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MIGRATION AND LIVELIHOOD OF RURAL HOUSEHOLDS IN NIGERIA

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Abstract

With agriculture being the main source of livelihood, migration has posed severe constraints, thus hampering the livelihood of many households. This research focused on the effects of migration on the livelihood of rural households in Nigeria. Descriptive statistics, Probit and Tobit regression models were the analytical tools employed. Most of the households were male-headed and two-thirds of the rural households had members who had migrated for at least six months. Internal migration was the predominant type of migration while rural households were found to have a low level of livelihood. Age, education, household size, type of employment, land access, type of dwelling, migrant status and physical assets were significant in determining livelihoods of rural households. Thus, lessening the rural-urban divide in the rural areas through public-private partnerships in terms of innovations to support and expand the livelihood possibilities of rural households at all levels of governance should be prioritized.

Key words: Rural livelihood, migration, household livelihood index, rural household.

JEL⁴: Q12, C83, I31

Introduction

The majority of those living in poor and lower-middle-income nations live in rural regions where agriculture is the leading profit-making venture and the principal means of livelihood among rural families (Adepoju, Obayelu, 2013; Ssozi et al., 2019; Yeboah, Jayne 2018; Abebe et al., 2021). Specifically, the Nigerian rural

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population is mostly made up of small-scale farmers saddled with the provision of consumable food and raw materials for indigenous industries and export, making the sector unarguably the most prominent source of livelihood employing, over 70% of the population (Koko, Abdullahi, 2012; Oni, 2014; Akpan et al., 2016; Akpan, Udoh, 2016; Ducrotoy et al., 2016).

However, the high incidence of rural poverty caused by rural agriculture has raised the popularity of diverse income streams among Nigerian rural households (Abiodun et al., 2019). To improve livelihood and combat poverty, rural households can no longer rely solely on agriculture (Bekele, Rajan, 2017). In addition, small farm holdings and unchecked population growth have led to a decrease in agricultural production over time, forcing individuals to seek alternate employment alternatives for agriculture to increase food security and decrease rural poverty (Abebe et al., 2021). Hence, rural areas are quickly expanding into non-farm businesses as a result of rural livelihood difficulties or taking up off-farm employment (Neog, Sahoo, 2020; Sarker et al., 2020). The desire for better employment possibilities, higher earnings, and improved living conditions in turn has attracted rural youths to urban centers (Alarima, 2018).

Although, several factors contribute to migration, including the rate of population expansion, unemployment, poverty, war, environmental stress, and a desire for higher income (Flahaux, De Haas, 2016; Ikuteyijo, 2020), uneven developmental processes, particularly in emerging countries, have boosted migration from less or non-urbanized to more urbanized areas in search of better opportunities. Many rural residents rush to urban areas in search of education and jobs, believing that there are green urban pastures (Nwalusi et al., 2022). The unavailability of productive resources like land has also been reported to be accountable for and encouraging migration (Abramitzky et al., 2013; Lambert et al., 2014; Kosec et al., 2018). In fact, perceived disparities in infrastructural and economic growth between urban and rural areas may encourage rural-urban mobility and international out-migration (Flahaux, De Haas, 2016; UNECA 2017). According to Duru (2021), job possibilities, unemployment, financial prospects, safety and security, better working conditions, low pay, and improved living standards were the main drivers of international migration in Nigeria.

However, for most developing countries, remittances from migrants are a significant source of revenue at both the national and family levels (WB, 2016). Through remittances, migration has been observed as a coping tactic used by the poor, particularly rural people, as a stimulant for changing the fate of individual migrants and the circumstances of family members left behind, as well as their local communities (Duru, 2021). As a result of the incentives provided by migration, livelihood outcomes change, leading to improvements in income, food security, access to services, living conditions, and risk and threat exposure among others (Aromolaran et al., 2021).

Despite the importance and challenges of migration as regards rural livelihood, past studies on livelihood focused on livelihood diversification in rural Nigeria (Okoye et al., 2016; Abiodun et al., 2019; Igwe et al., 2020; Iraoya, Isinika, 2020) while only a few studies such as (Ajaero, Madu, 2014; Oluwatayo et al., 2019; Alleluyanatha et al., 2021) have examined the effects of migration (rural-urban) on livelihood in some selected states in Nigeria. This work by examining the relationship among migration and rural livelihoods in Nigeria, tries to close this information gap. Premised on the foregoing, the main goal of this paper is to examine the effects of migration on livelihoods in rural Nigeria. It is hypothesized in this paper that having a migrant household member could have a significant effect on the level of livelihood of the rural household.

Materials and Methods

The focus of the study is Nigeria, a sub-Saharan African (SSA) country in West Africa. The country boasts highly of an abundance of land for agricultural, commercial, and industrial activities. The ecology of Nigeria comprises the Mangrove swampy forest, Rainforest, Montane-forest/grassland, Derived savannah, Guinea savannah, Sudan savannah, and Sahel savannah. These agricultural zones allow for the huge practice of agriculture in any of its forms. In terms of population, the country is estimated to have around 223 million people living there (UNFPA, 2019), thus making the nation the most populous in Africa.

This research used secondary data from the 2009 World Bank household survey on migration for the African migration project in Nigeria since it is the most recent national data obtainable on migration issue. The survey covered states across the nation's six geographical zones. A two-stage sampling procedure was used in collecting data. Stratified sampling was used in the first stage, while the second stage was a grouping of states into two strata: high and low migration categories. From the high migration incidence states, a total of 48 EAs were selected, while from the low stratum, a total of 12 EAs were selected. A total of 2,251 rural and urban households were selected out of which this study made use of 1,164 rural households which had complete information for the study. The survey, conducted in 2009, through weighting of the data is reasonably reflective of the entire country and of migrants. Internal and international migration as well as remittances from previous family members were within the scope of the migration household survey.

So, means, standard deviation, frequency, percentages, and tables were some of the descriptive tools employed in examining the socio-economic and demographic characteristics of the respondents. The sustainable livelihood index, which

employs a balanced weighted average with several parameters as stipulated by the Sustainable Livelihood Framework was used to examine the livelihood status in rural Nigeria. The index is made up of financial, physical, human, natural, and social indicators which jointly contributed to creating the overall livelihood index. The indicators were standardized using the Human Development approach adopted by Hahn et al. (2009).

The standardized indicator j is given as follows:

$$zind_j = \frac{indicator_j - \min_j}{\max_j - \min_j} \quad (1)$$

Where minimum and maximum values of indicator j are the lowest and highest values of indicator j of a household respectively. Upon obtaining a standardized livelihood domain for each indicator, a Household Livelihood Index (HLI) for the particular domain is constructed by averaging the standardized indicators:

$$HLI_i = \frac{\sum_{j=1}^J zind_j}{J} \quad (2)$$

Where J is the number of indicators employed in constructing the index. Once each household index is constructed, then the composite overall Livelihood Index (LI) for the household is using.

$$L_i = \frac{\sum_{i=1}^n w_i HLI_i}{\sum_{i=1}^n w_i} \quad (3)$$

Where,

LI_i = Livelihood Index;

w_i = Weight calculated by the number of indicators used in each index;

HLI_i = Household Livelihood Index.

The factors influencing migration were determined using the probit regression model. Following Mitiku, Mulatu (2021) the probit model is implicitly stated as follows:

$$\Pr(y = 1|x) = \Phi(\beta_i x_i) \quad (4)$$

Where, Φ is the standard cumulative normal distribution with mean 0 and variance 1. β_i are the estimated coefficients of the model.

The equation for factors influencing migration can be transformed as

$$P(Y = 1|x) = \beta_1 + \beta_2 x_1 \quad (5)$$

the model is explicitly re-written as thus:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \epsilon_i \quad (6)$$

Where, Y = migration status defined as 1, if a household has a migrant member and 0, if otherwise; X_1 = Age of respondents (in years); X_2 = Level of education (primary = 1, 0 if otherwise); X_3 = Gender of respondents (1= male, 0 if otherwise); X_4 = Household size (number); X_5 = Monthly per capita expenditure (Naira - NGN); X_6 = Type of employment (self-employed = 1, 0 if otherwise); X_7 = Type of occupation (farming=1, 0 if otherwise); X_8 = Type of dwelling (family house = 1, 0 if otherwise); X_9 = Physical capital index (physical infrastructure/ assets owned by households); ϵ_i = Disturbance term.

The Tobit Regression model was employed to investigate the effect of migration on the livelihoods of rural households in Nigeria. Following Onunka, Olumba (2017), the basic Tobit regression model is specified as follows:

$$Y_i = \beta X_{ii} f_i^* = \beta X_i + U_i > T_i \quad (7)$$

Where U_i is normally distributed with zero mean and constant variance, X_{ii} is the vector of explanatory variables and β are the coefficients to be estimated. The model can be transformed as follows:

$$Y_i = \beta_0 + \beta_i X_i + U_i \quad (8)$$

and written explicitly as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \epsilon_i \quad (9)$$

Where, Y = Livelihood index (captured through livelihood capitals of rural households); X_1 = Age of respondents (in years); X_2 = Level of education (primary = 1, 0 if otherwise); X_3 = Gender of respondents (1 = male, 0 if otherwise); X_4 = Household size (number); X_5 = Monthly per capita expenditure (Naira - NGN); X_6 = Type of employment (self-employed = 1, 0 if otherwise); X_7 = Type of occupation (farming = 1, otherwise = 0); X_8 = Land access (Yes = 1, otherwise = 0); X_9 = Type of dwelling (family house = 1, otherwise = 0); X_{10} = Physical capital index (physical infrastructure/assets owned by households); X_{11} = Household migrant status (households with members that have migrated for at least six months migrants = 1, 0 if otherwise); ϵ_i = Disturbance term.

Results with Discussion

Table 1. presents the socio-economic characteristics of respondents. The results from the table show that over four-fifths (86.2%) of the households in rural areas were male-headed implying that agriculture is predominantly dominated by males, thus corroborating the results of Mbah et al. (2016). The study also showed that more than two-fifths of the rural households were within the age range of 35 and 54 years with an average age of about 51 years, thus implying that the majority of them are within their active productive age and they were expected to work for a living to support themselves and their families. This is consistent with the findings of Aromolaran et al. (2021). About half of the rural households have household sizes of below five members while the average household size stood at about 6 members.

Table 1. Socio-economic Characteristics of Rural Households

Variable	Categories	Frequency	Percentage (%)	
Gender	Male	1,004	86.2	-
	Female	160	13.8	
Age (years)	15-34	137	11.8	Mean = 51.2 S.D = 14.4
	35-54	539	46.3	
	55-74	422	36.2	
	>74	66	5.7	
Household Size	≤ 5	571	49.0	Mean = 6.4 S.D = 3.6
	6 – 10	456	39.2	
	11 - 15	115	9.9	
	> 15	22	1.9	
Education	No formal	404	34.7	-
	Primary	368	31.6	
	Secondary	197	16.9	
	Tertiary	195	16.8	
Primary Occupation	Farming	426	36.6	
	Non-farming	738	63.4	
Monthly Per Capita Exp. (NGN)	0 - 420,000	1,156	99.3	
	420,000 - 840,000	5	0.4	
	840,001- 1,260,000	1	0.1	
	>1,260,000	2	0.2	
Type of Dwelling	Apartment in a building	101	8.7	
	Huts	112	9.6	
	Rooms in a house	291	25.0	
	Family house	660	56.7	
Migration Status	Have at least a migrant	691	59.4	
	Have no migrant	473	40.6	
Land Access	Yes	963	82.7	
	No	201	17.3	
Total		1,164	100.0	

Source: Adepoju et al., 2023.

Almost half of the rural dwellers had either primary or secondary education while about 35.0% of them had no formal education. The results further showed that 36.6% of the respondents were engaged in farming activities that range from fishing, livestock and arable farming as their primary occupation. Almost all (99.3%) of the rural households spent below 420,000.00 NGN per month. Further, more than half of the respondents reside in a family house, with about three-fifths (59.0%) of the rural households having at least one household member that has migrated in the last six months, while about two-fifths had no migrant member. This agrees with the findings of Amrevurayire and Ojeh (2016) in which more than half of the households had at least one member that had migrated. Also, more than four-fifths had access to land, while only 17.0% had no access to land.

Types of migration in rural Nigeria

Table 2. presents the predominant type of migration in rural Nigeria and it shows that the majority (61.9%) of households with at least one person, who had migrated for at least six months, had family members who had migrated internally, while the remaining 38.1% had members who migrated out of the country, thus corroborating the findings of Cattaneo (2018) that most of the migrants migrated within the shores of the nation. This might not be unconnected to the cost associated with international migration vis a vis internal migration.

Table 2. Types of migration in rural Nigeria

Type of migration	Frequency	Percentage
Internal	428	61.9
International	263	38.1
Total	691	100.0

Source: Adepoju et al., 2023.

Factors Influencing Migration in Rural Nigeria

Table 3. presents the findings of the probit regression eliciting information on the factors that influence migration in rural Nigeria. The chi-square score, which is 324.29 and significant at 1%, shows that the model fits the data. Out of the regressors captured in the probit model, only six significantly explained migration. Specifically, the age of the household head, type of employment, type of dwelling, and physical asset positively influenced migration, while gender and household size had negative influences on migration in rural Nigeria. The result showed that age positively and significantly affected the decision to migrate from rural areas. This might be a result of the fact that experience increases with age, and by extension results to ease in searching (that is migrating) for increased opportunities. This result agrees with

the findings of Greenwood (2001), but contradicts the findings of Muyanga et al. (2016), where an increase in age reduced the likelihood of migration because of the psychological cost of migration associated with aging people. The marginal effect of age indicated that a year increase in the age of household heads increased the likelihood of migrating from rural areas by about 1%. Self-employment was also found to be important in determining migration in rural Nigeria. This is expected as rural dwellers seek to increase returns on self-employment hence, they move from self-employment to more lucrative wage work outside of rural areas. This finding is consistent with Fields (2019).

Furthermore, the type of dwelling was found significant in determining migration in rural Nigeria. The marginal effect of residing in a family house (proxy for type of dwelling) was positive indicating that residing in a family house increased the likelihood of migrating from rural areas by about 7%. This could be because funds that would have been used for housing are redirected to cater to migration. Similarly, the physical asset index was positive. In other words, owning physical assets contributed to household members' migration. The marginal effect of the physical asset index showed that ownership of physical assets by rural households increased the likelihood of migrating out of the rural areas by about 5%. This result is in agreement with that of Arenas et al. (2008) where assets owned by households were important in decision-making in terms of migration.

Conversely, being a male-headed household had a negative effect on the factors influencing migration. This is probably because there is an increased social acceptance of female empowerment and gender equality, thus resulting in an increased number of female migrants. More so, rural agriculture is characterized by intense manual labor, a requirement that men easily satisfy. This corroborates the findings of the United Nations Population Fund (UNFPA, 2018) and Fleury (2016). Also, the marginal effect results reveal that being male reduced the chances of migration out of rural areas by about 13%. Similarly, household size had a significantly negative effect on migration. This can be due to the fact that with increased household size, household expenditure increases and by extension constrains the chances of migrating out of rural areas. The marginal effect indicated that household size reduces the likelihood of migration by about 2%, and this finding is consistent with that of Gurung (2012).

Table 3. Factors Influencing Migration in Rural Nigeria

Variables	dy/dx	Coefficient	Standard Error	P> Z
Age	0.008***	0.029***	0.003	0.000
Education	0.032	0.106	0.090	0.238
Gender	-0.126***	-0.418***	0.135	0.002
Household size	-0.017**	-0.058**	0.013	0.000
Monthly per capita expenditure	3.04e-07	1.00e-06	7.93e-07	0.206
Type of employment	0.055*	0.183*	0.101	0.071
Type of occupation	-0.019	-0.064	0.096	0.502
Type of dwelling	0.069**	0.228**	0.091	0.013
Physical assets index	0.953***	3.146***	0.314	0.000

Source: Adepoju et al., 2023.

Note: *** significant at 1%, ** significant at 5%, * significant at 10 %. Number of observations = 1164; Log likelihood = -624.14135; LR $\chi^2 = 324.29$; Pseudo $R^2 = 0.2062$; Prob> $\chi^2 = 0.0000$

Livelihood Components of Rural Households

The result presented in Table 4. with respect to the livelihood status of rural households followed the Sustainable Livelihood Framework. Twenty-seven indicators of livelihood assets were extracted from the dataset and classified into the following five categories: human, physical, natural, and financial assets. The analysis of the indices of each particular asset class showed that the indices of physical, natural, financial and human components were 0.44, 0.61, 0.10 and 0.32 respectively. Further, the result revealed that the composite livelihood index of rural households was 0.37 which implied that in average rural households in Nigeria had a low level of livelihood.

Table 4. Livelihood Components of Rural Households

Capitals (Domains)	W _i (Sub-domains)	Index	Rank
Natural	1	0.61	First
Physical	22	0.44	Second
Human	2	0.32	Third
Financial	2	0.10	Fourth
Total	27	-	-
Composite Livelihood Index	-	0.37	-

Source: Adepoju et al., 2023.

Effect of migration on the livelihoods of rural households in Nigeria

The effect of migration on livelihoods in rural Nigeria was estimated using the Tobit regression model (Table 5.). The model fits the data, as shown by the substantial chi-square value of 1,130.15 at 1%. Specifically, nine out of the eleven variables were significant. The result showed that age, education, household size, monthly

per capita expenditure, type of employment, land access, type of dwelling, physical asset index, and migrant status of households had positive and significant effects on the livelihood of rural households in Nigeria.

The study showed that household size positively influenced the livelihood of rural households in Nigeria at a 1% level of significance. This could be because households with many members had the option of exploring numerous livelihood options. This is in congruence with the results of Ibrahim et al. (2017), as larger households have greater opportunities to access a variety of revenue sources, boosting their livelihood. The marginal effect of household size indicated that an increase in the size of a household increased the probability of having an improved livelihood by 0.38%. Similarly, the monthly per capita expenditure of rural households was positive. This is possible because monthly per capita expenditure, especially in a rural context, is basically on human and physical capital accumulation, such as skills, education, and assets. These accumulations invariably translate to livelihood improvement. This is consistent with Sharma's (2016) research.

Land access was important and positive in determining livelihood in rural Nigeria. This is because access to land, forms the basic capital base which improves livelihood in rural areas. This finding is in agreement with that of Mwesiga and Kalisti (2016), as access to land is the basis upon which livelihood is built. The marginal effect indicated that having access to land improved the livelihood of rural households in Nigeria by about 15%. Furthermore, the study revealed that living in a family house (a proxy for the type of dwelling) had a positive effect. Specifically, the type of dwelling improved the livelihood of rural households in Nigeria by about 2%.

In addition, the physical asset index was positive. This could be due to the fact that physical assets, which are the assets owned by households, inform and translate the state of livelihood available to the household. This is in line with the findings of Ibrahim et al. (2017) in which physical assets improved the livelihood of households. The marginal effect of the physical asset index indicated that ownership of physical asset by rural households will likely improve livelihoods by about 48%. The study further revealed that the migrant status of households captured as households with members that had migrated for about six months was positive and significant. Having migrant members in a household represents an additional source of income in the form of remittances, which invariably improves the livelihoods of rural households. This agrees with the findings of Sagynbekova (2017). Also, the marginal effect of household migrant status indicated that having one migrant household member in the household improved the livelihood of the household by about 3%.

Table 5. Effects of migration on the livelihoods of rural households in Nigeria

Variables	dy/dx	Coefficient	Standard Error	P> Z
Age	-0.000**	-0.000**	0.000	0.033
Education	-0.0143*	-0.014*	0.008	0.084
Gender	0.0021	0.002	0.007	0.771
Household size	0.0038***	0.003***	0.000	0.000
Monthly per capita expenditure	1.47e-07***	1.47e-07***	2.89e-08	0.000
Type of employment	-0.0320***	0.032***	0.005	0.248
Type of occupation	-0.0067	0.006	0.007	0.000
Type of dwelling	0.0179***	0.148***	0.005	0.001
Physical index	0.4804***	0.017***	0.018	0.000
Household migrant status	0.0331***	0.331***	0.006	0.000

Source: Adepoju et al., 2023.

Note: *** significant at 1%, ** significant at 5%, * significant at 10%. Number of observations = 1,164; Log likelihood = 1,231.3129; LR χ^2 (11) = 1,130.15; Pseudo R^2 = 0.8482; Prob > χ^2 = 0.0000.

Conversely, age had negative effects. This could be because as age increases, the physiological abilities of household heads reduce thus affecting their livelihood. This agrees with the findings of Onunka and Olumba (2017) where the age of household heads negatively affected their livelihoods. The marginal effect of age indicates that a year increase in the age of household heads reduced livelihood by about 0.04%. Similarly, education was negative and significant in determining livelihood in rural Nigeria. This is contrary to *a priori* expectations, but it is known that education may not necessarily translate into an improved livelihood in the rural context. This finding agrees with that of Ifeanyi-obi and Matthews Njoku (2014) where education negatively affected the livelihood of rural dwellers in Southeast Nigeria. The marginal effect of education indicated that having at least primary education reduced the livelihood of rural households by about 1.44%. Similarly, the type of employment (self-employment) was negative and significant at 1%. This could be because being self-employed largely in the rural area often implies inconsistent income. This finding is in line with the findings of Fields (2019) in which self-employment negatively affected livelihood as the prospect of having consistent wages was uncertain. The marginal effect indicated that the type of employment reduced the livelihood of rural households by about 3.2%.

Conclusion

Nigeria, like many other nations of the world, is affected by the trend of migration. There is hardly any doubt that there are positive impacts of migration on households with migrants and the larger society by extension. However, there is more uncertainty about the extent of its impact, especially on the socio-economic status of rural

households. Empirically and from the results of this study, it can be said that access to land in no small measure determines the livelihoods of rural households. A review of land access channels and systems to annihilate the restraints the current systems pose to agriculture is pertinent since land access informs the level of agricultural participation and livelihood options of rural households in Nigeria.

Specifically, the findings in this paper show that migration is predominantly internal and on the average the level of livelihood of rural households in Nigeria is low. In addition, female household members had a higher probability of migrating and the migrant status of households positively affected their livelihood. Thus, the hypothesis of the study is accepted as having migrant members in a household represents an additional source of income in the form of remittances, which invariably improved the livelihoods of rural households. From the foregoing, the study recommends that strategies should focus on the introduction of new farming innovations and systems to encourage and expand livelihood options of rural households as farming is a strong determinant of rural livelihood in Nigeria. In addition, the provision of physical infrastructures which could be through public-private partnerships at all levels of governance to lessen the rural-urban divide as well as the level of economic hardship. This is important because the abundance of physical assets and infrastructure can attract investments to rural areas and influence the level of livelihood of rural households in Nigeria. Also, the introduction of skills acquisition schemes and opportunities (social and economic) in the rural areas, that are likely to reduce the trends of female migration is pertinent. These skills and opportunities should be similar (or at par) with those available in urban centers thus making rural-out migration unnecessary or of less economic benefit. Migration, whether internal or international, although may result in a change in population structure and loss of labor, definitely improves the livelihoods of rural households as shown in this study but albeit cannot be encouraged. Thus, a revisit of national agricultural policy for improved livelihoods of rural households in Nigeria is pertinent with particular focus in the areas of incentives, social welfare, and physical infrastructures.

Despite the efforts of national statistical agencies and international organizations, there is a scarcity of ample information on the actual number and flux of Nigerian migrants prior to and after migration, which makes it difficult to comprehend the characteristics of migration in Nigeria (Adhikari et al., 2021). Thus, the use of data from the 2009 World Bank household survey on migration for the African migration project in Nigeria, it being the most recent national data obtainable on migration, to contribute to scarce literature on migration. However, the migration trend in Africa keeps on growing indicating an increase in domestic and international migration in 2022 (ACSS, 2022).

Future studies using current data could examine current trends of remittances inflow from internal and external migration and its effect on the well-being of both rural and urban households to guide policy thrusts on overall economic development.

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