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## DETERMINANTS OF LIVELIHOOD STATUS OF RURAL FARMING HOUSEHOLDS IN KWARA STATE, NIGERIA

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### ABSTRACT

This study assessed the livelihood status of rural farming households in Kwara State, Nigeria and identified the determinants of their livelihood status. A three-stage random sampling technique was used to select 160 households with data obtained through an interview schedule. Descriptive statistics and Multiple Regression Analysis were used for data analyses. Findings revealed that rural household heads were predominantly male (85.0%), middle-aged with mean age of 51.6 years and an average of 25 years farming experience. A little below average (43.8%) had no formal education while most (60%) were full time farmers. The mean annual income and farm size were ₦725,125 and 3.3 acres respectively. The households' mean score in food availability, housing condition, water facilities, health situation, sanitation conditions, participation in social activities and freedom in cash expenditure were 1.98, 1.18, 1.89, 1.88, 1.89, 1.58 and 1.96 respectively, while livelihood mean score was 7.7. Household heads' level of education ( $\beta = 0.081$ ,  $p < 0.05$ ), primary occupation ( $\beta = 0.281$ ,  $p < 0.01$ ), annual total income ( $\beta = 0.001$ ,  $p < 0.05$ ), and frequency of extension contact ( $\beta = -0.088$ ,  $p < 0.01$ ) were the determinants of household livelihood status. The study concluded that livelihood status in the study area was poor, with housing conditions having the lowest score. Also livelihood status was significantly influenced by some socioeconomic characteristics of the households. It is recommended that developmental efforts toward improved livelihoods in the study area should place emphasis on rural housing conditions.

**Keywords:** Determinants, Households, Livelihood, Poverty

### INTRODUCTION

The rural areas in Nigeria are important not only because they are the base of agricultural production activities, but also because it is home to more than 70% of the country's population (Sallawu *et al.*, 2016). The communities in the rural areas are characterised by agrarian-related sources of livelihood. Rural areas in developing countries enhance economic growth via job creation, labour supply and provision of food and raw materials to other sectors of the economy. They are also major contributors to foreign exchange. In spite of this enormous importance, agricultural-based livelihood has a higher level of poverty than other occupational groups in rural Nigeria. Oni and Yusuf (2008), affirmed that poverty incidence in Nigeria is higher among the rural-folks whose sources of livelihood are mainly agricultural income.

Livelihood according to Israr *et al.*, (2014) is the capabilities, assets, i.e. stores, resources, claims, access and activities required for a means of living. Ekong, (2003) also viewed livelihood as a term generally used to describe the quantity of goods and services that sustains an individual and his family. It is determined by the social and economic position of an individual or the family, and the position could be high or low depending on the possession or non-possession of specific livelihood indicators adjudged as important in the society (Ovwigho, 2011). These livelihood indicators include food availability, housing condition, water sources, water availability, quality of water, health status, access to health facilities and household sanitation. The availability and access of rural farming households to these livelihood resources will help in achieving

agricultural and rural development agenda in Nigeria (Nwaogwugwu and Matthews-Njoku, 2017). These resources serve as inputs in any livelihood activity and include human resources, financial resources, natural resources, social resources, physical resources (DFID, 2000).

In most rural communities in Nigeria, basic infrastructure, where they exist at all, are too inadequate for any meaningful development. For instance, rural communities often depend on shallow wells with untreated water. Rural dwellers, most of whom are farmers, work on the land from sunrise to sunset only to produce food for the teeming city population. The deteriorating physical assets in the rural areas have aggravated the incidence of poverty and stamped growth in human asset as well as social assets.

The thrust of the various rural development programmes in Nigeria is to improve the living conditions in the rural areas and curb the streaming rural-urban migration (Sule *et al.*, 2013). Despite the high number of rural development policies formulated at different times by successive governments and the enormous financial and material resources deployed, little or nothing is felt at the rural level. Majority of rural farmers in Nigeria are poor with poor asset bases that cannot adequately sustain them (Akpan *et al.*, 2016).

Food security is not the only measure to improve the livelihood of the rural populace; there is the need for a sustainable livelihood which is more central and reflects the ability to take hold of other issues like health situation, water facilities, sanitations and housing which guarantee an improved life. Understanding the livelihood systems as well as the constraints associated with the different livelihoods indicators will contribute

to potent planning, monitoring and evaluation of rural developmental programmes. The assessment of rural farming households by livelihood indicators will provide useful information for donor agencies and programme planners on the specific need of rural dwellers and where to channel programmes and funds towards. Determining the livelihood status of rural farming households will also help policy makers and agricultural administrators to address issues surrounding the wide gap between rural and urban livelihood status. It is also possible that some socioeconomic characteristics of rural households influence their livelihood status, hence the study will help extension workers and socio-economist in identifying these determinants of livelihood status and thus address them accordingly. It is against this background that the study:

1. assessed rural farming households by livelihood indicators;
2. determined the livelihood status of rural farming households; and
3. identified the determinants of the livelihood status of rural farming households.

## METHODOLOGY

The study was carried out in Kwara State, Nigeria. Located in the North-central geopolitical zone of Nigeria, it lies between latitudes 7°45'N and 9°30'N and longitudes 2°30'E and 6°25'E, covering a total landmass of 32,500 Km<sup>2</sup> with a population of about 2.5 million people (National Population Commission, 2006). It shares an international boundary with the Republic of Benin.

The state is grouped by the state's Agricultural Development Project (ADP) into four zones (A, B, C, and D). The grouping was done in consonance with the agro-ecological characteristics of the various parts of the state. Agriculture is the main source of the state's economy.

All rural farming households in Kwara State made up the study population. A three-stage random sampling technique was used to select respondents for the study. The first stage was the random selection of 50% of the four ADP zones in the state. The second stage was the random selection of 30% of the six (6) blocks in Zone B and nine (9) blocks in Zone C. In the third stage, 30% of households across the 120 cells in the selected blocks were drawn following a proportionate sampling from the rural household listing obtained from the ADP. This process produced a total sample size of 162 used for the study. However, 160 copies of the questionnaires were analysable.

The livelihood status measure model that was used to determine the livelihood status of rural farming households in this study was developed by Shehili (2012) in his study on Improving Livelihood of Rural Women through Income Generating Activities in Bangladesh. However, the model was slightly modified to fit the study area. Seven (7) livelihood indicators namely, food availability, housing condition, water facilities, health situation, sanitation, participation in social activities, and freedom in cash expenditure were considered in calculating the Livelihood Status Score.

**Table 2: Household Livelihood Status Indicators Measurement**

S/N	Indicators	Measurement
1	Food Availability	Done on the basis of basic food accessibility for the family in a twelve-month calendar year. Scoring was two (2) for adequate, one (1) for inadequacy of food. The sum scores of twelve months was taken as the food availability status of a household. Score varied from 12 to 24. Twelve (12) indicated the lowest and 24 indicated the highest level of household food availability.
2	Household Condition	Six characteristics of houses were considered, namely roof (iron sheet, brick, straw), walls (tiled, painted, plastered, brick), floor (tiled, rugged, carpeted, cemented), kitchen position (inside, outside), furniture (very good, good, simple, very bad), and general impression (very good, good, simple, very bad). The score of the six characteristics of the household was sum up to obtain a household condition score. The possible score varied from six (6) to 21. The lowest possible score of 6 indicated a very poor housing condition while a highest possible score of 21 indicated a very good housing condition.
3	Water Facilities	The score for water facilities was calculated by summing scores of the three sub-dimensions namely; water sources, drinking water availability and quality of drinking water. Total number of water sources was four (4), the most available source will have a score of four (4) and least available source scored one (1). Therefore, the possible score for water sources varied from one (1) to four (4). The scoring of drinking water availability for each month was two (2) for adequate and one (1) for inadequacy of

S/N	Indicators	Measurement
4	Health Situation	<p>drinking water. The scores of twelve months obtained from each respondent was added to obtain a drinking water availability score which varied from 12 to 24. Quality of drinking water was measured based on four (4) items and the possible score varied from one (1) to four (4). Finally, the scores of three sub-dimensions of water facilities was summed which ranged from 14 to 32. The lowest possible score of 14 indicated a poor water condition while the highest possible score of 32 indicated a very good water condition</p>
5	Sanitation	<p>Measured by the summation of two sub-dimensions, namely health status; and the ability to get health treatment. Health status was measured on the basis of 5 items whose score varied from one (1) to five (5). The ability for household members to get treatment from different treatment providers available in the study area was determined. Total number of health treatment providers was five. Scoring for availability of health treatment providers was two (2) for frequently, one (1) for seldom and '0' for not at all. Health treatment ability was measured by summing scores of five items and the possible score varied from 0 to 10.</p> <p>The scores of the two sub-dimensions of health situation was summed which ranged from 1 to 15. The lowest possible score of 1 indicated a poor health situation while the highest possible score of 15 indicated a very good health situation.</p>
6	Participation in social activities	<p>Measured by the summation of two sub-dimensions, namely possession of a toilet and toilet condition. For possession of toilet, data were collected on three items rated on a scale of 2, 1, and 0 for having own toilet, using other people's toilet, and having no access to a toilet, respectively. The possible score for toilet possession varied from 0 and 2. Toilet Condition refers to the physical condition of the toilet possessed by rural farming household. Roof, walls, floor and the toilet type was considered to measure toilet condition. The scores thus obtained was added together to yield the toilet condition score. After considering the physical condition of the toilet in line with the four (4) mentioned characteristics, the range of a possible toilet condition score varied from four (4) to (9); whereby 4 indicates 'very bad' and 9 indicates a 'very good' toilet condition. After summing the score of two sub-dimensions, the sanitation score varied from four (4) to 11. The lowest possible score of 4 indicated a poor household sanitation, while the highest possible score of 11 indicated a very good household sanitation.</p>
7	Freedom in Cash Expenditure	<p>Measured by calculating a 'social participation score' based on the participation in four selected social events. Scoring of participation was two (2) for regularly, one (1) for occasionally, and '0' for no participation. The scores of four social events was then added to calculate the total score of participation in social activities. Therefore, the participation in social activities score varied from 0 to 8. The lowest possible score of 0 indicated a no household participation in social activities, while the highest possible score of 8 indicated a regular household participation in social activities.</p>
		<p>Refers to the freedom of a household head to spend money on various aspects of his family affairs. A 4-point Likert-type scale was used to define the freedom of cash expenditure where 4, 3, 2 and 1 indicate expenditure decision dependent on 'himself', 'wife', 'together', and 'other family members', respectively. Finally, the total score was obtained by summation of score of all eight aspects. Possible score varied from eight (8) to 32. The lowest possible score of 8 indicated a 'low freedom in cash expenditure', i.e., the respondent depends highly on other family members to take decisions, while the highest possible and a score of 32 indicated a 'high freedom in cash expenditure', i.e. the respondent (household head) takes all decisions by himself.</p>



Variables	Frequency	Percentages	Mean	SD
Otherwise	64	40.0		
<b>Farm size (acres)</b>				
<3	53	33.1		
≥3	107	66.9	3.3	1.4
<b>Farming experience (years)</b>				
5-15	19	11.9		
16-30	85	53.1	24.9	10.3
31-45	52	32.5		
46 and above	4	2.5		
<b>Annual income (₦)</b>				
250,000-499,999	66	41.3		
500,000-999,999	80	50.0	728,125	
≥100,000,000	14	8.7		
<b>Membership of social group</b>				
Yes	146	91.3		
No	14	8.7		
<b>Frequency of Extension contact (past 6months)</b>	88	55.0	2.7	
<3	72	45.0		
≥3				

S.D= Standard Deviation, (₦360=\$1)

Source: Field Survey, 2017

#### Rural farming households' livelihood indicators

##### Food availability

As shown in Table 4, food availability was measured by accessibility to basic food throughout the whole year for the family. Food availability was

observed to be higher between June to September. This pattern of food availability tallies with the rainfall pattern, showing the lower levels of food availability during the dry season.

**Table 4: Distribution of households by food availability**

Month	Frequency	Percentage	Rank
January	49	30.9	9 <sup>th</sup>
February	35	21.9	10 <sup>th</sup>
March	32	20.0	11 <sup>th</sup>
April	67	41.9	8 <sup>th</sup>
May	97	60.6	7 <sup>th</sup>
June	116	72.5	4 <sup>th</sup>
July	117	73.1	3 <sup>rd</sup>
August	126	78.8	2 <sup>nd</sup>
September	127	79.4	1 <sup>st</sup>
October	106	66.3	6 <sup>th</sup>
November	114	71.3	5 <sup>th</sup>
December	106	66.3	6 <sup>th</sup>

Source: Field Survey, 2017

##### Households' housing condition

The result in Table 5 shows that majority (94.4%) of the households had iron sheet roofs, 70.6 percent had their walls plastered while 58.8 percent had cemented floors. The location of the

kitchen for most (65.6%) of the households was outside. Only 7.5 percent of the households had very good furniture, and the general impression of the households was good for more than half (51.3%) of the households.

**Table 5: Distribution of households by their housing condition**

House item	Characteristics	Frequency	Percent
Roof	Iron sheet	151	94.4
	Brick	9	5.6
	Straw	0	0.0
Wall	Tiled	1	0.6
	Painted	29	18.1

House item	Characteristics	Frequency	Percent
Floor	Plastered	113	70.6
	Brick	17	10.6
	Tiled	8	5.0
	Rugged	7	4.4
Kitchen position	Carpeted	51	31.9
	Cemented	94	58.8
	Inside	55	34.4
	Outside	105	65.6
Furniture	Very good	12	7.5
	Good	89	55.6
	Simple	46	28.8
	Very bad	13	8.1
General impression	Very good	6	3.8
	Good	82	51.3
	Simple	72	45.0
	Very bad	0	0.0

Source: Field Survey, 2017

#### Water facilities

Table 6 shows the result of the distribution of households according to water facilities. Only 21.8 percent of the households had access to good

quality drinking water. The heavy reliance on rainwater (96.9%) explains the shortage of water in the dry season months.

**Table 6: Distribution of households by water facilities**

Water characteristics	Frequency	Percentage
<b>Water sources*</b>		
Pipe-borne	35	21.8
Well	111	69.4
Rain	155	96.9
River	7	4.4
<b>Perceived Quality of drinking water</b>		
Very good	35	21.8
Fair	83	51.9
Bad	34	21.3
Very bad	08	5.0
<b>Water Availability*</b>		
January	45	28.1
February	23	14.4
March	21	13.1
April	87	54.4
May	140	87.5
June	148	92.5
July	144	90.0
August	116	72.5
September	114	71.3
October	119	74.4
November	119	74.4
December	121	75.6

\* Multiple Responses

Source: Field Survey, 2017

#### Households' health status (self-assessment) and access to health facilities

Result in Table 7 revealed that the health status (self-assessment) of majority (84.4%) of the respondents was good. Only a few (15%) had short-term illnesses. However, 36.9 percent could

get treatment from patent store frequently. Likewise, 46.9%, 18.1%, 61.3% and 20% frequently got treatment from pharmacy, self-treatment, government hospitals and private hospitals respectively.

**Table 7: Distribution of households according to their health status (self-assessment) and access to facilities**

	Frequency	Percentage
<b>Status</b>		
Good	135	84.4
Disabled	1	0.6
Short-term illness	24	15.0
Long term illness	0	0.0
Weak	0	0.0
<b>Healthcare</b>		
<b>Patent Medicine Store</b>		
Frequently	59	36.9
Seldom	90	56.3
Not at all	11	6.9
<b>Pharmacy</b>		
Frequently	75	46.9
Seldom	40	25.0
Not at all	45	28.1
<b>Self-treatment</b>		
Frequently	29	18.1
Seldom	50	31.3
Not at all	81	50.6
<b>Government hospitals</b>		
Frequently	98	61.3
Seldom	45	28.1
Not at all	17	10.6
<b>Private hospitals</b>		
Frequently	32	20.0
Seldom	68	42.5
Not at all	60	37.5

Source: Field Survey, 2017

#### **Households' sanitation condition**

Table 8 present the result of the distribution of the households based on sanitation. From the result presented in Table 8, majority of the households (85.6%) own toilet with 14.4 percent relied on

other households' toilet for use. With respect to toilet condition, 86.3 percent had iron sheets, 96.3 percent was plastered, 93.8% had cemented floors, and most (64.4%) of the households had water system toilet type.

**Table 8: Distribution of households according to sanitation conditions**

House item	Characteristics	Frequency	Percent
Toilet possession	Own toilet	137	85.6
	Others toilet	23	14.4
	No access to toilet	0	0.0
Roof	Iron sheet	138	86.3
	Brick	20	12.5
Wall	Tiled	6	3.8
	Plastered	154	96.3
Floor	Tiled	10	6.3
	Cemented	150	93.8
Toilet type	Water system	103	64.4
	Pit	57	35.6

Source: Field Survey, 2017

#### **Households' participation in social activities**

Table 9 shows the distribution of households based on their participation in social activities. Participation in social activities is defined as the degree to which household head attend different social events. Result reveals that 91.3 percent of

the household heads attended family programs regularly. Similarly, majority (80.6%) of the household heads regularly attended meetings arranged by the village community. Only 29.4 percent and 27.5 percent regularly participated in voluntary work and negotiation respectively.

**Table 9:** Distribution of households according to their participation in social activities

Social events	Patterns of participation		
	Regular	Occasionally	Not at all
Family programme	146(91.3)	12(7.5)	2(1.3)
Voluntary help (work with people to help victims during flood, fire, tornado, etc.)	47(29.4)	74(46.3)	39(24.4)
Negotiation (mediating quarrels among neighbours, relatives)	44(27.5)	94(58.8)	22(13.8)
Attending meetings arranged by the village community	129(80.6)	27(16.9)	4(2.5)

Source: Field Survey, 2017

**Households' freedom in cash expenditure**

Table 10 shows the distribution of respondents based the freedom of the household head to spend money on various aspects of family affairs. Majority of the household heads, 90.6%, 90.6%, 72.5%, 66.9% and 60.6% solely took decisions on

daily expenditure, loan repayment, household repair, investments on land and child education respectively. However, few, 33.8%, 35% and 30.6% took sole decisions on loan acquisition and use, health and household assets.

**Table 10: Distribution of households according to their freedom in cash expenditure**

Subject for expenditure	Level of decision in cash expenditure			
	Himself	Wife	Together	Family members
Daily expenditure	145(90.6)	4(2.5)	11(6.9)	0(0)
Investment on land	107(66.9)	16(10)	17(10.6)	20(12.5)
Household repair	116(72.5)	10(6.2)	26(16.3)	8(5)
Child education	97(60.6)	14(8.8)	48(30)	1(0.6)
Health	56(35)	13(8.1)	89(55.6)	2(1.3)
Household assets	49(30.6)	18(11.3)	88(55)	2(1.3)
Take loan and use	54(33.8)	16(10)	88(55)	2(1.3)
Loan repayment	145(90.6)	0(0)	12(7.5)	3(1.9)

Source: Field Survey, 2017

**Household livelihood status per indicator**

Table 11 shows the summary of the households' mean score on each livelihood indicator. The table reveals the deplorable state of the households' condition of living. A mean score of 1.98 in the level of food availability is suggestive of food insecurity. Water facilities and

sanitation, both with mean scores of 1.89 were also poor. Worse off was the case with the housing condition of the rural households with a mean score of 1.18. This result confirms the findings of Babatunde (2013) on the state of rural living conditions in Nigeria.

**Table 11: Categorisation of households based on household livelihood indicators**

S/N	Indicators	Low/Poor F (%)	Average/Moderate F (%)	High/Good F (%)	Mean Score
1	Food availability	5 (3.1)	154 (96.3)	1 (0.6)	1.98
2	Housing condition	132 (82.5)	27 (16.9)	1 (0.6)	1.18
3	Water facilities	39 (24.4)	99 (61.9)	22 (13.8)	1.89
4	Health situation	35 (21.9)	109 (68.1)	16 (10.0)	1.88
5	Sanitation	26 (16.3)	126 (78.8)	8 (5.0)	1.89
6	Participation in social activities	114 (71.3)	0 (0)	46 (28.8)	1.58
7	Freedom in cash expenditures	25 (15.6)	116 (72.5)	19 (11.9)	1.96

Source: Field Survey, 2017

Results presented in Table 12 shows the household livelihood status of the respondents. The overall obtainable mean score of household livelihood status was 20.40. For the purpose of this study, a benchmark of < 10 and > 10 was introduced to categorise the household livelihood

status into two. They are low household status and high livelihood status. Results show that all of the household had a low household livelihood status. The mean livelihood score was 7.7. This result is a true representation of rural households in Nigeria as reported by Obayelu and Awoyemi (2010).

**Table 12: Distribution of households based on livelihood status score**

Livelihood status	Frequency	Percentage	Mean
Low ( $\leq 10$ )	160	100	7.7
High ( $> 10$ )	0	0	
Minimum=6.79			
Maximum=9.71			

Source: Field Survey, 2017

**Result of tested hypothesis**

Table 13 shows the result of regression analysis to identify the determinants of rural farming households' livelihood status. Results show that level of education ( $\beta=0.081$ ), primary occupation ( $\beta=0.281$ ), total annual income ( $\beta=0.212$ ), extension contact ( $\beta=-0.088$ ) were the determinants of rural farming households' livelihood status and explained 40% of the variations in livelihood status. The level of education, primary occupation and total annual income had positive regression coefficient with household livelihood status. This implies an

increase in the respondents' level of education and annual income will increase their livelihood status. Similarly, primary occupation had a positive regression coefficient, indicating that households whose heads had farming as their primary occupation had better livelihood status. The frequency of extension contact had negative regression coefficient. However, the age of the household head, sex of the household head, household and farm sizes did not influence the livelihood status of rural farming households in the study area.

**Table 13: Result of Regression Analysis of determinants of household livelihood status**

Socioeconomic characteristics	Unstandardised Coefficients		t-value	Sig.
	Beta	Std. Error		
<b>Constant</b>	<b>7.831</b>	<b>0.268</b>	<b>29.228</b>	<b>0.000</b>
Age of the household head	-0.006	0.004	-1.515	0.132
Sex of the household head	0.050	0.096	0.524	0.601
Household size	-0.004	0.013	-0.297	0.767
Level of education	0.081**	0.034	2.396	0.018
Primary occupation	0.281***	0.091	3.100	0.002
Farm size	-0.010	0.030	-0.334	0.739
Annual total income	0.212**	0.000	2.429	0.016
Extension contact	-0.088***	0.040	-3.357	0.001

$R^2=0.410$ , \*\*  $P < 0.05$  \*\*\*  $P < 0.01$

**CONCLUSION AND RECOMMENDATIONS**

The study concluded that the livelihood status of rural farming households in Kwara State, Nigeria, was poor and significantly influenced by the level of education, primary occupation, total annual income, and the frequency of extension contact. It recommends that;

1. Adult literacy programmes should be promoted in remote communities as a means of improving the educational standards of the inhabitants.
2. Rural development efforts by the government, donor agencies, and non-governmental organisations should focus on the improvement of rural housing conditions as part of the efforts to enhance rural livelihood in Nigeria.
3. Rural farming families should be given agricultural entrepreneurship training to enhance their income and hence livelihood status.

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