



EFFECTS OF OUT-MIGRATION ON SOCIOECONOMICS AND RICE FARMING AND PRODUCTION IN SELECTED COMMUNITIES OF LAFIA LOCAL GOVERNMENT AREA, NASARAWA STATE, NIGERIA

By

^{1,2}LEO Abejide and ¹Isaac Gbogbo

¹Department of Geography & Environmental Management.

²Department of Urban & Regional Planning, Federal University of Lafia, Lafia Nasarawa State.



Abstract

Objective

The paper examined the trends, factors and consequences of out-migration on rice production in selected rural communities of Lafia Local Government Area, Nasarawa State, Nigeria. The push-pull model and the dependency theory provided the theoretical underpinning.

Methodology

A mixed-methods approach was employed to collect both primary and secondary data. Primary data were generated through structured questionnaires administered to 200 respondents in Assakio (146) and Akurba (54) communities, this was complemented with the FGDs to capture the qualitative insights. Secondary data were obtained from relevant literature and previous studies. Data were analysed using descriptive statistics, chi-square tests and multiple regression analysis. Qualitative data were content analysed.

Key Findings

The findings revealed that there was significant difference ($\chi^2 = 12.46$, $p < 0.05$) in the age group distribution of the sampled population, with very low vivacious and young people. Female respondents (53.5%) overwhelmed the males (46.5%) while widowed (28.0%) and divorced (24.5%) were prominent. Muslims (34.5%), Christians (33.0%) and Traditional (32.5%) faithful were at par. Both communities recorded handful of nonliterate (44.0%). Aside from rice farming, schooling (24.5%) and trading (22.0%) were the preferred occupations. The Eggons (23.5%) dominated the ethnic group while respondents (20.0%) from Doma LGA overwhelmed others. Multiple Regression Analysis results ($R^2 = 0.44$, $\alpha = 0.000$) depict that out-migration led to the shortage of labour, which have effect on rice farming and production. Over three-fifths (63.0%) of rice farming households did not receive any assistance, either from people or government. Reduced yields from rice farming were reported as the leading consequences of out-migration on rice farming in the study communities.

Practical Implications

The study established that out-migration cannot be halted and it is indeed a threat to rice production but mechanization and agricultural inputs will assist in improving rice farming of more lands with high yield.

Keywords: Out-migration, Socioeconomic milieus, Rice farming, Lafia Local Government Area, Nasarawa State.

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Background

Migration is a global phenomenon that has significantly impacted various sectors of the economy, including

agriculture. The movement of people from one location to another, particularly from rural to urban areas, has directly or indirectly affected the distribution of labour and food production. Rice, being one of the most consumed staple

foods globally, is highly dependent on availability and stable workforce. The effects of migration on rice production have been observed in various regions, from Asia to Africa, where shortages of labour due to out-migration have contributed to declining agricultural productivity (FAO, 2021). According to the International Organization for Migration (IOM, 2022), over 281 million people migrated internationally in search of better livelihoods, which has resulted to significant labour shortages in agriculture, forcing farmers to adopt capital intensive mechanization or abandon farming altogether. For instance, extensive rice-producing countries such as India, China, and Vietnam have lost their viable workforce from rural to urban migration (FAO, 2020).

In Africa, migration patterns are largely influenced by economic disparities, environmental factors, and conflicts. According to the African Union (AU) (2021), rural-urban migration has intensified in recent years, with young people leaving agricultural activities for better opportunities in the cities. This migration pattern has led to a decline in agricultural productivity, particularly in staple crops like rice, maize, and cassava (Adepoju, 2020). Studies in West Africa have shown that migration contributes to the aging of the farming population, as younger individuals migrate while older generations continue to farm using traditional methods with declining efficiency (Olayemi, 2018).

The Sub-Saharan African (SSA) countries have experienced one of the fastest rates of urbanization in the world. For instance, the United Nations Economic Commission for Africa (UNECA, 2022) reported that more than 60% of Africa's population is expected to live in urban areas by 2050. In the same vein, rice-producing countries such as Ghana and Côte d'Ivoire have experienced labour shortages in their rural communities, making it difficult for farmers to maintain or expand rice production (Ogunleye & Ibrahim, 2019). Nigeria, being the most populous country in Africa and one of the largest producers and consumers of rice in Africa, the demand for rice by its population has increased significantly over the years, leading to policies aimed at boosting local production (NBS, 2021). However, rural-urban migration in the country, which largely driven by economic factors, insecurity, and poor infrastructure in rural areas (Okeke, 2020). According to Oladipo (2021), major rice-producing states such as Nasarawa, Benue, and Kebbi have been affected by out-migration, therefore, disrupting the planting and harvesting cycles.

The shortage of labour for rice production in Nasarawa State, particularly among the youth, has led to decline in the production of the produce in most rural communities (Ibrahim & Hassan, 2022). Adamu (2021) revealed that rice production in the state is increasingly being taken over by older farmers, while younger generations migrate to the state capital; Lafia, Federal Capital Territory (FCT), Abuja, and other far-distant urban centres in search of greener pasture (Abejide et al, 2025). Hence, out-migration has resulted in decreased rice yields, increased production costs, and underutilization of available farmland. However, the rural rice-producing communities of Lafia Local Government Area (LGA) of

Nasarawa State have historically relied heavily on subsistence and commercial rice farming as their main economic livelihood. But according to the Nasarawa State Ministry of Agriculture (2022), rice production in these rural communities has declined due to labour shortages, increased costs of hiring workers, and reduced interest among younger generations in farming.

Out-migration has become a serious concern for the production of rice in Nasarawa state, being one of the major rice-producing states in the country, a staple food that has contributed significantly to the country's food supply. Despite the fact that the state is blessed with vast arable land and a favourable climate for rice cultivation. However, out-migration has eroded the high productivity of the produce, hence, the need for the study. The study examined the trends, factors and consequences, as well as posing a hypothesis to ascertain the significant effect, of out-migration on the rural rice producing communities of Lafia LGA.

Literature on migration have provided deeper insights into the relationship between migration and rice production in Nigeria. A study conducted by Olaniyan and Bankole (2019) examined the effects of migration on rice production in Benue State and found that the sector experienced significant challenges due to the movement of young labourers out of farming communities. The study reported that between 2010 and 2020, farm sizes in the state reduced by approximately 25% due to a decline in the available labour force. This reduction in cultivated land was attributed to the inability of the remaining farming population, which largely consisted of older individuals and women, to manage large-scale rice farming operations. Meanwhile, in Lafia, study carried out by Musa and Ibrahim (2021) highlighted a similar trend, where migration had led to a decline in rice farming activities. The study reported that many former rice farmers in Lafia had transitioned to less labour-intensive economic activities such as trading and motor and tricycle transportation. This shift was primarily due to the inability of households to sustain rice farming without adequate human resources. In response to this challenge, the study suggested that government intervention through mechanization could help mitigate the effects of migration on agriculture. By providing access to tractors, irrigation systems, and improved seed varieties, farming communities could compensate for labour shortages and maintain productivity levels. Furthermore, findings from Musa and Ibrahim (2021) study emphasized the need for policy reforms aimed at revitalizing rural economies. The authors recommended initiatives such as youth empowerment programs focused on agribusiness, provision of credit facilities for smallholder farmers, and infrastructural development in rural areas to make farming more attractive (Abejide et al, 2025). Such measures could potentially reverse the trend of rural out-migration by creating more opportunities for economic stability within agricultural communities.

In order to understand the effect of out-migration on rice production the study area, the push-pull and dependency theories were adopted. The former was developed by Ernst Georg Ravenstein in his work titled; the "Laws of Migration"

(1885) and refined by Lee (1966) while the latter formulated by André Gunder Frank (1967). According to Ravenstein, migration is influenced by a combination of push and pull factors. Push factors drive individuals away from their place of origin while pull factors, attract them to a new destination. Factors include economic hardship, unemployment, poor living conditions, environmental challenges, lack of infrastructure, among others cause out-migration or emigration (push forces). On the other hand, factors including better employment opportunities, higher wages, improved social services and modern infrastructure, among others (Abejide, 2016). Furthermore, Ravenstein observed that migration is selective, with younger and more economically active individuals being more likely to migrate, however, coupled with intervening opportunities or obstacles (Lee, 1966). The dependency theory in contrast, criticised the modernization epoch as the major contributor to the underdevelopment of the rural settings through the historical economic exploitation by developed regions. Frank posited that the global capitalist system creates a dependency structure where rural and less developed areas are continually exploited to benefit urban centres and more industrialized regions. The theory further explained that rural areas are kept in a state of dependency through mechanisms such as unequal trade relationships, exploitation of natural resources, and limited investment in local infrastructure. This creates a cycle where rural populations are forced to migrate in search of better opportunities in urban areas, further weakening rural economies. Grounding the two theories, out-migration, possibly of the young adults and youth could be facilitated by lack of opportunities to own a land for cultivation, expensive agricultural inputs as against the outputs (yield of rice), and other social amenities that are available in the urban centres. However, assumptions of government passiveness to the provision of incentives that could retain farmers and young adults to the rural areas where rice is being cultivated and produced seems to be obvious with the rapid rural-urban drift (Abejide et al, 2025).

Methodology

Study area

Lafia LGA; the capital of Nasarawa State was selected for the study. The LGA is located in the Northcentral Geo-political Zone of Nigeria and lies between latitudes 8°30' and 8°35' North and longitudes 8°30' and 8°35' East, as indicated on Figure 1. The area experiences a tropical climate with distinct wet and dry seasons, which are favourable for rice cultivation (FAO, 2017). The topography consists of plains and low-lying areas with alluvial soil, making it suitable for rice farming. Major rivers such as River Amba and other seasonal streams support irrigation farming, which is crucial for rice production (Nasarawa State Agricultural Development Programme, 2020). Lafia LGA is predominantly agrarian, with a significant proportion of its population engaged in farming, especially rice cultivation. The LGA is an educational and healthcare hub of Nasarawa State, hosting institutions such as Nasarawa State University (Lafia Campus), the College of Agriculture, and the Federal University of Lafia, which attract

students and influence migration patterns. The presence of major healthcare facilities, including Dalhatu Araf Specialist Hospital and Federal Medical Centre, provides essential medical services, but rural areas still face inadequate healthcare infrastructure which could lead to stepwise out-migration.

Sampling techniques and methods of data collection

Two rural communities; Assakio and Akurba were selected through purposive sampling techniques for primary data collection that comprises of quantitative and qualitative techniques. The selection of the two communities was based on their prominent involvement in rice farming and observable patterns of out-migration. The study employed both primary and secondary data sources to collect information through one-time structured questionnaire administered to 146 rice farmers in Assakio and 54 in Akurba, totalling 200 respondents.

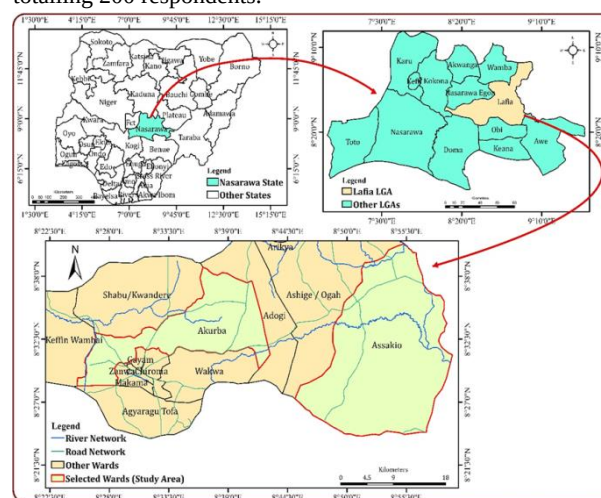


Fig. 1: Map of Nigeria inserted Nasarawa State, Lafia LGA (Akurba and Assakio Rural Communities)

Source: GIS Lab., Department of Geography and Environmental Management, FULafia.

The questionnaire was designed to capture information on the socio-economic characteristics of respondents, migration patterns, rice production, labour availability, and the perceived effects of out-migration on household farming activities. The questionnaire comprised two structures of closed and open-ended questions including; demographic information, migration patterns, effects of out-migration on rice production and government and community responses to mitigate out-migration. Focus Group Discussions (FGDs) and In-depth Interviews (IDIs) were conducted in each of the study communities to corroborate the quantitative data. The discussions covered issues that could not be quantified in the questionnaire. FGD was conducted with 10 participants in each of the rural communities with six (6) males and four (4) females. IDIs were conducted with one stakeholder each from the selected communities. Secondary data were sourced from existing literature, government publications, journals, and reports related to migration, agricultural production, and rural development in Nigeria.

Method of Data Analysis

Quantitative data from the administered questionnaires were coded and inputted via the interface of the Statistical Package for the Social Sciences (SPSS) version 25.0. Descriptive statistics such as frequencies and percentages were presented in tables and figures while the Chi-square test (χ^2) was adopted to determine the significant association or difference between socio-economic variables across the two rural communities. Multiple regression analysis was employed to assess the effect of out-migration and related factors (labour shortage, access to farm inputs, and hired labour) on rice production. The coefficient of determination (R^2) and probability values (p-values) were interpreted to determine

statistical significance. Qualitative data collected from the FGDs and IDIs were content analysed.

Socioeconomic Characteristics of Respondents by Selected Communities

Mean age distribution of respondents by communities

Table 1 depicts the mean age distribution of the respondents across Assakio and Akurba communities. Respondents between ages 40 and 49 years constituted major proportion of respondents with over one-quarter (27.0%), followed by one-quarter (25.0%) of ages 30-39 years. Above one-fifth (22.0%) were within ages 18-29 years while 17.0 per cent were within ages 50-59 years. The least proportion (9.0%) of respondents fell with ages 60 years and above.

Table 1: Age Distribution of Respondents by Selected Communities

Community	18–29 Frequency (%)	30–39 Frequency (%)	40–49 Frequency (%)	50–59 Frequency (%)	60+ Frequency (%)	Total (%)
Assakio	33 (22.6%)	36 (24.7%)	42 (28.8%)	22 (15.1%)	13 (8.8%)	146 (100%)
Akurba	11 (20.4%)	14 (25.9%)	12 (22.2%)	12 (22.2%)	5 (9.3%)	54 (100%)
Total	44 (22.0%)	50 (25.0%)	54 (27.0%)	34 (17.0%)	18 (9.0%)	200 (100%)

Source: Researcher's Field Work (2025)

The chi-square test ($\chi^2 = 12.46$, $p < 0.05$, see Appendix 1) confirmed a statistically significant difference in age distribution between Assakio and Akurba. This implies that the dominance of middle-aged respondents reflects a strong working-age population, which is essential for community development and rice production. However, the relatively low proportion of young adults may indicate increasing out-migration, likely in search of educational or better employment opportunities. Furthermore, the rising proportion of people above 50 years in the selected rural communities indicates old people are being left in the rice farming, hence, diminishing production of rice and gradual loss of livelihood and food security for urban population in the nearest future.

Gender of respondents by communities

Figure 2 reveals the gender of respondents in the two rural communities. In general, females were the major selected gender; accounting for more than half (53.5%) while males accounted for less than half (46.5%) of the respondents. Accordingly, in the two rural communities, Assakio recorded less than one-third (32.5%) and Akurba; 14.0 per cent of male respondents. On the other hand, Assakio recorded two-fifths (40.5%) and Akurba; over one-tenth (13.0%) of female respondents.

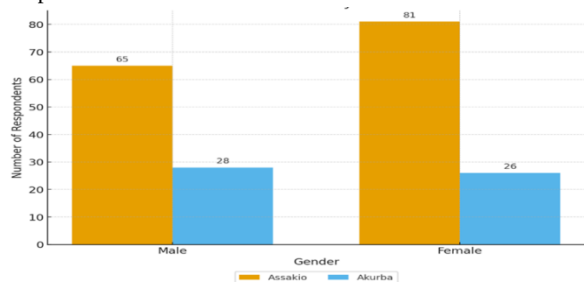


Fig 2: Gender distribution of respondents by communities

Source: Authors' Field Work (2025)

The chi-square test results ($\chi^2 = 1.82$, $p > 0.05$, see Appendix 1) imply that there was a significant association in the mean age group of respondents, translating that men migrate more than women and this corroborate with migration theory. In other words, there is a possibility that majority of men, particularly, those in their prime age and agile have migrated out of the two rural communities to other destinations for opportunities lacked in the place of origin. This therefore, left women no choice but to be actively involved in rice farming and related activities. However, the few men captured in the study might have left behind in possibly because of old age or lack of opportunity to migrate but involving in the rice farming and production with their spouse in order to provide for their households.

Marital status of respondents by selected communities

The marital status of respondents in Assakio and Akurba was presented in Figure 3. In general, the results show the majority (29.5%) were married, widowed; (28.0%) and divorced, close to one-fourth (24.5%) while the singles accounted for less than one-fifth (18.0%) of the sampled population. Across the two sample communities, divorced and widowed were prominent in Assakio while singles and married were relatively substantial in Akurba.

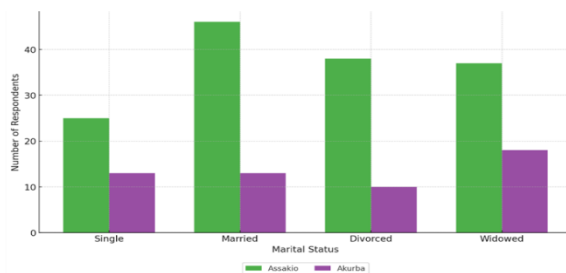


Fig 3: Marital status of the respondents by communities

Source: Authors' Field Work (2025)

As shown from the above figure, the relative high proportion of the widowed among the respondents in the two communities could be attributed to the survival ratio between men and women. In fact, to corroborate this assertion, the early findings on gender have revealed that the percentage of women respondents is higher than that of men, which could have been as result of men having lower life span (dying

before women) due to some health issues and other factors that men were vulnerable to. However, in the case of widowed respondents that was equally prominent in the study area, this could be as a result of women's liberation. Many women wanted to be independent; having their own farm land, resources, making their decisions and other incentives of feminism.

Educational status of respondents by selected communities

Secondary education recorded the highest educational attainment of respondents (28.5%) in the two selected rural communities, as indicated on Table 2. This is followed closely by tertiary education attainment (27.5%), no formal education; less than one-fourth (24.0%) and the least; one-fifth (20.0%). However, with the few sampled population of Akurba, the percentage of literacy (secondary and tertiary- 26; 48.1%) almost half of its sampled population which is comparatively higher than that of Assakio (secondary and tertiary- 86; 59.0%).

Table 2: Educational status of respondents by selected communities

Community	No Formal Frequency (%)	Primary Frequency (%)	Secondary Frequency (%)	Tertiary Frequency (%)	Total Frequency (%)
Assakio	30 (20.5%)	30 (20.5%)	43 (29.5%)	43 (29.5%)	146 (100%)
Akurba	18 (33.3%)	10 (18.5%)	14 (25.9%)	12 (22.2%)	54 (100%)
Total	48 (24.0%)	40 (20.0%)	57 (28.5%)	55 (27.5%)	200 (100%)

Source: Authors' Field Work (2025)

The chi-square test results ($\chi^2 = 14.90$, $p < 0.05$, see Appendix 1) showed that there is a significant difference in the education attainments of respondents in the two communities. By implication, the above findings imply that though, the two rural communities were having relatively high indigenes with high level of literacy, still, there were respondents with no formal or primary education, which could have been attributed to the possibility of lack of will to have western education. The high level of literacy could be as a result of the proximity of the two communities to Lafia; the capita town of Nasarawa State, as well as one of the reasons the youth and

young adults are leaving the rural area to further their education.

Other Occupations of respondents by selected communities

Table 3 reveals the other occupations of the respondents aside rice farming in the two rural communities. Generally, studentship, with close to one-fourth (24.5%) was the first other occupation of the respondents, seconded by trading (22.0%). Civil service (19.5%) came third as other occupation while farming (15.5%) other produces came fourth. Other several occupations came last accounting for 18.5 per cent.

Table 3: Occupational of respondents by selected communities

Community	Farmer Frequency (%)	Trader Frequency (%)	Civil Servant Frequency (%)	Student Frequency (%)	Others Frequency (%)	Total Frequency (%)
Assakio	23 (15.8%)	32 (21.9%)	28 (19.2%)	36 (24.7%)	27 (18.5%)	146 (100%)
Akurba	8 (14.8%)	12 (22.2%)	11 (20.4%)	13 (24.1%)	10 (18.5%)	54 (100%)
Total	31 (15.5%)	44 (22.0%)	39 (19.5%)	49 (24.5%)	37 (18.5%)	200 (100%)

Source: Authors' Field Work (2025)

The implication of the above results is that since agricultural practices are seasonal, people of the two communities are either planting other crops when rice season is over or yet to start. Furthermore, some rice farmers used to market their harvest themselves, thereby turned to traders during and after the processes of the rice. However, in order to keep themselves busy possibly during the holiday or the seasonal

period of rice farming, and or having additional income, students and civil servants engaged in rice cultivation. In sum, the availability of land and relative peaceful coexistence could have motivated people within and without the two communities to engage in rice farming.

Ethnicity of respondents by selected communities

Table 4 reveals that the evenly spread of the ethnic groups of the sample population for the study. The Eggons were the prominent respondents, with over one-fifth (23.5%), followed by the Kanuris; slightly above one-fifth (21.5%), the Tivs;

one-fifth (20.5%). The Alagos recorded less than one-fifth (18.0%), while the other minority ethnic groups accounted for 16.5 per cent of the respondents.

Table 4: Ethnicity of respondents by selected communities

Community	Eggon Frequency (%)	Kanuri Frequency (%)	Tiv Frequency (%)	Alago Frequency (%)	Others Frequency (%)	Total (%)
Assakio	33 (22.6%)	31 (21.2%)	30 (20.5%)	26 (17.8%)	26 (17.8%)	146 (100%)
Akurba	14 (25.9%)	12 (22.2%)	11 (20.4%)	7 (13.0%)	10 (18.5%)	54 (100%)
Total	47 (23.5%)	43 (21.5%)	41 (20.5%)	33 (16.5%)	36 (18.0%)	200 (100%)

Source: Authors' Field Work (2025)

This above finding indicated that virtually all the ethnic groups constituting the state of Nasarawa represented in the study are versatile and having their economic base in agriculture, especially, rice farming and production. Besides, ethnic differences seem not give room for any acrimony or crisis, particularly, when it comes to land tenure system or farming land acquisition. This could have been made possible probably because there were more females involving in the rice farming compared to males, which could have resulted to calmly settlement of any ensuing crisis or acrimony.

Local government area of respondents by selected communities

Table 3: Local government area of respondents by selected communities

Community	Lafia Frequency (%)	Doma Frequency (%)	Karu Frequency (%)	Obi Frequency (%)	Others Frequency (%)	Total Frequency (%)
Assakio	36 (24.7%)	30 (20.5%)	27 (18.5%)	27 (18.5%)	26 (17.8%)	146 (100%)
Akurba	13 (24.1%)	10 (18.5%)	10 (18.5%)	9 (16.7%)	12 (22.2%)	54 (100%)
Total	49 (24.5%)	40 (20.0%)	37 (18.5%)	36 (18.0%)	38 (19.0%)	200 (100%)

Source: Authors' Field Work (2025)

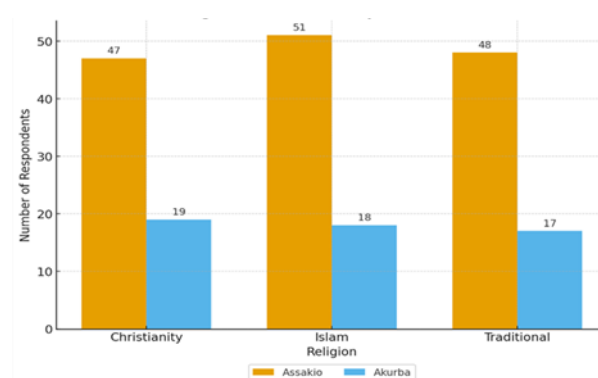
The findings on Table 5 implies that in-migration is occurring in the two rural communities. People from other regions are coming into the two communities to either fully residing or seasonally engaging in rice farming. However, the possible explanation could be, since the majority of indigenes of Nasarawa State are agrarians and there is flexibility in holding land for farming, hence, the movement from other places is defensible. In addition, the in-flux of people from other regions into the two communities could as a result of their proximities to the state capital; Lafia. Aside from farming which could be seasonal, residents from other areas could be engaging in trading and other commercial activities via the market the state capital provided, vis-à-vis the relative peace and serenity enjoyed in the state capita.

Religion of respondents by selected communities

The majority of the respondents were the Muslim faithful, with slightly above one-third (34.5%), followed closely by Christians, with one-third (33.0%) and the Traditionalists, close to one-third (32.5%).

Table 5 indicates that respondents from three major LGAs were evenly spread across the two rural communities of Assakio and Akurba. Aside from respondents from Lafia LGA that respectively, accounted for close to one-fourth (24.7% and 24.1%) in Assakio and Akurba, respondents from other three major LGAs were as well ubiquitously sampled in the study area. According to the table, sample population were correspondingly from Doma LGA (20.5% and 18.5%), Karu LGA (18.5% each) and Obi LGA (18.5% and 16.7%). Respondents from others LGAs accounted for 17.8 per cent in Assakio and 22.2 per cent in Akurba.

Fig 4: Religious faith of respondents by selected communities



Source: Authors' Field Work (2025)

The implication of the above results is that there is a freedom of religion has been enshrined in the constitution of Nigeria, which is allowed to stay by all and sundry in the two rural communities. In other words, the peaceful coexistence of the

three religions by their faithful could be attributed to the possibility of high level of educational attainment, diversity of ethnicities, and high tolerance of other people's beliefs and liberality of religious leaders, among others that fostering relative peace and harmony in the two rural communities.

Prevalence of labour shortage due to out-migration on rice farmers by selected communities

Table 4 indicates the prevalence of labour shortage due to out-migration in the study communities. On the overall, three-fifths (60.5%) of respondents experienced labour shortage, while slightly less than two-fifths (39.5%) reported otherwise. However, there was nearly a close match between respondents (48.1%) that reported prevalence of out-migration on rice production and those (51.9%) that reported the opposite.

Table 4: Perception of out-migration on labour shortage of rice production by selected communities

Community	Yes Frequency (%)	No Frequency (%)	Total Frequency (%)
Assakio	95 (65.1%)	51 (34.9%)	146 (100%)
Akurba	26 (48.1%)	28 (51.9%)	54 (100%)
Total	121 (60.5%)	79 (39.5%)	200 (100%)

Source: Authors' Field Work (2025)

Furthermore, Multiple Regression Analysis (MRA) results ($\beta = -0.672$, $p = 0.000$, see Appendix 2) indicated that labour shortage has stronger negative significant impact on rice farming in the study communities. This finding implies that the high prevalence of labour shortage is affecting majority of the rice farmers. This, however, resulting to increase in production costs, therefore, forcing farmers to hire external labour to fill the gap. On the other hand, the out-migration of young adults and youths may disrupt family structures and social cohesion, further affecting the overall wellbeing of the communities. To corroborate these findings, the FGD and IDI conducted with group of participants in the two selected rural communities revealed the following:

We used to have many hands in the farm, and work was much easier, but now, most of the young men have moved to the city for modern and easy jobs, such as motorbike and tricycle riding (Okada and Keke NAPEP operations), and these have made it very difficult to finish our tasks on farm on time. Sometimes, we have to hire extra labour, which makes everything more expensive. Even when we hire extra workers, it is still hard to keep up with the farming schedule, and sometimes the rice yield is much lower than expected (FGD, Assakio 2025).

When my children left to the town, I had to manage the farm alone. By the time I finish planting and weeding, I am too exhausted to take care of other family responsibilities (IDI, Akurba 2025).

Household assistance from acquaintances or government for rice farmers by selected communities

Table 5 shows the level of assistance received by rice farming households in the two rural communities. In all, overwhelming majority (63.0%) of respondents reported their households did not receive any assistance from acquaintance or government while less than two-fifths (37.0%) stated that they received some form of assistance.

Table 5: Household assistance for rice farmers by selected communities

Community	No Assistance Frequency (%)	Yes Assistance Frequency (%)	Total Frequency (%)
Assakio	92 (63.0%)	54 (37.0%)	146 (100%)
Akurba	34 (63.0%)	20 (37.0%)	54 (100%)
Total	126 (63.0%)	74 (37.0%)	200 (100%)

Source: Authors' Field Work (2025)

The results of MRA ($\beta = 0.341$, $p = 0.006$, see Appendix 2) revealed that access to farming inputs have strong statistical impacts on rice production, which farmers in the study communities did not have access to. The implications of not receiving these assistances could be detrimental to household livelihood and other responsibilities. In addition, many rice farmers have never received assistance from government in terms of agricultural inputs such as seedlings, fertilizer, pesticides, tractors with relevant equipment, soft loans, among others. This however, sometimes, could be as a result of ignorance of such farmers on how to pursue such assistance. Unfortunately, many farmers do not involve in or know the purpose of agricultural cooperative associations and other unions that could facilitate the possibility of government's intervention in assisting farmers to boost their farming systems and harvests, if at all there is shortage of labourers. Moreover, lack of support could lead to increased labour burden, delayed farm operations, and reduced crop yields.

The FGD conducted in the two communities corroborated the hassles of non-availability of labour and government assistance do to them in the following discourses:

We often have to do everything by ourselves from land preparation to planting, weeding, and harvesting. No modern seedlings to boost our yields, fertilizers to facilitate high yields, and pesticides to facilitate weeding. It can be very exhausting, and sometimes we are unable to complete all the tasks on time. This affects the yield, and we cannot produce as much rice as we would like (FGD, Akurba 2025).

Here in this community, I do not get any help with rice farming. I have applied for government assistance but nothing comes forth. However, when you do all the work alone, by the time you finish with planting and other tasks, you are already too tired for the next stage, and with my age, I can't do much compared to me 10 years ago (IDI, Assakio 2025).

Consequences of out-migration on rice farmers by selected communities

Table 6 depicts the consequences of out-migration, in other words, labour shortage by selected communities. In general, the devastating consequence was the reduction of yields, reported by two-fifths (41.3%) of the respondents. The next unpalatable effect was the reduction in the household income

that was stated by 28.9 per cent. Fatigue and or health issues were stressing consequence reported by one-fifth (20.7%) of the respondents while other combination of effects were reported by less than one-tenth (9.1%)

Table 6: Consequences of out-migration on rice farmers by selected communities

Community	Reduced Yield Frequency (%)	Reduced Income Frequency (%)	Fatigue/Health Frequency (%)	Others Frequency (%)	Total Frequency (%)
Assakio	40 (42.1%)	28 (29.5%)	18 (18.9%)	9 (9.5%)	95 (100%)
Akurba	10 (38.5%)	7 (26.9%)	7 (26.9%)	2 (7.7%)	26 (100%)
Total	50 (41.3%)	35 (28.9%)	25 (20.7%)	11 (9.1%)	121 (100%)

Source: Authors' Field Work (2025)

The above results indicated that 'reduced yield' and 'reduced income' be as a result of cost of hired labour, which was expressed in the results of MRA ($\beta = -0.298$, $p = 0.009$, see Appendix 2). It showed that there was a strong negative significant impact of cost of hired labour on rice production in the study communities, which could be traced to out-migration. The table above also revealed other consequences on households' mental health and physical anatomy of rice farmers in terms of fatigue. However, the FGDs conducted in the two rural communities provided further insights into these challenges:

Since many of our young men have left, many of the head of the households have either passed away or inflicted with one sickness or the other. And, most of the sicknesses require a lot of money to treat them but we don't have such money because we realise small money from our rice harvest. In addition, we have not been having gains on the harvests of our rice because we could do much in the farm and this is discouraging some of us to continue with the farming. (FGD, Assakio 2025).

The load is too much on the few people left behind. Many of our youth that are left behind have developed series of sicknesses, which when we take them to hospital in Lafia, they used to demand a lot of money for running tests and treatments, which we do not have. In addition, many of us are planning to change to other crops that will demand less stress and faster to harvest." (FGD, Akurba 2025).

Programmes mitigating effects of out-migration on rice farmers by selected communities

The results of MRA ($\beta = 0.219$, $p = 0.023$, see Appendix 2) indicated that agricultural mechanisation has strong statistical positive impact on rice farming and production in the study communities, which unfortunately, was out reach of the rice farmers. To corroborate the strong connection of modern agricultural practices to rice farming and production, the FGDs in the selected rural communities of Assakio and Akurba responded as follows:

Most of our farming is done by hand, so if we have tractors with ploughing tools, combine planter and harvester machine that we could rent at a friendly price, such will reduce the

fatigue of bending to cultivate the land and planting the seed. Also, sprayer and insecticides should be made available in a moderate friendly and subsidise price, thing will be better. We also need hybrid rice seedlings which can grow fast with high yields. In sum, if we have machines, we can cultivate more land and have more harvest, which will result to more income. (FGD Assakio 2025).

If we have machines, better seedlings, fertilizer, chemical to spray on our farms, we will improve on our planting, finish in time, we will have less stress and we won't mind if all our youths are no more interested in farming, in fact, if all the modern farming equipment are available, many of our youths and other that have run away to the city to ride Okada will come back to home to farm, particularly, during the farming season. These are the requests we are putting forward to our government and politicians. (FGD, Akurba 2025).

Conclusion and recommendations

The study concludes that out-migration is indeed a menace to rice farming and production and it has eroded the socio-demographics and economics of the rural communities, not only in the study area but other rural settings because of the push and pull forces emanating in those origins. In addition, besides out-migration threat, the study established that lack of assistance, either from acquaintances or government has added to the risk of low yield of rice production, which could result to food shortage and insecurity, particularly in the study area, as well as Nasarawa State, in general. Therefore, in the light of the above conclusion, the study recommended the following:

- 1) Government at all levels, as a matter of urgency should come up with development plans and strategies that would retain the youth, in order to occupy them during in-season and out-season of rice production in the study area.
- 2) Government should replicate the provision of social amenities available in the urban centres in the rural communities to avoid urban-rural drift.
- 3) Agric-mechanisation and farming inputs should be provided to the rural farmers to reduce their stress

and enhance their productivity in the study area and other rural settings of the state.

Appendix 1

Chi-square test of out-migration versus socio-economic characteristics

Variable	χ^2 Value	df	p-value	Decision
Out-migration vs. Age	12.46	3	0.005	Significant
Out-Migration vs. Gender	1.82	1	0.177	Not Significant
Out-Migration vs. Education	14.90	3	0.002	Significant

Source: Authors' Field Work (2025)

Appendix 2

Multiple Regression Results (Out-migration and rice production variables)

Variable	Coefficient (B)	Std. Error	t-value	Sig. (p)
Constant	1.452	0.320	4.54	0.000
Labour Shortage	-0.672	0.150	-4.48	0.000
Access to Inputs	0.341	0.121	2.82	0.006
Cost of Hired Labour	-0.298	0.112	-2.66	0.009
Mechanisation	0.219	0.095	2.31	0.023

Source: Authors' Field Work (2025)

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