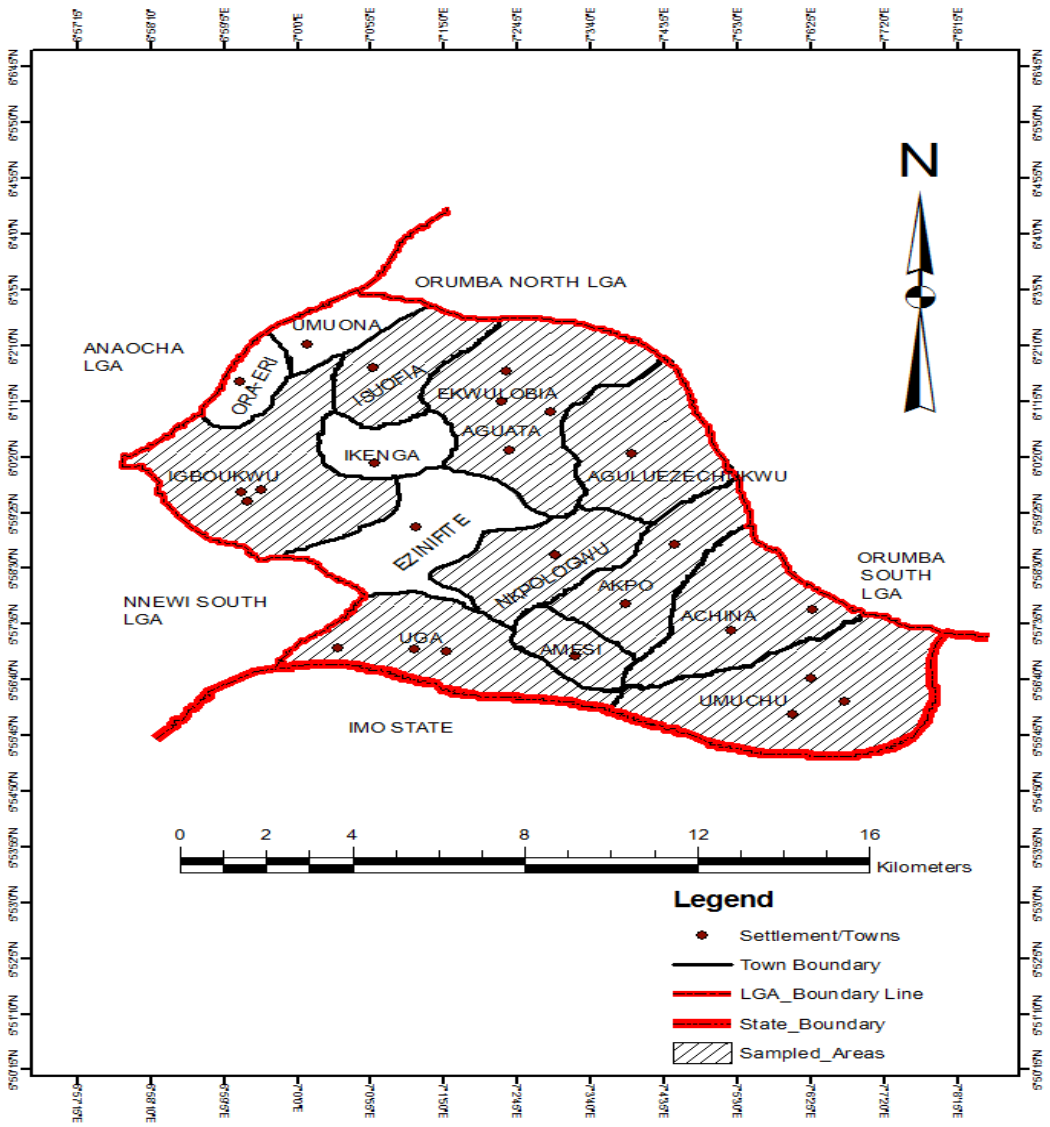

Figure 2: Map of Aguata Local Government Area, showing the sampled areas.
Source: Ezeomedo (2014)

Data Used

This study used survey data collected from all the 10 communities in the study area since all the communities experience the menace of soil erosion. A sample of 20 households whose members have migrated outside the community in the past five years were randomly selected from each community, giving a total of 200 migrant-sending households for this study. Primary data were gathered by using structured household questionnaires, key informant interviews (KIIs) and personal observations. Ten key informants were interviewed on the basis of one interview per community. The household questionnaires were used to get information on the characteristics of out-migrants as well as the factors influencing their migration decisions. Those questionnaires were administered to either the household head alone if the household head is literate or with a literate member of the household if the household head is illiterate. In addition, some information was gotten from published and unpublished literature, which formed the secondary data.

Data Analysis

In analyzing these data, descriptive statistics and Principal Component Analysis (P.C.A) were used. The descriptive statistical tool was used in determining the percentage variation in the characteristics of rural out-migrants in the study area and the results were presented in charts and map. In order to examine the underlying components influencing out-migration and the degree of their influences, the P.C.A was used. Principal Component Analysis is a powerful tool that attempts to explain the variance of a large dataset on intercorrelated variables with a small set of independent variables (Simeonov et. al., 2003). The technique extracts the eigen values and eigen vectors from the covariance matrix of original variables. However, Principal components (PC) are weighted linear combinations of the original variables, which provide information on the most meaningful parameters, which describe the whole dataset while affording data reduction with a minimum loss of original information (Hair et. al., 1995, Sharma, 1996, Vega, Pardo, Barrato, and Deban, 1998).

RESULT AND DISCUSSION

Age distribution of Migrants

Survey data revealed that age is sex selective of migration, in the sense that there is variation in the different age ranges that this research used (fig. 3).

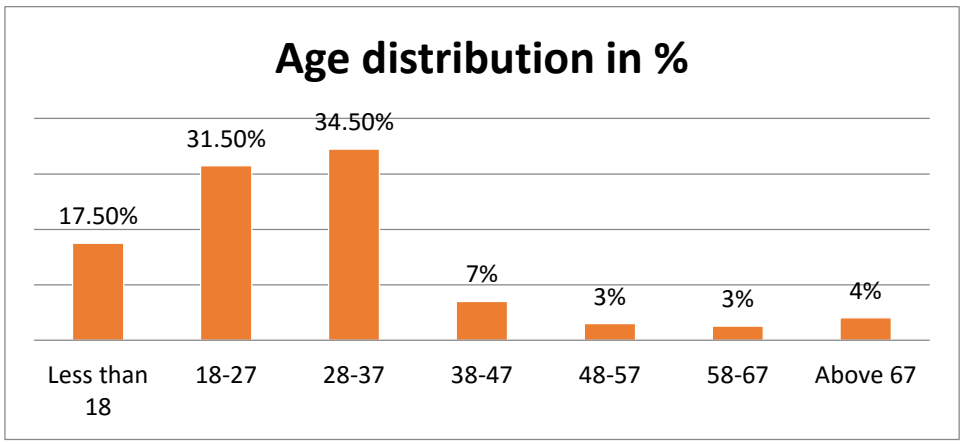

Figure 3: Age distribution of Migrants

The figure 3 above shows that people within the age group of 28-37, outnumber every other group. It accounts for 34.5% of the total migrants, followed by the 18-27 age groups, which accounts for 31.5% of the total migrants. This shows that migration stream is high among the youths and young adults, with the aim of benefiting from perceived opportunities outside their communities.

Sex Distribution of Migrants

Although migration is generally perceived to be sex selective, this study found out that out-migration in Aguata has just little difference in the sex structure of their out-migrants. Male migrants account for 51% while the female migrants account for 49%. So, migration in the study area is not really sex selective, rather occurs between sexes almost concurrently depending on the motive and need for out-migration.

Educational Status of Migrants

Findings from this study indicate that people who attained senior secondary education constitute the highest percentage of migrants, accounting for 34% of the total migrants (fig. 4).

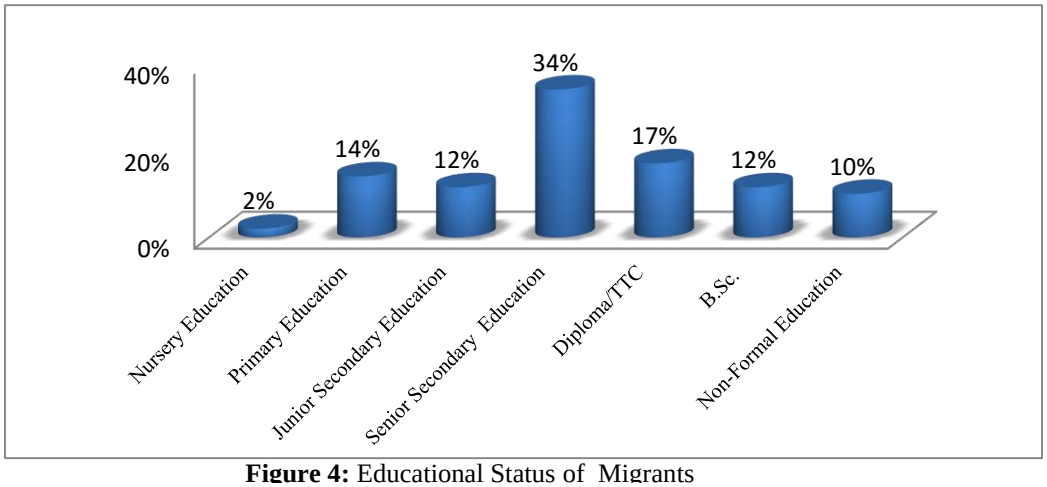

Figure 4: Educational Status of Migrants

This is because youths of the 21st century appreciate higher education, but due to lack of higher institutions in the rural area, they migrate out of the study area. This implies that rural out- migration is selective of the better educated of the population at the origin area. Better education stimulates out-migration, by raising individuals' level of aspirations, which in most cases can only be satisfied in larger towns.

Occupational Structure of Migrants

Figure 5 below shows that farmers, students, and traders have the highest percentages of 20.5%, 18% and 16.5% respectively. The farmers among them were perceived to have migrated because of scarcity of arable lands and low agricultural productivity (Umeh, 2010, personal communication). The students were perceived by respondents to have migrated for economic and educational purposes, while the traders migrated for better establishments in business due to dwindling revenue from their businesses.

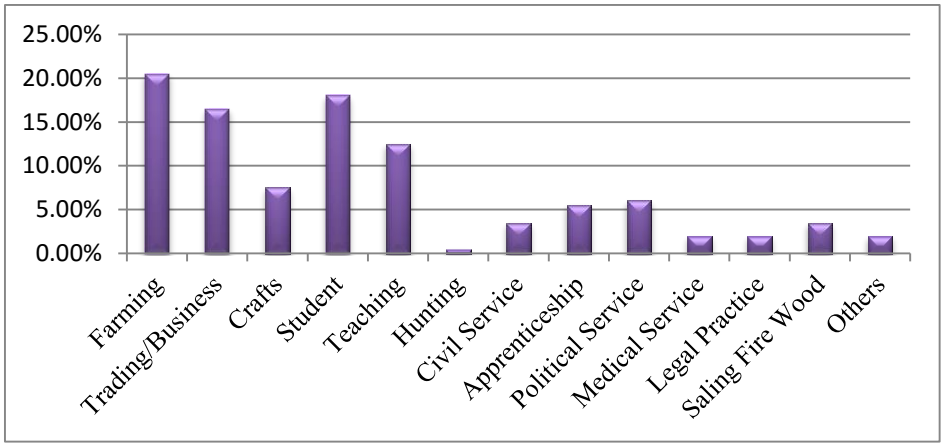

Figure 5: Occupational Structure of Migrants

Migration Flow

The direction and volume of rural-out-migration in Aguata to the geo-political zones of Nigeria is shown in fig.6.

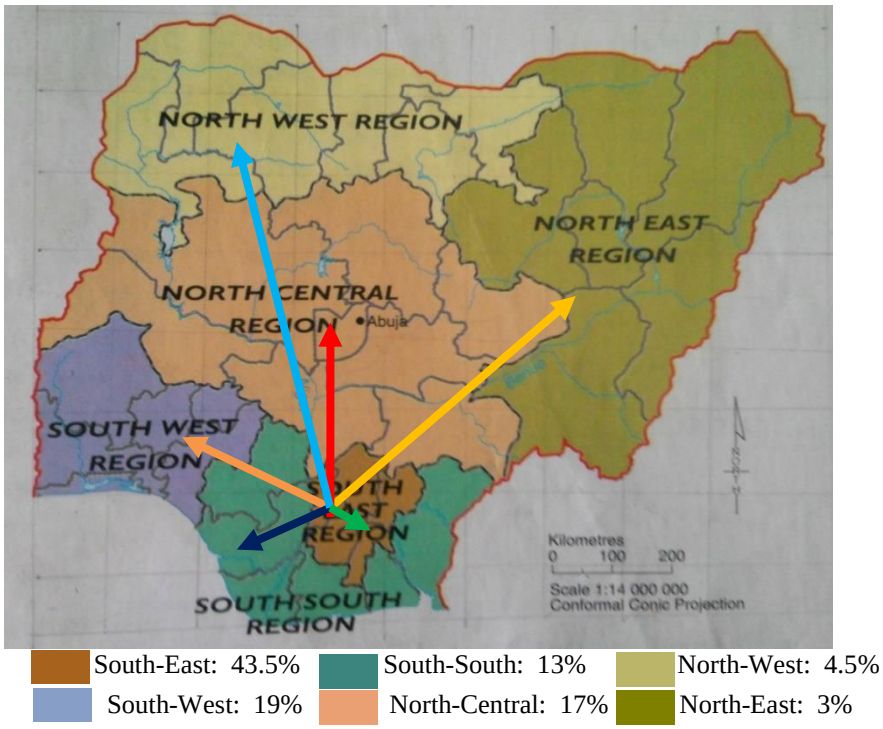

Figure 6: Migration Flow of the migrants

The figure 6 shows that the highest number of people (migrants) within South-eastern Nigeria from the study area accounts for 43.5% of the total out-migrants, followed by south-western region which has 17% of the migrants, and South-south making up 13% of the migrants. This key informant interviews (KIIs) found out that people migrated because of economic and educational purposes, and south-eastern region of Nigeria is dominated with these characteristics. This region is made up of Anambra, Abia, Imo, Enugu and Ebonyi states. Anambra and Abia states are generally dominated by commercial activities in most of their urban centres. In Anambra, such urban centres are Awka, Nnewi, Onitsha and environs, while Aba and Umuahia attract people in Abia state. Imo and Enugu states are generally dominated with higher institutions, thus attracting migrants from the study area. In addition, this study found out that some of the

migrants were really trying to survive from environmental disaster and thus do not have enough resources to migrate far from their community. This heavy migration flow within south-eastern region therefore, supports Ravensteins's (1885) (1889) laws of migration, which says that 'Migration to short areas is high and is mostly to areas of commercial activities 'The second region with high volume of migrants is south-western region, which has Lagos as the major city of attraction, as a result of the high commercial and industrial attractions and opportunities for different classes of people.

Socioeconomic and Environmental Factors Influencing Rural Out-Migration

In as much as the major areas of research on human migration have been on the influence of human factors, this study looked at both the human and physical factors and how they motivate rural out-migration in the study area. This motivation to migrate in the face of environmental stress can vary from being pulled or pushed out of the origin area. In trying to understand the influence of these factors, Principal Component Analysis (PCA) statistical technique was employed. The PCA was used since there is need to summarize the myriad of answers gotten from the respondents on the determinants of migration since using descriptive statistics will not portray the underlying determinants properly. The predicted factors used in the component analysis and the result of the varimax rotated components matrix are presented and contained in table 1.

The rotated components which has eight significant components, together explained 58.7% of the total variance, leaving 41.3% of the total variance unexplained. To determine the significance of the variables that are related to each component, we considered only those variables with loadings greater than 0.50 as important. The rotated component matrix helped to produce easy analysis and interpretation of the underlying factors. It shows that component one accounts for 11% of the total variance and loads heavily on five variables. These variables are X_{15} (Landslide) which results from erosion and damages houses and properties, X_{16} (Loss of house and property), X_{17} (Loss of farmlands) which translates to the loss of means of agricultural livelihood, X_{22} (Loss of pasture) X_{24} (Erosion problem). This component is describing **the effect of erosion in the study area.**

Component two accounts for 8%, thus loading heavily on three variables which are X_6 (To learn skill/trade), X_9 (Job transfer), X_{13} (Marriage). This component explains **human development/ improvement in quality of life of the migrants.** Component three accounts for 7.7% of the total variance, loading heavily on variables X_{11} (Insecurity in the village), and X_{14} (Avoidance of agricultural stress). Most people leave the rural origin areas because of the uncomfortable lives they experience there. Fear of evils befalling them which mostly come from their neighbours and enemies, cause some individuals to migrate, at least to look for security somewhere else, where people do not know them very well. Secondly, the system of agricultural practice in rural areas is basically by the use of crude implements which makes the activity so stressful and boring, thus causing discomfort to some individuals. Therefore, this component tries to explain the **dissatisfaction with the quality of life in the village.** Component four accounts for 7.3% of the total variance, loading heavily on X_7 (Banishment), and X_{18} (forest resource depletion), therefore explains **forced situations.** Component five accounts for 7%, loading heavily on X_5 (unemployment) and X_{21} (scarcity of land), describing **insufficient means of livelihood.** Component six is 6.3%, which loads heavily on X_3 (medical treatment) and X_{23} (harvest fluctuations) describing **perceived advantage of change of residence of the migrants.** Component seven accounts for 5.8%, and has significant loadings on X_1 (overcrowding) and X_{12} (political crisis). This component therefore describes the **moving away of migrants due to difficult situations.** Component eight accounts for X_{18} (educational achievement) and X_{10} (conflict in the village). What this component is trying to explain is **seeking for satisfaction in the life of the migrants.**

From the analysis and interpretations of the principal components, it can be seen that the following under listed dimensions may be regarded as the underlying indices for rural out-migration in Aguata -

- The effect of erosion in the study area
- Improvement in human development
- Dissatisfaction with the quality of life in the village
- Forced situations
- Insufficient means of livelihood in the village
- Perceived advantage of change of residence of the migrants
- Moving away of migrants due to difficult situations
- Seeking for satisfaction in the life of the migrants

Table 1: Rotated Component Matrix

	Component							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Overcrowding in the house X_1	0.251	0.105	0.081	0.229	0.159	0.066	-0.596	0.201
Scarcity of food X_2	0.454	0.058	0.368	0.049	0.227	-0.252	0.114	-0.21
To receive medical treatment X_3	0.03	0.029	-0.038	-0.108	-0.008	0.813	-0.058	0.044
To improve in educational achievement X_4	-0.064	0.093	-0.078	0.011	-0.023	-0.05	-0.079	0.819
Unemployment X_5	0.025	0.012	-0.348	-0.005	0.618	0.081	-0.017	-0.163
To learn skill/trade X_6	-0.133	0.772	0.173	-0.017	0.118	-0.155	-0.043	0.02
Banishment from the village X_7	-0.088	0.007	0.023	0.77	0.068	0	-0.157	0.11
For apprenticeship X_8	-0.092	0.464	0.268	0.176	0.263	-0.035	-0.259	-0.312
Because of job transfer X_9	0.007	0.521	-0.395	-0.126	0.041	0.183	-0.461	-0.008
Conflict in the village X_{10}	0.037	-0.292	0.316	0.009	0.334	0.159	0.145	0.524
Insecurity in the village X_{11}	0.018	0.135	0.757	-0.111	-0.107	0.008	0.066	0.045
Political crises X_{12}	0.091	0.073	0.204	0.257	0.08	-0.017	0.655	0.104
Marital factors X_{13}	-0.086	0.759	-0.031	0.073	0.021	0.259	0.084	0.059
To avoid the boredom of agriculture X_{14}	-0.041	-0.003	0.601	0.194	-0.077	-0.034	-0.006	-0.045
Landslide X_{15}	0.69	-0.134	-0.022	-0.195	-0.066	0.057	-0.184	-0.098
Loss of house and property X_{16}	0.501	0.022	-0.262	0.153	0.097	-0.21	0.211	0.027
Loss of farmlands X_{17}	0.685	-0.128	0.07	0.137	-0.03	0.085	-0.139	0.05
Forest resource depletion X_{18}	0.232	0.024	0.172	0.668	0.047	-0.009	0.208	-0.164
Poor agricultural harvest X_{19}	0.295	0.213	0.032	0.12	0.496	0.279	0.205	0.047
Loss of soil fertility X_{20}	0.253	0.039	-0.228	0.36	0.13	0.265	0.18	0.089
Scarcity of land X_{21}	-0.007	0.115	-0.024	0.117	0.776	-0.069	-0.086	0.146
Loss of pasture X_{22}	0.595	0.128	-0.28	0.231	-0.209	0.153	0.147	0.206
Harvest fluctuations X_{23}	0.074	0.093	-0.019	0.431	0.146	0.624	0.034	-0.103
Erosion problem X_{24}	0.736	-0.133	0.091	0.006	0.244	0.067	0.052	-0.087
Eigen value	2.631	1.930	1.851	1.752	1.690	1.516	1.394	1.319
Percentage variance	10.964	8.044	7.711	7.298	7.043	6.316	5.807	5.494
Cumulative percentage variance	10.964	19.008	26.719	34.017	41.060	47.376	53.183	58.677

Source: author

The use of PCA has therefore made it possible to reduce our twenty-four (24) predicting variables to eight (8) major components. The dimensions incorporate both human and physical factors. Some of them correspond with those discussed earlier in the study namely economic factors, social factors and erosion menace which is a physical environmental factor.

CONCLUSION

The discussion of the research so far on the socioeconomic and environmental factors of rural out-migration in Aguata, has come up with findings which has contributed to research in out-migration and migration as a whole. It was found that out-migration is high among the young, energetic and productive youths of the area, who out of pull and push factors leave their rural origin areas. These decisions in migration were found out to be influenced basically by insecurity, which people encounter in the various communities, scarcity of food as a result of insufficient means of livelihood, and little environmental experience in erosion problems. Therefore, this study draws its conclusion from the results of the analysis, explaining that rural out-migration in Aguata Local Government Area is predominantly influenced by insecurity, scarcity of food as a result of insufficient means of livelihood and erosion problems.

RECOMMENDATIONS

Insecurity as one of the major factors influencing out-migration in the study area can be curtailed by re-orientation of the rural dwellers on the utilization of ideas in developmental projects instead of causing discomfort to lives of people in villages. Town leaders should put up measures on how to punish people who cause evil, and who threaten the lives of people in various communities.

Government should provide jobs for the citizens in the rural areas, establish human development centres for skill acquisitions by the youths, and as well provide good health facilities, educational facilities and qualified teachers in the rural areas. There should be improvement of local infrastructure, subsidizing fertilizer inputs, upgrading the rural roads, assistance for small holder farmers, availability of the public source of credit and technology.

To curtail erosion problem, rural dwellers should be informed on the proper landuse so that they will avoid cultivating along erosion prone areas.

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