

ASSESSMENT OF QUALITY OF LIFE OF RURAL HOUSEHOLDS IN NORTH CENTRAL NIGERIA

Chancha, Terhemba Ephraim; Ater, Uter-Ater Martha; Ali, Ayuba and Igwe Samuel Onochie

Corresponding Authors email: traimse2broom@gmail.com

Corresponding Authors phone numbers: 08030494808; 08022961625

Department of Agricultural Economics

Institution: Joseph Saawuan Tarkaa University of Agriculture Makurdi, Benue State Nigeria

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ABSTRACT

The study assessed the households level of satisfaction using various aspects of quality of life domains of rural households in North Central Nigeria. The rural households were provided with five (5) different QOL domains embodying various indicators. Descriptive research design was adopted for the purpose of the study. A multistage sampling technique was used in selecting rural households for the study by firstly selecting purposively two (2) states out of seven (7) states in North Central Nigeria. Data collection was done through structured questionnaires with participatory observation to elicit information from 284 rural households which were randomly selected from two (2) states selected in stage 1 above. The data collected were analysed using indices, mean, table and percentages, ANOVA, frequency distribution and standard error. The result of socio-economic characteristics of rural households in North central Nigeria revealed that, 115(40.5%) fell within the age bracket of (36-45years), 163(57.7%) rural households were male, 166(58.5%) rural households were married. 87(30.6%) rural households had secondary education, 164(57.7%) of household's size of 5-8persons, majority of rural households 252(89.1%) indulged in farming activities as their major occupation. While, 129(45.4%) of rural households had annual income of ₦251,000-₦351,000, Finally, the distribution of farm size cultivated by rural households in North central Nigeria revealed that, majority 217(76.4%) had farm size of 1-3ha. The result for assessment of quality of life of rural households in North Central Nigeria revealed that, the overall quality of life of rural household in north central Nigeria was adjudged poor (critical) implying that, majority of rural households 243(85.6%) were not satisfied with access to various quality of life domains with overall mean QOL score of $\bar{X}=72.90$, S.D = 11.180. Based on the findings, the study therefore recommends a holistic and drastic increase in budgetary allocation by government for the development and improvement of infrastructural facilities which in turn will improve rural household's quality of life.

Keywords: Quality of Life, Assessment, Rural, Households, North Central, Nigeria.

1. INTRODUCTION

Quality of life is a multidimensional phenomenon that has evolved overtime for addressing issues such as health, environment, liveability, housing, urban psychology and many other social and physical aspects that influence human lives directly or indirectly, because it lacks concession on universally accepted meaning and it is analytically elusive; The concept has also become more relevant in terms of measuring progress towards achieving improved wellbeing. The term "wellbeing" is most applied when relating what an individual considered to be ultimately good for such. There are two core notions associated with well-being i.e. quality of life and happiness.

These are related concepts of freedom, human right and social progress. When evaluating the general quality of life of an individual and societies we usually refer to wellbeing, which are used in wide context.

According WHO, (1998) Quality of life encompasses a wide range of facets within the physical, social, environment and psychological domains and is perceived as an efficient appraisal of one's life satisfaction, desire, need and aspiration within the context of one's culture and value systems. Quality of life is multifaceted phenomenon determined by cumulative and interactive impacts of numerous and varied factors like housing condition, infrastructure, access to various amenities, income, standard of living, satisfaction about the physical and social environment (Philip, 2006).

Meule, Faith Real, Sutterlin, Vogele, And Kabler, (2013), define quality of life as the general wellbeing of an individual. While, World Health Organization (WHO, 1997) defines quality of life as the individual perception of their position in life in terms of culture and value systems in which they live and also in relation to their goals, expectations, standards and concern. Quality of life varies from one place to the other (Senlier *et al.*, 2009). Hence, subjective and objective data on quality of life of rural farmers in developing country like Nigeria is necessary since the studies on quality of life are still evolving, as such there are very few studies on quality of life of rural farmers. This inadequacy of research works on quality of life makes this study justifiable to be carried out to assess subjectively the quality of life of rural farmers in North Central Nigeria. This will help identify the core infrastructures deficit thereby allowing government to evaluate and categorize rural farmer's quality of life and satisfactions with their wellbeing as regard accessibility to social amenities and satisfaction with the various quality of life domains. As a result of inadequacy of empirical studies on quality of life in globally, and particularly Nigeria and precisely North Central Nigeria makes this study justifiable to be carried out given the essential nature of infrastructural accessibility in improving quality of life of rural households. From the foregoing there is need to undertake a study on assessment of quality of life of rural households in North central Nigeria.

Statement of the Problem

The level of development of any community is determined by Improved accessibility and availability of social, physical and institutional infrastructures which serves as a prerequisite for sociocultural and socioeconomic development and transformation of the rural farm households in a developing economy like Nigeria particularly North Central Nigeria. However, despite the aforementioned importance to social amenities to quality of life of rural household. they are being faced with the quagmire of social exclusion, under-development and deprivation of this basic needs, which drives happiness and satisfaction of any human-being existing within such communities. But, these exclusion, under-development and deprivation has led to poor quality of life of rural households in Nigeria particularly north central Nigeria. it was remarked that, the infrastructural facilities that, should serve as a catalyst in the process of improving quality of life of rural households are either not accessible thereby impeding socioeconomic transformation which enhance quality of life of rural households.

Studies on quality of life are evolving and elusive. One of such study leading credence to this paper is study by Adewumi, and Olayinka, (2017), who carried out a study on quality of life of rural dwellers in Ikeji-Arakeji in Osun state, Nigeria and found out that, quality of life or rural

dwellers in Ikeji-Arakejo in Osun was adjudged bad and in critical state. But, the study did not objectively categorize rural dwellers into various quality of life categories such as, Poor, Moderate and Good QOL. It is against this backdrop that, this study seeks to assess subjectively the Quality of Life of Rural Households in North Central Nigeria as it will provide insight into the present status of rural households and the challenges faced by rural communities in North Central Nigeria.

Research questions

- i. What are the socioeconomic characteristics of rural household in North Central Nigeria?
- ii. What are the quality of life categories of rural household in North Central Nigeria?

Objectives of the StudyThe broad objective of the study was to assess the Subjective Quality of Life of Rural Households in North Central Nigeria. while, the specific objective is to;

- i. describes the socio economic characteristics of rural household in North Central Nigeria;
- ii. identify and categorize quality of life of rural household in North Central Nigeria;

Statement of the Hypothesis

H₀₁: there is no significant difference among three mean of group indicators on quality of life of rural farmers in North Central Nigeria

Significance of the study

This research is significant in that; Firstly, it will provide insight into present state of rural households living conditions. Secondly, it will add-up to the existing body of knowledge on quality of life of rural households which is elusive and evolving. It will also assist in policy formulation by government.

Scope of the Study

The scope of the study was sub-divided into the following;

i. The geographical scope

The study was carried out in North Central Nigeria

ii. Element in the focal organization

The participatory respondents for this study were specifically rural households in North Central Nigeria.

iii. Variable scope

The variable scope consists various quality of life domain with numerous indicators assigned to each quality of life domain. These indicators were assigned a weighted score of 1-3.

iv. Period of Study

The time scope covers the period from 2022-2023.

Theoretical Framework: Integrative Quality of Life Theory

This research work hinges on the theory of “*Integrative Quality of Life Theory*”. The integrative quality of life theory seeks to measure the quality of life at a global level. It is a comprehensive theory or meta-theory that include theories in a subjective –essential-objective spectrum. According to this theory, quality of life refers to a pleasant life lived in high quality. There are different meanings attached to quality of life by different religions and philosophies. These may include the notion that a good life is enhanced by having a positive attitude towards life or by

knowing oneself deeply. Quality of life can be divided into three groups, each dealing with an aspect of a pleasant life.

There is the subjective quality of life that has to do with life satisfaction with life, happiness, and how happy the individual is in life. When an individual is positive in all these aspects it is believed that such a person is having good quality of life. However, a good life is far more than being satisfied, happy and having meaning for life. The existential quality of life indicates how pleasant an individual feels deep down or how harmonious one's life is. In actual sense it simply means that quality of life is the agreement between a life lived and a sense of deep inner feeling of self-actualization. Two aspects constituting the biological view of quality of life are realizing life's potential and fulfilment of needs.

The objective quality of life on the other hand refers to how others view one's life, which is influenced by culture. It refers to how a person is able to conform to the values of his/her culture, which can be seen in such a person's life. Some of the aspect of objective quality of life include income, marital status, state of health and amount of relationship with others. In essence, objective quality of life emphasizes the conformity to societal norms and values as a sign of quality of life. This theory provides an elaborate way of measuring quality of life that includes concepts that are expressible and measurable and those that are inexpressible and immeasurable. However, the existential level, which is deep down in a human, is the centre that produces the meaning to life and the centre of human being. It is the reflector of quality of life and where in-depth knowledge of a human being could be attained. However, this experience at this level cannot be expressed because it is not rational and it is from this deepest pool that human consider essence of life to emanate. Rural dwellers are subjected to denial of many amenities of life as a result of deliberate neglects by government. Such infrastructures are tarred road, electricity, pipe borne water, and good health care facilities are mostly not available in many rural areas and these have a toll on quality of life (development support monitor, 2012). Their life experiences, both subjective and objective, in most cases are negative and this may denote their quality of life. However, considering the integrative quality of life, both subjective and objective experiences may not be enough to measure their quality of life as it is possible to them to have the real meaning of life deep down within them despite their subjective and objective life experiences. They may be satisfied with life despite what life has to offer to them.

2. MATERIAL AND METHODS

Research design:

The study adopted a descriptive research design. This was in the form of a cross sectional survey design. This survey design was appropriate where the study sought to describe the characteristics of certain groups. Estimate the population who have certain characteristics and make certain predictions. It allows the researcher collect data from relatively large sample.

Study area: North Central Nigeria consist of seven state situated geographically in middle belt regions of the country namely; Benue state, Kogi state, Nassarawa state, Kwara state, Niger state, Plateau state and Abuja FCT respectively spanning from the West around the confluence of River Niger and River Benue. The region itself is rich in natural lands features, and boasts some Nigeria's most exciting scenery. The region is home to many historical and colonial relics. But this research covers mainly 2 state namely Benue state and Nassarawa state. Specifically, Benue state geographical coordinate are located between latitude 7° 47' and 10° 0' East of Greenwich meridian and longitude 6° 25' and 8° 8' North and share boundary with Nassarawa to the North,

Taraba State to the East, Cross River State to the South, Enugu to the South-West and Kogi to the West and has a land mass of 32,518sqkm with a population of 4,780,389people according to 2006 census and it record an average maximum and minimum daily temperature of 35°c and 21° in summer and 37°c and 16°c in winter respectively. It has two distinct seasons which are wet and dry season and an annual rainfall of 1500-1800mm.

Benue is a major producer of yams, beans, cassava, potatoes, maize, soya beans, sorghum, millets and coco-yam in North Central part etc. their major occupation is fishing and farming. Benue State has 23 LGA namely; Ado, Agatu, Apa, Buruku, Gboko, Guma, Gwer East, Gwer West, Katsina –ala, Konshisha, Kwande, Logo, Makurdi, Obi, Ogbadibo, Ohimini, Oju, Okpokwu, Otukpo, Tarka, Ukum and Ushongo Vandeikya and has several ethnic group namely; Tiv, Idoma, Iyede, Etulo, Abakpa, Jukum, Hausa, Akweya and Nyifon.

While, Nassarawa State geographical coordinate is 8° 32’N and 8° E and a land mass of 27,117.85sqkm with a population of 2,040,097 people according to (census, 2006), the state shares boundaries with Kaduna, Benue, Plateau, Taraba, the Federal Capital Territory and Kogi state. With annual rain fed ranging from 1100-2000mm and share boundary with Kaduna, Benue, Plateau, Taraba the federal capital territory and kogi, Nassarawa state produces the following; cassava, yam, rice, maize, guinea corn, beans, soya beans, asha, and millet and is blessed with precious minerals like; columbite, coal and aquamarine. It has 12 LGA namely; Akwanga, Doma, Karu, Keana, Keffi, Kokona, Lafia, Eggon, Nassarawa, Obi, Toto and Wamba.

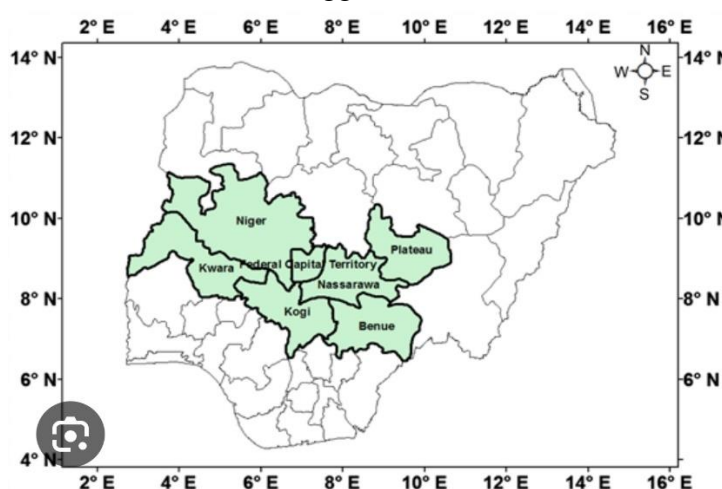


Figure 1: Map of Nigeria Showing North Central Nigeria.

Population: the study population constituted 5,685 rural farm households.

Sample size selection: The study employed a multistage sampling technique in the selection of respondents, for data collection. In the first stage there was purposive selection of two (2) states from seven (7) north central states in Nigeria namely; Benue state and Nassarawa state. This selection was due to heavy presence of cropping activities. In the second stage, was random selection of 6 LGA’s from each state selected in stage one above using balloting techniques to give each and every sample equal opportunity to be chosen, the selected LGA’s are; Makurdi LGA, Konshisha LGA and Otukpo from Benue state as well as Lafia LGA, Akwanga LGA and Keffi LGA from Nassarawa state. The third stage was random selection of four (4) households

from the LGA’s in stage two above. The fourth and final stage of selection was the extraction 5% sampling proportional from sample frame of 5685 rural households to give a sample size of 284 rural households in north central Nigeria.

Method of Data Collection: This study will involve the collection of data from primary sources. The primary sources of data collection were done through structured questionnaire: questionnaires administration, in-depth interview schedule and physical observations by researcher.

Data Analysis Techniques

The data collected for this study were analysed using descriptive and inferential statistics. Descriptive statistics such as table, Percentages, Frequency distribution, Mean, standard deviation and 7-point Likert scale were employed to achieve objectives (i) and (ii). Hypothesis test was done using repeated measure of analysis of variance (ANOVA) for objective (ii).

Index Calculation: Value Range Table

Table 1 showing index calculation using value range

Domains	Indicators	Value	Minimum	Maximum
1. Nutrition and Health Domain	i. Weakly meat intake	1,2,3	1	3
	ii. Eating rate per household	1,2,3 1,2,3	1 1	3 3
	iii. Access to healthcare facility.	1,2,3	1	3
	iv. Access to healthcare personality	1,2,3	1	3
Sum of weighted score			4	12
2. Housing and Living Condition (Material Wealth)	i. Type of housing	1,2,3	1	3
	ii. Quality of housing	1,2,3	1	3
	iii. Type of roofing of housing	1,2,3 1,2,3	1 1	3 3
	iv. Access to mobility	1,2,3	1	3
Sum of weighted score			4	12
3. Infrastructural and Services	i. Access to drinking water	1,2,3	1	3
	ii. Condition of roads	1,2,3	1	3
	iii. Access to market	1,2,3	1	3
	iv. Access to educational facility	1,2,3	1	3
Sum of weighted score			4	12
4. Defecation Status	i. Access to defecation facility	1,2,3	1	3
Sum			1	3
5. Household Sleeping Density	i. Sleeping rate per household	1,2,3	1	3
Sum of weighted			1	3

score				
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The various indices for various quality of life domain were calculated using this formula below;

Sum of weighted score obtained: it is obtained by summing all the weight value; X_i = number of respondents to rating i. Where, i = is assigned a weight of value (i=1,2,3).

$$Index = \frac{\text{sum of scores obtained} - \text{sum of maximum scores}}{\text{sum of maximum score} - \text{sum of minimum score}} \times 100\% \dots\dots\dots i$$

While, the overall quality of life index is calculated using the following formula below;

$$Overall\ QOL = \frac{d1 + d2 + d3 + d4 + d5}{5} \dots\dots\dots ii$$

.....ii

Index Boundaries Calculation

Table 2 Showing Index Boundaries Calculation Nutrition and Health

Domains	Indicators	Value	Minimum	Maximum	Value bound Calculation
1. Nutrition and Health Domain	i. Weakly meat intake	1,2,3 1,2,3	1 1	3 3	100/3 = 33.33
	ii. Eating rate per household	1,2,3	1	3	100/3 =33.33
	iii. Access to healthcare facility.	1,2,3	1	3	100/3 =33.33
	iv. Access to healthcare personality	1,2,3	1	3	100/3 =33.33
Index boundaries					133.33/ 4 =33.33

Value boundary = various indicator/no response.

Index boundary = sum value bounds for each indicator divided by the number of indicators values. After normalization we have the following;

- 0 - 33.33 Poor QOL
- 33.34 – 66.67 Moderate QOL
- 66.68 -100 Good QOL

Since index value ranges from 0-100.

Table 3 Showing Index Boundaries Calculation for Housing and Living Condition

Domains	Indicators	Value	Minimum	Maximum	Value bound calculation
2. Housing and Living Condition (Material Wealth)	i. Type of housing	1,2,3	1	3	100/3 =
	ii. Quality of housing	1,2,3	1	3	33.33
	iii. Type of roofing of housing	1,2,3	1	3	100/3 =33.33
	iv. Access to mobility	1,2,3	1	3	100/3 =33.33
					100/3 =33.33
Index bound					133.33/ 4 =33.33

Value boundary = various indicator/no response.

Index boundary = sum value bounds for each indicator divided by the number of indicators values. After normalization we have the following;

0 - 33.33 Poor QOL

33.34 – 66.67 Moderate QOL

66.68 -100 Good QOL

Table 4 showing index boundary calculation infrastructure and services

Domains	Indicators	Value	Minimum	Maximum	Value bound calculation
3. Infrastructural and Services	i. Access to drinking water	1,2,3	1	3	100/3 = 33.33
	ii. Condition of roads	1,2,3	1	3	100/3 =33.33
	iii. Access to market	1,2,3	1	3	100/3 =33.33
	iv. Access to educational facility	1,2,3	1	3	100/3 =33.33
Index bound					133.33/ =33.33 4

Value boundary = various indicator/no response.

Index boundary = sum value bounds for each indicator divided by the number of indicators values. After normalization we have the following;

0 - 33.33 Poor QOL

33.34 – 66.67 Moderate QOL

66.68 -100 Good QOL

Since index value ranges from 0-100.

Table 5 showing index boundary calculation for defecation status

Domains	Indicators	Value	Minimum	Maximum	Value bound calculation
4. Defecation Status	i. Access to defecation facility	1,2,3	1	3	$100/3=33.33$
Index bound					33.33

Value boundary = various indicator/no response.

Index boundary = sum value bounds for each indicator divided by the number of indicators values. After normalization we have the following;

- 0 - 33.33 Poor QOL
- 33.34 – 66.67 Moderate QOL
- 66.68 -100 Good QOL

Table 6 showing index boundary calculation for household sleeping density

Domains	Indicators	Value	Minimum	Maximum	Value bound calculation
5. Household Sleeping Density	i. Sleeping rate/household	1,2,3	1	3	$100/3=33.33$
Sum			1	3	33.33

Value boundary = various indicator/no response.

Index boundary = sum value bounds for each indicator divided by the number of indicators values.

After normalization we have the following;

- 0 - 33.33 Poor QOL
- 33.34 – 66.67 Moderate QOL
- 66.68 -100 Good QOL

Since index value ranges from 0-100.

3. RESULTS AND DISCUSSION

Socio-economic characteristic of rural household in north central Nigeria

Table 7 reveals the result for socio-economic characteristics of rural households in North Central Nigeria. The distribution of age, revealed a mean age rural households as =42.30 years indicating that, majority 115(40.5%) fell within the age bracket of (36-45years) implying that, rural households are still in their youthful/active age bracket and as such are physically fit for agricultural activities. While, 75(26.4%) were within the age bracket of 46-55years, 70(24.6%) were of the age bracket of 26-35, 21(7.4%) fell within age bracket of 56-65years and 3(1.1%) fell above age bracket of 66years and above. This result is in agreement with Madu and Umehali (2009) that, most farmers are strong and vibrant in agricultural production.

Distribution by gender shows that, Majority 163(57.7%) rural households were male. While, the 121(42.3%) were females. This shows that, male farmers are more frequently concerned with the

access to social amenities for better quality of life than their female counterparts. This finding, is in agreement with the finding of Oboh, *et al.*, (2009).

The distribution of marital status in the study area revealed that, majority 166(58.5%) were married, this indicates the importance attached to marriage institution in rural areas. This findings, is in agreement with Akuirene *et al.*, (2020).

The distribution of educational level revealed that, mean years spent in school as $\bar{x} = 7.62$ years which indicates that, Majority 87(30.6%) rural households had secondary education which implies that, rural households were literate which is vital in helping them engage in agricultural activities for a better living standard thereby facilitating farmers use of written information, and ways of increasing knowledge and comprehension of new farm practices.

Distribution of household size rural households revealed a mean household size of 6 persons, this indicates that, majority 164(57.7%) of households had 5-8persons. This finding is evident because, in rural environment where agriculture is the main economic activities, the size of household plays a very important role in the supply of family labour for agricultural activities (Adeoye, *et al.*, 2011). This finding further agrees with Ogundele and Okoruwa, (2006), that family labour constitute the major proportion of aggregate labour used on the farm for agricultural activities. While, 90(31.7%) had household size of 1-4persons, 28(9.9%) had household size of 9-12persons, 2(7%) had farm household equal to or greater than 13persons.

The distribution of major occupation rural households in North central Nigeria revealed that, majority 252(89.1%) rural households indulged only in farming activities as their major occupation while, 31(10.9%) indulged in farming and trading as an occupation.

Pertaining to the distribution of annual income rural households. The result revealed a mean annual income of $\bar{x} = \text{₦} 328,226.83$ indicating that, majority 129(45.4%) had annual income of ~~₦251,000-₦351,000~~, 63(22.2%) had annual income of ~~₦352,000-₦452,000~~, 59(20.8%) had annual income of ~~₦150,000 - ₦250,000~~, 28(9.9%) had annual income of ~~₦453,000-₦551,000.~~, 3(1.1%) had annual income of ~~₦552,000-₦652,000.~~, and 2(0.7%) had annual income of above ~~₦653,000~~. This implies that, majority rural households focus largely on farming as an enterprise in North central Nigeria.

Finally, the distribution of farm size cultivated by rural households in North central Nigeria revealed a mean farm size of $\bar{x} = 2.79$ ha indicating that, majority 217(76.4%) had farm size of 1-3ha. While, 67(23.6%) had farm size of 4-6ha. The mean farm size of less than 3 indicate that rural households in north central Nigeria are small scale farm holders. This support the assertion of Delebarre and Serier, (2000), that most Nigeria farmers operate on less than 3ha on an average.

Table 7: Distribution of Socioeconomic Characteristics of Rural Households in North Central Nigeria

Socioeconomic characteristic	Frequency (F)	Percent ages (%)	Mean (\bar{x})
Age			
26-35	70	24.6	42.30
36-45	115	40.5	
46-55	75	26.4	
56-65	21	7.4	
>66	3	1.1	
Total	284	100	
Gender			
Male	163	59.9	
Female	121	40.1	
Total	284	100	
Marital status			
Married	166	55.9	
Single	63	21.1	
Widow/widower	32	13.2	
Divorced/Separated	23	9.9	
Total	284	100	
Educational level			
No formal education.	73	21.7	7.62
Primary Education.	74	24.3	
Secondary education.	87	34.2	
Tertiary education.	50	19.7	
Total	284	100	
Household size			
1-4persons	90	30.3	5.88
5-8persons	164	58.6	
9-12person	28	9.9	
Above 13persons	2	1.3	
Total	284	100	
Major Occupation			

Farming	253	86.8	
Farming and trading	31	13.2	
Total	284	100	
Annual income			
₦150000-	59	19.1	
₦250000	129	45.4	₦328,226.
₦251000-	63	23.7	83
₦351000	28	9.2	
₦352000-	3	2.0	
₦452000	2	0.7	
₦453000-			
₦551000			
₦552,000-652,000			
Above ₦653,000.			
Total	284	100	
Farm size			
1-3ha	217	74.3	2.71ha
4-6ha	67	25.7	
Total	284	100	

Assessment of Quality of Life of Rural Households in North Central Nigeria

Table 8 revealed the result for household's level of satisfaction with access to various quality of life domains as perceived by rural farmers in North Central Nigeria.

The distribution of nutrition and healthcare indicators such as; weekly meal intake, eating rate per day, access to health care facility, access to health workers, indicators of quality of life revealed a mean nutrition and health score of $\bar{X} = 57.92$. Indicating that, majority 154(54.2%) rural households in north central were adjudged to have moderate quality of life denoting a moderate satisfaction with their nutrition and health status. 113(39.8%) were adjudged to have good quality of life denoting a good satisfaction with their nutrition and health status and 17(6%) were adjudged to have poor quality of life denoting a poor satisfaction with their nutrition and health status.

The distribution housing living condition (material wealth) such as; type of housing lived in, quality of housing, types of roof, access to mobility, type of mobility domain of quality of life revealed a mean housing living condition score of $\bar{X} = 64.33$. Indicating that, majority 136(47.5%) rural households in north central were adjudged to have poor quality of life denoting poor satisfaction with their housing living status, 102(34.2%) were adjudged to have moderate quality of life denoting moderate satisfaction with their housing living status and 46(16.2%) were adjudged to have good quality of life denoting good satisfaction with their housing living status.

Pertaining to access to infrastructural services such as; access to drinking water, source of drinking water, condition of rural roads, distance to nearest markets, access to educational

facility indicators of quality of life revealed a mean infrastructural service score of $\bar{X} = 75.81$. Indicating that, majority 173(57.4%) rural households in north central were adjudged to have poor quality of life denoting poor satisfaction with their infrastructural services accessible to them, 96(30.3%) were adjudged to have moderate quality of life denoting moderate satisfaction with their infrastructural services accessible to them and 15(2.8%) were adjudged to have good quality of life denoting good satisfaction with their infrastructural status available and accessible to them.

As regard household sleeping density per household of rural household in north central Nigeria revealed a mean household sleeping density score of $\bar{X} = 84.86$. indicating that majority 215(75.7%) of rural households were adjudged to have poor quality of life denoting poor satisfaction with their household sleeping status, 52(18.3%) rural household were adjudged to have moderate quality of life denoting moderate satisfaction with their household sleeping status. while, 17(6.0%) were adjudge to have good quality of life denoting good satisfaction with their household sleeping density status.

As for the defecation status of rural households. A mean defecation score of rural households was $\bar{X} = 54.31$. indicating that, majority 218(76.8%) were adjudged to have poor quality of life denoting poor satisfaction with their defecation status while, 66(23.2%) were adjudged to have moderate quality of life denoting moderate satisfaction with their defecation status

Table 8 Showing the Subjective Assessment of Quality of Life of Rural Households in North Central Nigeria

Domains for Quality of Life	Poor QOL		Moderate QOL		Good QOL		Me an	S.D	Index bounda ries	Rema rk
	Freque ncy	%	Freque ncy	%	Freque ncy	%				
Nutrition and health domain	17	6%	154	54.2	113	39.8	57.9	12.66	0-33.33 33.34-66.67 66.68-100	Moderate QOL
Housing and living domain	136	47.5%	102	34.2%	46	16.2	64.3	25.51	0-33.33 33.34-66.67 66.68-100	Poor QOL
Infrastruct ural service	173	57.4%	96	30.3%	15	2.8	75.8	21.63	0-33.33 33.34-66.67 66.68-100	Poor QOL

Housing sleeping density	215	75.7 %	52	18.3 %	17	6.0 %	84.8 6	28. 81	0-33.33 33.34- 66.66 66.67- 100	Poor QOL
Defecation status	218	76.8 %	66	23.2 %	-	-	54.3 1	21. 56	0-33.33 33.34- 66.67 66.68- 100	Poor QOL
Overall QOL	243	85%	41	14.4 %	-	-	72.9 0	11. 18	0-49.99 50-100	Poor QOL

Hypothesis Test

Result from the table 9 below shows the repeated measure of analysis of variance (ANOVA). The ANOVA result shows F-ratio of 18.27 and F-critical value of 4.46 with 2 and 8 degree of freedom at 5%(.05) implying that, there is statistically significant difference between means of the 3 group on quality of life. The estimated F-ratio is greater than F-critical value, therefore the null hypothesis is rejected and the alternative hypothesis which states that, there is a mean difference between the 3 groups of quality of life (poor, moderate and good) of rural households in north central Nigeria is accepted at 5% probability level.

Table 9 Hypothesis Testing of Repeated Measure of Analysis of Variance(ANOVA)

Sources of variance	Sum of square	df	Mean square	F-ratio	F-critical	Sig.
Subjects	9,168.09	4	2,292.0	18.27	4.46	.000
Between groups	20,904.0	2	10,452			
Residual	4,577.91	8	572.24			
Total	34,577.91	14				

SPSS Version 20 Computation, 2023.

4. CONCLUSION AND RECOMMENDATIONS

Conclusion:

The study concludes that, the overall quality of life of rural households in north central Nigeria was critical and adjudged poor.

Recommendation:

Based on the findings from the study, the study therefore recommends the following;

1. Government should increase her budgetary allocation for provision of basic infrastructural facilities at local government levels that will help improve rural household quality of life.
2. Stakeholders in public and private sectors should participate collectively to bolster the quality of life of rural households so as to help mitigate and ameliorate the continuous suffering of rural households due to infrastructural deficit, inaccessible and unavailable which ordinarily would have improved the quality of life of rural households.

Competing interest:

Authors have declared that, no conflicting interest exists from this research paper.

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