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Migration and Agricultural Investment in Southeast, Nigeria

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Onyeneke, Robert Ugochukwu
Department of Agriculture, Faculty of Agriculture
Alex Ekwueme Federal University Ndufu-Alike, Ebonyi State, Nigeria
E-mail: robertonyeneke@yahoo.com, Phone: +2348037902744

Nwajiuba, Chinyere Augusta
Department of Educational Foundations, Faculty of Education
Alex Ekwueme Federal University Ndufu-Alike, Ebonyi State, Nigeria
E-mail: caanwajiuba@gmail.com, Phone: +2348033288676

Munonye, Jane
Department of Agriculture, Faculty of Agriculture
Alex Ekwueme Federal University Ndufu-Alike, Ebonyi State, Nigeria
E-mail: munojane@gmail.com, Phone: +2349090979007

Igberi, Christiana Ogonna
Department of Agriculture, Faculty of Agriculture
Alex Ekwueme Federal University Ndufu-Alike, Ebonyi State, Nigeria
E-mail: igberitina@yahoo.com, Phone: +2347031161051

Aligbe, Jonathan Ogbeni
Department of Planning and Policy Coordination
Federal Ministry of Agriculture and Rural Development, Benin City, Edo State, Nigeria
E-mail: jonathan.aligbe@gmail.com, Phone: +2348035031554

Amadi, Mark Umunna
Department of Agriculture, Faculty of Agriculture
Alex Ekwueme Federal University Ndufu-Alike, Ebonyi State, Nigeria
E-mail: mikkmore@yahoo.com, Phone: +2348069021950

Abstract

This study explored rural-urban migration and agricultural investment in Southeast Nigeria. The study adopted a multi-stage sampling procedure in the selection of respondents. Cross-sectional data gathered from 200 household heads (100 male-headed households and 100 female-headed households) were used. Using percentage, mean and ordinary least square regression, the findings revealed that the major determinants of migration were sex of the household head (3.53), male to female ratio of household members not resident at home (14.86), age (0.50), access to credit (10.53), number of migrants in the working age (2.6), occupation (11.56) and number of livelihood activities pursued by the household (1.87). The average annual remittance from male migrants in male-headed households was ₦204,269.3 while that of their female counterparts was ₦161,297.76. The average annual remittance from male migrants in female-headed households was ₦189,282.9 while that of their female counterparts was ₦170,297.8. The average amount of remittance invested in agriculture in male-headed households was ₦131,334.8 while that of their female counterparts was

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₦151,676.5. Gender drives migration, remittances from both the sender and receiver perspectives and household investment decisions. Gender should be mainstreamed in migration policies to consider the peculiarities of both men and women in migration and remittances.

Key words: Migration; gender; remittance; investment in agriculture

Introduction

Over time people have migrated from their place of origin to other places because of several reasons. Scientists have made attempts to understand what drives migration in different regions and among different people (de-Brauw, 2019; Forte and Portes, 2017; Patnaik *et al.,* 2014; Oyeniyi, 2013). It is clear that different factors shape migration among different people. Generally, two types of migration - international and internal migration - have been identified in the literature. International migration involves the crossing of one's country borders to another and this type of migration can be further categorised into two depending on whether people move away from their country of origin or whether people move into a country. Emigration and immigration are the two types of international migration. The former entails the movement away from one's country of origin and the latter involves movement into a country. The type of migration existing within a country is internal and there are four main categories of internal migration- rural to rural, rural to urban, urban to urban and return migration (urban to rural) (Ofuoku, 2012; Eze, 2016; Alarima, 2018).

Rural to rural migration involves the movement from a rural area where there is little potential for agriculture to another rural location where there is greater potential for agriculture. Rural to urban migration is the movement of people from rural areas to urban centres. Urban to urban migration is used to describe people's movement from an urban area to another urban area. Urban to rural migration, often called return migration, describes the movement of people from urban areas to rural areas. The most common type of internal migration in Nigeria is rural to urban (Alarima, 2018; Amrevurayire and Ojeh, 2016; Ofuoku, 2012). This type of movement can be fuelled by economic reasons especially when there is perceived better life in the cities which attracts one to move or it can be involuntary when there is something undesirable in one's destination that pushes him to migrate/leave (Alarima, 2018). In many instances, economic forces are the main determinants of rural to migration (Ehirim *et al.,* 2012; Onyeneke and Aligbe, 2016). Usually, migrants send money and gifts home from their host countries abroad or from cities within Nigeria.

Nigerian migration is increasing, therefore, remittances are expected to be on the increase too because migration drives remittance. Global figures show that official remittances have increased significantly. The World Bank (2016) reveals that Nigeria with remittances of $20.8 billion is the top-remittance receiving country in Africa, and ranked sixth in the world, following India ($72.2 billion), China ($63.9 billion), Philippines ($29.7 billion), Mexico ($25.7 billion) and France ($24.6 billion).

Remittance is of immense importance to rural households and its impact in rural areas cannot be overemphasised. The contributions of remittances to the

development of migrants' households and communities are well documented. For example, Akpan *et al.* (2014) and Iheke (2014) documented the importance of remittance to agricultural productivity and output in Nigeria; Redehegn (2019) averred that remittances increase crop and livestock income in Ethiopia; Ofuaku (2018) opined that it enhances food security in the rural areas of Nigeria while Olowa *et al.* (2013) found its significant impact on poverty reduction in Nigeria. It is a survival strategy for some households and many others invest their remittances in agriculture and other productive activities (Alarima, 2018; Oketayo and Olaleye, 2016).

Migration and remittance are not gender neutral because men and women migrate for different reasons and possess different remittance-sending behaviours (Ajaero and Madu, 2013; Afolayan *et al.,* 2011; Olatuyi *et al.,* 2013; Isiugo-Abanihe and International Organization for Migration, 2016; United Nations, 2016; Ikwuyatum, 2016). Gender also affects the spending pattern of the remittances by the households at home. Female and male-headed households have different investment behaviours and will put remittances sent into different activities (Ullah, 2014). Southeast Nigeria is largely an agrarian economy and it is believed that households who receive remittances from household members not resident at home will invest such money into agriculture. This implies that migration, remittances and agricultural investments cannot be analysed without considering gender. Studies in this context in southeast Nigeria are rare. This study therefore sought to contribute to research and literature on gender, migration, remittance and agricultural investment. The aim of the study was to examine the link between migration, remittance and agricultural investment using southeast Nigeria as a case study. Specifically, the study ascertained the number of migrants and their respective sex in each household, determined the destination of the migrants and their reasons for migrating, examined the determinants of migration, determined the remittances received by households and agricultural financing component, ascertained the determinants of agricultural investment component of remittance in southeast Nigeria.

Methodology

This research was carried out in southeast geopolitical zone of Nigeria. Southeast Nigeria lies between latitudes 4º20′and 7º25′North of the Equator and longitudes 6º37′ and 8º28′ East of the Greenwich Meridian (Okonkwo and Eyisi, 2014). The zone comprises five States- Abia, Anambra, Ebonyi, Enugu and Imo. According to the last population census conducted in Nigeria, southeast Nigeria has a population of 16,381,729 persons with 8,306,306 males and 8,075,423 females (National Population Commission, 2006). A significant proportion of the population lives in the rural areas and has agriculture as their main means of livelihood.

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Table 1: Population of Southeast Nigeria according to sex

State	Rank	Population	Male Population	Female Population
Abia	4th	2,833,999	1,434,193	1 ,399,806
Anambra	1st	4,182,032	2,174,641	2 ,007,391
Ebonyi	5th	2,173,501	1,040,984	1 ,132,517
Enugu	3rd	3,257,298	1,624,202	1 ,633,096
Imo	2nd	3,934,899	2,032,286	1 ,902,613

Source: National Population Commission, 2006

The study adopted a multi-stage sampling procedure in the selection of respondents. Firstly, four States were purposively selected based on population. These include Anambra, Imo, Enugu and Abia States. Secondly, twenty local government areas (LGAs) were selected proportionately. The number of LGAs in each was considered at this stage. Table 2 shows the number of LGAs selected in each State.

Table 2: Number of LGAs selected per state

State	Total number of LGAs	Number of LGAs selected	Number of communities selected
Abia	17	4	20
Anambra	21	5	25
Enugu	17	4	20
Imo	27	7	35

The next stage involved the selection of five communities in each LGA. Finally, two household heads– one female-headed household and one male-headed household – with some household members not resident at home were selected in each community.

The study used questionnaire for data collection. Regression and percentages were used in data analysis. The regression model used for the determinants of migration is specified as follows :$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, e)$
Y= Rate of migration (Number of migrants divided by household size and expressed in percentage)
X_1 = Age (years)
X_2 = Educational level (number of years spent in school)
X_3 = Income (Naira)
X_4 = Gender of household head (Dummy variable; male = 1, female =0)
X_5 = Access to credit (Dummy variable; yes =1, no =0)
X_6 = Number of members in working age (count)
X_7= Male to female ratio of migrants (number of male migrants divided by number of female migrants)
X_8 = Major occupation of the household head (Dummy variable; agriculture=0, otherwise=1)

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X_9 = Livelihood activities of the household (count)
e = error term
The researchers went further to estimate the determinants of agricultural investment component of remittance and the model is specified below.
W = Amount of remittance invested in agriculture (Naira)
Z_1 = Age (years)
Z_2 = Educational level (number of years spent in school)
Z_3 = Total amount of remittance received (Naira)
Z_4 = Gender of household head (Dummy variable; male = 1, female =0)
Z_5 = Access to credit (Dummy variable; yes =1, no =0)
Z_6 = Number of members in working age
Z_7= Farm size (hectares)
Z_8 = Livelihood activities of the household (count)
e = error term

Results and Discussion

Number of Household Members Not Resident at Home (migrants)

Table 3 shows that in male-headed households, majority (50.00%) had 3 household members not resident at home while in female-headed households the statistics is slightly different because 49.00% had 2 members not resident at home. The proportion of household members not resident at home in female-headed households almost equalled that in male-headed households. This suggests increasing feminization of migration in southeast Nigeria which is similar to the finding of (Asogwa, 2013). The percentage of males involved in migration was greater than that of their female counterparts involved in migration. This indicates that migration in southeast Nigeria is dominated by males. In southeast Nigeria, there is always pressure on men to go and search for what to do for a living and support the household too. The study of Ajaero and Madu (2013) shows that across southeast Nigeria, most of the migrants are males. In fact, according to them, more than half of the migrants from Nigeria's southeast zone are males.

Table 3: Distribution of households according to number of migrants

Number of Household Members not resident at Home (Migrants)	Male-headed Household	Female-headed Household
	Percentage	Percentage
1	15.00	29.00
2	24.00	49.00
3	50.00	22.00
4	11.00	0.00

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Sex of Migrants

Table 4 shows the proportion male and female migrants in male and female-headed households. There is a similar trend in the two categories of households. In the male-headed households, majority (61.09%) of the migrants were males while 38.91% were females. Also, similar result was recorded in the female-headed households where 58.55% were males and 41.45% were females. Overall, the majority (60.00%) of the migrants in both households were males while 40.00% were females. Overall, forty per cent of the migrants were females. Even in the female and male-headed households, the statistics were not substantially indistinguishable (41.45% and 38.91% respectively). This indicates that female migration is growing in southeast Nigeria. This agrees with the results of Olatuyi *et al.* (2013), Ajaero and Madu (2013), Isiugo-Abanihe and International Organization for Migration (2016), United Nations (2016) and Ikwuyatum (2016) who assert that female migration has risen sharply in Nigeria. This result reflects increasing participation by women in economic activities outside the home.

Table 4: Distribution of households according to number of female and male migrants

Sex of Migrants	Male-headed Household	Female-headed Household	Pooled
	Percentage	Percentage	Percentage
Male	61.09	58.55	60.00
Female	38.91	41.45	40.00

Destination of Migrants

The place of destination of the migrants in different parts of the world is presented in Table 5. About 30.0% were resident in different urban locations in southeast Nigeria while the majority (62.88%) were residing in different urban centres across other regions in Nigeria. A small proportion of migrants (6.89%) were living outside the shores of Nigeria. The most common places of destination of the migrants were Lagos (18.44%) and Abuja (9.11%). T This is not surprising as these cities are the commercial and administrative Capitals of Nigeria respectively. A possible explanation of this result is because people from southeast Nigeria (mainly Igbo extraction) are commercially oriented and would be poised to move to locations where they can actively pursue their desired businesses and trades. Many people from southeast Nigeria (Igbos) are involved in different livelihood activities in Nigeria's largest commercial city- Lagos – and the seat of power of the Federal Republic of Nigeria. The common destinations of external migrants were the United States, Malaysia and Europe. International migration is not new in Nigeria.

Table 5: Distribution of migrants according to place of destination

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Place of Destination	Percentage
Urban centres in Southeast Nigeria	
1. Owerri	3.33
2. Aba	4.44
3. Umuahia	1.78
4. Abakaliki	3.33
5. Nnewi	4.00
6. Onitsha	7.78
7. Okigwe	0.44
8. Enugu	1.56
9. Awka	1.78
10. Orlu	1.11
11. Nsukka	0.67
Other urban centres in Nigeria	
12. Lagos	18.44
13. Abuja	9.11
14. Warri	2.22
15. Kaduna	2.22
16. Jos	3.33
17. Asaba	3.33
18. Calabar	1.78
19. Port Harcourt	7.78
20. Uyo	4.22
21. Kano	3.33
22. Benin	1.33
23. Others	5.78
	62.88
Abroad	
1. United States	1.11
2. United Kingdom	0.67
3. Germany	0.89
4. Italy	0.67
5. Malaysia	0.89
6. Qatar	0.44
7. Benin Republic	0.67
8. United Arab Emirates	0.44
9. Ghana	0.22
10. Cote D'Ivoire	0.22
11. Cameroun	0.22
12. Others	0.44
Total	**100.00**

Reasons for Migration

Table 6 presents the reasons for male and female migration in male and female-headed households in southeast Nigeria. Majority of male and female migrants (59.87% and 55.00% respectively) in male-headed households migrated in search of jobs. In female-headed households, a similar result was observed. About 50.00% of males and 55.00% of females also migrated in search of jobs in the cities. Another reason that dominated male and female migration in southeast Nigeria was search of business opportunities. These imply that the main reasons of male and female migration in southeast Nigeria were economic. This is line with the findings of Alarima (2018), Ehirim *et al.* (2012) and Onyeneke and Aligbe (2016).

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Table 6: Reasons for male and female migration

Reasons for Migration	Male-headed Household		Female-headed Household	
	Male Migrants	Female Migrants	Male Migrants	Female Migrants
Job search	59.87	55.00	49.56	55.00
Business	19.11	17.00	21.24	17.50
Learn trade	7.64	6.00	15.93	5.00
Studies	9.55	10.00	10.62	10.00
Marriage	0.64	7.00	0.00	10.00
Holiday	3.18	5.00	2.65	2.50

Determinants of Migration

Table 7 shows that household characteristics played an important role in migration decision because migration decision is made jointly by migrants and their households (Wondimagegnhu, 2012). For example, age of household head significantly ($p\leq<0.05$) increased migration of household members. A year increase in the household head's age brought about a corresponding 0.5% increase in the rate of migration of the household. Also, the number of household members in the working class (18 – 55 years) significantly (≤0.01) increased migration. Having more family members in the productive and active age increased migration in the area. A unit increase in the number of household members in the working class yielded a 2.607% corresponding increase in the rate of migration. A possible explanation of these relationships are as the household head ages the children also advance in age to embark on migration. The research of de-Brauw (2019) also found that age was a significant predictor of migration of family members.

Income, access to credit and number of livelihood activities pursued by household members positively and significantly ($p\leq0.01$) influenced migration in southeast Nigeria. The number of livelihood activities pursued by the household head positively and significantly (≤0.05) affected migration in the area. A unit increase in the number of livelihood activities yielded a 1.865% corresponding increase in the rate of migration. Being involved in non-agricultural activities as the major occupation encouraged migration in the area. People who were less involved in agriculture sent more members of their households to urban centres than those mainly engaged in agriculture. These economic variables - income, credit, and number of livelihood activities pursued by household members - significantly increased migration of household members. These variables are relevant in migration decision because who migrates in a household and the possible number of household members that can migrate are associated with the household's income - ability to pay- and ability to borrow. Also number of livelihood activities, which is a measure of income diversification, usually increases income and money available to finance migration of family members. This is similar to the findings of de-Brauw (2019), who found that economic variables such as household income, access to credit and households' involvement in different livelihood activities shape migration decisions in the household.

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Sex is associated with migration. Being a male household head significantly increased the rate of migration of the household. This means that male-headed households had more migrants than female-headed households. Also, the male to female ratio in the households significantly ($p<0.01$) increased migration in the area. This implies that more male members of the households were involved in migration than their female counterparts. This confirms that migration is not gender neutral. This agrees with the research findings of Alarima (2018) and Ajaero *et al.* (2013).

Table 7: Determinants of migration in the households

Variable	Coefficient	Std. Error	t-ratio
(Constant)	-26.615	6.793	-3.918***
Age	0.501	0.119	4.226***
Education	0.166	0.223	0.742
Income	0.00019	0.000	6.119***
Gender	3.527	1.722	2.048**
Access to credit	10.527	1.232	8.547***
Number of members in working age	2.601	0.667	3.903***
Male to female ratio of household members not resident at home	14.856	0.380	3.908***
Major occupation	11.559	2.659	4.347***
Household livelihood activities	1.865	0.855	2.181**
R^2	0.603		
F-ratio	32.103***		

***P≤0.01; **P≤0.05

Remittances Received by Households and Agricultural Financing Component

Table 8 shows the average amount of remittances received from female and male migrants by their households and the amount invested in agriculture. The average annual remittances received from male migrants in male and female-headed households were greater than the average annual amount of remittances received from female migrants. Female-headed households invested higher amount of the cash remittances received in agriculture than the male-headed households. This is expected because women migrants generally earn less than their men counterparts and this makes them more likely to send remit less than their male migrants (Amoako and Apusigah, 2013). These finding supports earlier studies in Philippines, Vietnam, Morocco and Germany where female migrants also remitted less money home than their counterparts (Le Goff, 2016; Bouoiyour and Miftah, 2015; Holst *et al.*, 2012). The average remittances received by the households seemed smaller than expected and the possible explanation is that not all the migrants were gainfully employed in the cities. Also, some household heads reported receiving some in-kind gifts/materials from their household members not resident at home. The in-kind gifts sent to the homebound family members included cars, electrical appliances, electronics, farm inputs, drugs, foodstuff, beverages, motorcycles, clothes, building

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materials, tricycles and so on. Ogbuagu (2013) found that Nigerians in diaspora send money and in-kind products to their families. Interestingly, female-headed households invested higher amount of the cash remittances received in agriculture than the male-headed households. This is so because women are more involved in agriculture in southeast Nigeria and are likely to invest more in agriculture than men.

Table 8: Remittances received by households and amount invested in agriculture

Average Remittance			
Male-headed Household		**Female-headed Household**	
Sex of Migrant		**Sex of Migrant**	
Male	**Female**	**Male**	**Female**
₦204,269.3	₦161,297.76	₦189,282.9	₦170,297.8
Average amount invested in agriculture	₦131,334.8	Average amount invested in agriculture	₦151,676.5

Determinants of Agricultural Investment Component of Remittance

Table 9 shows that the coefficient of multiple determination (R^2) was 0.571 (57.1%) implying that the explanatory variables jointly explained 57.1% of the variation in the volume of remittances invested in agriculture by the households.

Age significantly increased the amount of remittance invested in agriculture by household heads ($p<0.01$). The amount of remittances received had a positive and significant impact exhibited a positive and significant impact on the amount of remittance invested in agriculture ($p<0.01$). Amount of remittance invested in agriculture by older household heads was significantly greater than that invested in agriculture by younger household heads. One probable reason is that households with aged heads could have more working age and income earning members not resident at home than younger household heads. This has implication on the farm labour availability in such households headed by older folks which could be the reason for differential demand and investment of remittance in agriculture the households. Therefore, older household heads is more likely to invest greater part of the remittance received in agriculture to compensate for labour lost due to migration of household members.

Sex of the household demonstrated a negative impact on the amount of remittance invested in agriculture. Having a female as a head of household significantly increased the amount of remittance invested in agriculture by as much as ₦14,710.31. Sex impacted on the amount of remittances invested in agriculture on the de facto household head. Having a woman as the de facto household head significantly increased the amount of remittances invested in agriculture. This implies that household structure influences the investment decisions of the remittances

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received from migrants. However, Ullah (2014) noted that men (fathers) preferred to invest the remittances received from migrants in family farming and other entrepreneurial activities while the mothers preferred to invest such remittances in human capital. This could be the reality in the clime studied, mostly Asia, but in southeast Nigeria where agriculture dominates the rural economy and women are more involved, it is not unexpected that they (women) would invest greater part of the remittances sent by migrants in agriculture than their male counterparts.

Access to credit, number of household members in working, farm size, number of livelihood activities significantly and positively impacted on the amount of remittance invested in agriculture. The amount of remittances received significantly increased the amount invested in agriculture. The finding supports Akpan *et al.* (2014) and Iheke (2014) claim that remittance increases agricultural productivity and output in Nigeria. Redehegn (2019) averred that remittance improves farmers' income from crop and livestock production in Ethiopia. Ofuaku (2018) observed the increasing importance of remittance in raising the food security status of rural households in Nigeria while Olowa *et al.* (2013) found its significant impact on poverty reduction in Nigeria. Alarima (2018) and Oketayo and Olaleye (2016) in their independent studies found that remittance served as a survival strategy for some households while many others invested their remittances in agriculture and other productive activities. These confirm the increasing importance of remittance in boosting agricultural productive activities.

Table 9: Determinants of agricultural investment component of remittance

Variable	Coefficient	Std. Error	t-ratio
(Constant)	-69676.651	20111.529	-3.465***
Age	1274.159	344.926	3.694***
Education	535.797	643.177	0.833
Remittance Received	0.011	0.002	5.760***
Sex	-14710.309	7233.697	-2.034**
Access to Credit	30608.662	3547.907	8.627***
Number of members in working age	10735.567	1665.791	6.445***
Farm Size	40419.087	7150.227	5.653***
Livelihood activities of the household	4537.964	2473.721	1.834*
R^2	0.571		
F-ratio	31.795***		

***P≤0.01; **P≤0.05; * P≤0.1

Conclusion and Recommendations

Migration in southeast Nigeria is growing and it is not sex neutral. Men are more involved in migration than women in the area. With the men migrating more than the women, the bulk of the work load and responsibilities now rest on the women who may not be prepared for these new roles. Building of industries in rural areas can help stem migration. Farmers should be enlightened on the need to invest

remittances received in productive activities. Policies aimed at improving people's welfare, improving agriculture and rural infrastructure will improve the contribution of migration and remittances to development.

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