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Climate Change, Translocal Migration and Adaptation of Rural Farm Households in Arochukwu, Abia State, Southeast, Nigeria.

Ikenna V. Ejiba^{a*} and Olajide O. Adeola^b

a University of Ibadan, Department of Agricultural Economics, Nigeria.

b University of Ibadan, Department of Agricultural Economics, Nigeria.

Abstract

The climate change phenomenon portends a huge burden to many communities in the global south and continues to impact farming households who depend on agriculture for their sustenance. Farming households affected especially in rural areas have no choice than to adapt to climate variability. This study therefore assessed translocal networks and examined how translocal migration affects adaptation to climate change in Abia state, Southeast Nigeria. To achieve the objective, a multistage sampling technique was used in selecting 387 migrant and non-migrant farming households. Baseline survey was used to collect data from selected households and analyzed using descriptive and empirical statistics. Result suggests that majority (40.96%) of translocal migrants migrated to cities within the state (Abia), 30.12% of the migrants moved to cities within the Southeast, 24.1% migrated to cities outside the Southeast, while 4.82% migrated internationally. In terms of translocal networks, the result indicate that migrants at urban destinations send more money (46.01%) and less food/goods (29.75%) to their households in the place of origin, while the household in the rural area send more food/goods (51.28%) and less money (26.19%) to the migrant at destination. While more translocal migrant household members migrate to urban areas (28.21%) during off farm seasons; more non-migrant household members migrate to rural areas (39.72%) during off farm seasons. The t-test result performed to compare the mean adaptation between migrant and non-migrant household's show that a significant difference exists between the two groups. Furthermore, the logistic model analysis showed that perception of insufficient rainfall and migration significantly and positively influence adaptation. The study calls for a robust approach in climate change and migration policies that will take translocal networks into account due to their potentiality for vulnerable households in the study area.

Keywords: *Climate change, Translocal migration, Adaptation, Southeast, Nigeria*

Introduction

The climate change disrupts the agricultural ecosystem, causing a change in agricultural climatic elements such as temperature, rainfall, and sunlight; while further affecting the arable, livestock, and hydrology sectors (ESCAP, nd). In response to the impacts, farmers use a number of adaptation strategies so as to minimize risks (Tsegaye, 2015). Adaptation to climate change involving adjustment in behavior can greatly reduce vulnerability by making rural farming communities and households more proactive to climate change and variability in weather (Hailegiogis, et al. 2018). Migration and the antecedent exchange of resources in the form of

* Corresponding Author Email: victorejiba@yahoo.com

money, goods or ideas can help reduce household vulnerability to climate change and positively influence household adaptation. Within translocal households, the numerous social, emotional and cultural ties are found among agents at different locations, as do diverse mechanisms of exchange and cooperation that takes the form of transfers of resources including money, goods, people and information (Steinbrink & Niedenfuhr, 2020). Migration and translocality therefore helps in strengthening adaptation mechanism for households facing insecurities (Peth & Birtel, 2014). It is in view of this that this study examined how translocal migration affect adaptation of rural farm households as they cope with climate change.

Methodology

The study was carried out in Arochukwu, in Abia State, South-East Nigeria. Multistage sampling was used in choosing the sample for the study. Abia state was purposively selected as it is one of the states in the southeast that suffer from environmental challenges (World Bank/PID/ISDS project report, 2018); and has one of the highest migration rate in the country (Isiugo-Abanihe & IOM, 2014). Arochukwu was purposively selected due its remoteness (Peth & Sakdapolrak, 2020), with distance to the nearest agglomeration at least 60 minutes away. Lastly, 387 migrant and non-migrant households were randomly selected from 3 communities and 9 villages. Pre-tested survey was used to collect primary data from selected households and analyzed using descriptive and empirical statistics.

Results and Discussion

Migrants Areas of Destination

From Figure 1, 40.96% of migrants moved to cities within the state (Abia) especially to Aba and Umuahia; 30.12% migrated to cities within the Southeast including Onitsha, Owerri, and Enugu. Also, 24.1% migrated to cities outside the Southeast to mostly Lagos, Port-Harcourt, Abuja and Calabar; while 4.82% migrated outside Nigeria to mostly Cameroun, Benin Republic, Togo, Canada, UK, and Gabon respectively. As against the general view of migration processes in Africa, only a relatively small portion of the migration are intercontinental with majority being intra-African – international migration between African states and internal migration within the respective countries (Steinbrink & Niedenfuhr, 2020).

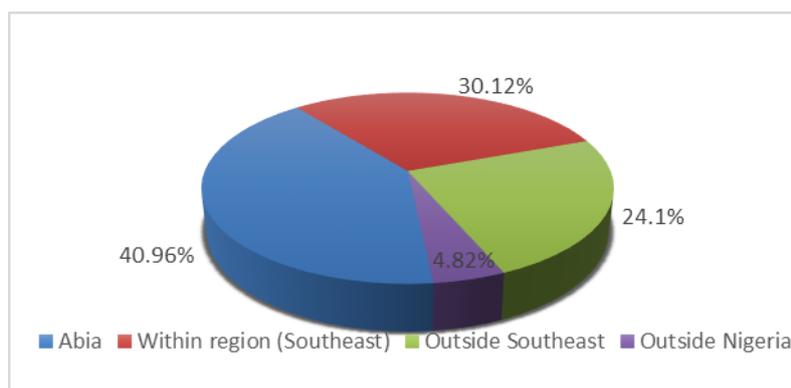


Figure 1: Migrants Areas of Destination in the Study Area.

Remittances and Exchange between Translocal Households

The analysis of the exchange between translocal migrants and their households in the place of origin show that migrants in the urban area send more money (46.01%) and less food/goods (29.75%) to their households, while the household members in the rural area send more food/goods (51.28%) and less money (26.19%) to the migrant in the place of destination. As

Islam & Herbeck (2013) notes, flows of resources such as food and money are not only directed towards the rural area, but also takes the other way round but to a lesser extent.

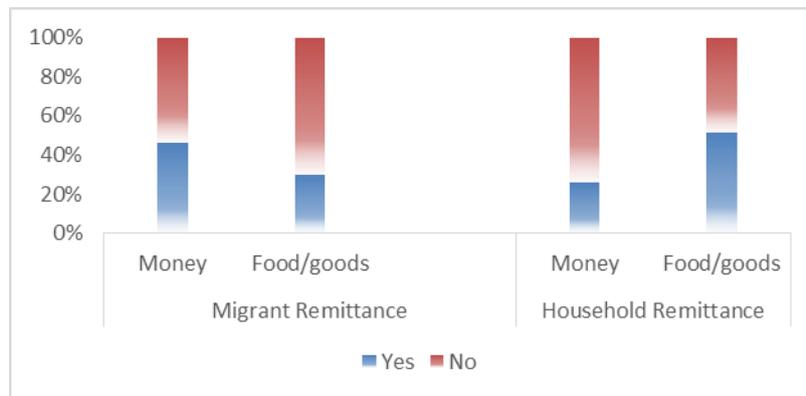


Figure 2: Remittances and exchange between migrants and their households.

Seasonal Adaptation Employed by Rural Farm Households

Rural farm households migrate seasonally by way of adaptation in response to climate change variability (Tab 1). While more translocal migrant household members migrate to urban areas (28.21%) during off farm seasons; more non-migrant household members migrate to rural areas (39.72%) during off farm seasons. This form of adaptation is only possible because of a strong rural–urban social network (Steinbrink & Niedenuhr, 2020), which creates an opportunity for household members at origin to earn higher wages and income during their visit to the city.

Table 1: Seasonal Adaptation Practices Employed by Rural Farm Households.

Adaptation	Translocal Migrant (%)	Non-Migrant Households (%)
Seasonal migration to rural area	16.18	39.72
Seasonal migration to urban area	28.21	17.02

Differences in Adaptation between Migrant Households and Non-migrant Households.

The result of the t-test performed to compare the means of migrant and non-migrant household’s adaptation to climate change variability shows there is a significant difference between the means of the two groups [$t(294) = 0.372, p < 0.05$]. The result imply that there is a significant difference in adaptation between translocal migrant and non-migrant households in the study area. This is consistent with Jha et al. (2018) who in a study found a significant difference in adaptation between migrant and non-migrant farm households.

Table 2: Result of test of mean differences between translocal migrant and non-migrant households.

Variable	Mean score of translocal migrant HH	Mean score of non-migrant HH	Mean Difference	t(df)	p value	95% C.I
Test result	3.665	3.121	0.372	2.041 (294)	0.0421	0.0195-1.0682

*t test, **HH** – Households.

Factors Driving Adaptation of Rural Farm Households

The result of the logistic regression to examine the effect of translocal migration on adaptation of rural farm households to climate change is given in Table 3. The result indicate that perception of insufficient rainfall in the last cropping season and translocal migration positively and significantly influenced adaptation of rural farm households at 10% significant level. Studies provided evidence on the importance of migration towards enhancing adaptive capacity of farm households in Sub-Saharan Africa (Wiederkehr et al. 2018).

Table 3: Logistic Regression Result of Factors Driving Adaptation of Rural Farm Households in Arochukwu

Independent variables	Estimate	Std. Error	z value	Pr (> z)
(Intercept)	-2.3531294	0.6978148	-3.372	0.000746
Age	0.0005214	0.0095311	0.055	0.956373
Gender	-0.3720827	0.3054256	-1.218	0.223131
Household size	0.0103286	0.0883011	0.117	0.906883
Off-farm income	0.3739388	0.3017375	1.239	0.215240
Access to credit	-0.8477441	1.0855540	-0.781	0.434842
Insufficient rainfall	0.4818558	0.2925462	1.647	0.099535 *
Migration	0.6435241	0.3433312	1.874	0.060882 *

Conclusion and Outlook

The study found that household perception of insufficient rainfall and migration positively and significantly influence adaptation of rural farming households in the study area. Therefore, in developing and advancing climate change adaptation policies for rural communities in Southeast Nigeria, translocal migration and its potentials can be harnessed as a source of insight for government and development partners.

References

1. Final paper the impact of climate change on the Agricultural Sector - ESCAP (no date). Available at: <https://www.unescap.org/sites/default/files/5.%20The-Impact-of-Climate-Change-on-the-Agricultural-Sector.pdf> (Accessed: April 26, 2023).
2. Hailegiorgis, A., Crooks, A. & Cioffi-Revilla, C. (2018). "An agent-based model of rural households' adaptation to climate change," *Journal of Artificial Societies and Social Simulation*, 21(4). Available at: <https://doi.org/10.18564/jasss.3812>.
3. Isiugo-Abanihe, U. & IOM (2014). Migration in Nigeria: A country profile. Available at: <https://publications.iom.int/books/migration-nigeria-country-profile-2014> (Accessed: May 5, 2023).
4. Islam, M.M. & Herbeck, J. (2013). 'Migration and translocal livelihoods of coastal small-scale fishers in Bangladesh. *Journal of Development Studies*, 49(6), 832–845. doi:10.1080/00220388.2013.766719.
5. Jha, C. K., et al. (2018). Migration as adaptation strategy to cope with climate change: A Study of farmer's migration in rural India. *International Journal of Climate Change Strategies and Management*. 10(1), 121-141.
6. Peth, S. & S. Birtel (2014): Translocal Livelihoods and Labor Migration in Bangladesh: Migration Decisions in the context of multiple insecurities and a changing environment. In: Mallick, B. & B. Etzold (Ed.): Environment, Migration and Adaptation - Evidence and Politics of Climate Change in Bangladesh. (AHDPH) Dhaka: (forthcoming).
7. Peth, A.S, & Sakdapolrak, P. (2020). Resilience family meshwork. Thai-German migrations, translocal ties, and their impact on social resilience. *Geoforum*, 114, 19-29. Available at: doi:10.1016/j.geoforum.2020.05.019
8. Steinbrink, M. & Niedenführ, H. (2020): Africa on the move: Migration, Translocal Livelihoods and Rural Development in Sub-Saharan Africa. *Springer International Publishing*. ISBN 978-3-030-22840-8.
9. Wiederkehr, C. et al. (2018). Environmental Change, adaptation strategies and the relevance of migration in Sub-Saharan drylands. *Environmental Research Letters*, 13(11), 113003.
10. World Bank/PID/ISDS, 2018. Available at: <https://documents1.worldbank.org/curated/ru/193161525194153230/Project-Information-Document-Integrated-safeguards-Data-Sheet-Nigeria-Erosion-and-Watershed-Management-Project-NEWMAP-Additional-Financing-P164082.docx> [Accessed: April, 2 2023].