

Effects of Tree Species on Mental Wellbeing and Physical Health Conditions of Community Dwellers around Oluyole Forest Environment, Oyo State, Nigeria

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Abstract

This study assessed the effects of tree species on mental wellbeing and physical among community dwellers in the selected study area. A three-stage procedure was employed for sampling of the study with 1st stage being a purposive selection of 4 wards selected from 10 wards in Oluyole Municipality. The 2nd stage was systematic selection of houses from each ward and the 3rd stage was a random selection of 2 household heads from selected houses with a final sample size of 82 respondents. Structured questionnaires were used to obtain data for the study. Data was analysed with frequencies, percentages, Chi square, PPMC and linear regression. Majority of household heads were mostly male (72.0%), active age (67.6%), had tertiary education (61.0%), were indigene (64.6%) and about 46.3% practiced farming as major occupation. Different trees species were identified with most residents having benefited and agreeing to their impact on their health. The ethnicity ($\chi^2=5.109$) and land acquisition ($\chi^2=8.064$) had significant association with perceived impact of trees on residents' health at $\alpha_{0.05}$. In addition, age, marital status were extant factors that influenced the dependent variable. Policy instrument of government through incentives to residents' participation in conservation practices and clogging sharp practices of government officials would suffice for optimal benefits of community trees.

Keywords: Tree species, Physical and Mental stability, Community dwellers, Forest environment

Introduction

In recent time, the environmental challenges stem from destruction of the forest cover (Ritchie, 2021). The world's forest estates are under great pressure and many observers are concerned that without quick action for its rescue, it might be plunge into complete destruction (Wassie, 2020). The livelihood of people is premised on many resources including forest resources and man would always use forests for his habitation, source of protection, food security, medication as well as their environment (Shaikh et al., 2021). According to FAO (2010) the global rate of deforestation annually is about 13 million hectares, most of which took place in the under-developed countries and a large amount of forests are plundered exposing land excessive use due its dependence for urbanisation and industrialisation. The Food and Agriculture Organisation listed the requirement of sustainable forest management as utilization of resources, reforestation, afforestation and a legal policy and institutional framework. FAO (2005) reposed that the survival of people is associated with their dependency on forest ecosystem and resources, and anything short of that is detrimental to their wellbeing. *When there is high level of deforestation, temperature rises and rainfall reduces culminating into widespread desertification in certain regions of Nigeria with its attendant effects on the public health status of many people* (Nwokocha, 2015). In the same vein, Igu (2017) reposed that the deficit of wood in Niger Delta Nigeria resulted from the loss of forest ecosystem which invariably creates direct ultraviolet ray causing various health conditions for the inhabitants residing in the region.

Chukwu & Bada (2019) submitted that a typical challenge the world is facing now is loss of forests through deforestation which has resulted in deprivation of man's means of livelihood. *All over the globe, many people now suffer from the destructive process that deprives them of the benefits from the natural resources on which they have always sustained their livelihood* FAO (2005). At the same time, a new forest management model should be adopted that will ensure the conservation of these forest ecosystems (Babalola, 2009). In this respect, it is important to note that in most countries of the world, there are many examples of appropriate forest management in which environmental sustainable utilisation is assured among benefiting local communities. According to World Health Organisation (2017) *determinants of individual's health are social and economic status, the environment, social circumstances, personal behavior and lack of social security*. Further, the basic factors that could influence man's health stability are income, improved social status, education, social environment, physical environment and coping strategies (WHO, 2017).

Past studies have delve into ethno-medicinal use of forest trees for treatment of various health challenges, preventive and curative measures using herbal treatment, yet health challenges are still on the increase, most



especially nasal congestion, cold and catarrh, and other respiratory diseases. However, there is dearth of findings on preventive significance of trees either in the forest rural communities or in the urban centers where people reside as compared with the curative methodologies arising from the utilisation of trees parts such as leaves, twigs, barks or roots. According to Yilmaz *et al.* (2018) plant trees improve the aesthetic quality of the environment, thereby contribute to the aesthetic values of the environment like playing important roles in the ecosystems by providing canopy effect, enhances the water vapor of the environment through evapotranspiration process, helps air pollutant reduction and carbon emission reduction, enables storage structure heating and cooling cost reduction. Although, trees and vegetation are germane parts of the environment both built and unbuilt as enunciated above for many purposes like pollution control, energy conservation, storm water mitigation and management, education, ethno-medicine, and many more, however the presence of trees itself could be an asset to furnish and contribute to human health. It is against this backdrop that this study assessed the perceived impact of community trees on residents' physical health and mental wellbeing in Oluyole forest community, Oyo State, Nigeria. The specific objectives of the study were to examine the personal characteristics of respondents; identify the type of tree species; examine benefits of community trees; examine factors influencing impact of community trees on residents' health; and assess perception of impact of trees on residents' health.

Materials And Methods

Description of the Study Area

Oluyole forest communities of Oluyole Municipality, Ibadan, Oyo State was selected as the study site to conduct the research. The municipal area has its headquarters situated at Idi-Ayure town. It was established in 1976 and occupied 4000Km². The population of the municipal area is 202,725 people according to 2006 Census in Nigeria. It has geographical coordinates of 7°13'59.99" North and 3°52'0.01 East. The municipal area comprises 10 wards which are divided into two sections. The Idi-Ayunre section and Olode section respectively. The wards in Idi-Ayunre section are Orita/Odo Ona Elewe, Odo-Ona Nla/Idi-Ayunre, Abanla, Olonde, Onipe/Busogboro and Orisunbare, while the wards in Olode section are Ayegun, Pegba/ Egbeda Tuba, Muslim/Ifelodun, Latunde and Olomi/ Olunde. The available natural resources of the council include land, water, forest, and agricultural products such as cocoa, coffee, kolanuts, cashew, teak, poultry products and so on.

Sampling Procedure and Sample Size

A multistage sampling procedure was used for the conduct of the study. Firstly, a purposive selection of 4 wards with concentration of trees from 10 wards in Oluyole municipal area which were Odo- Ona Nla/ Idi Ayunre; Abanla/ Olonde, Onipe /Busogboro; and Orisunbare was conducted. The 2nd stage was the systematic selection of houses in each ward and in all the selected of houses in the wards, multiple houses were selected as follows, Odo-Ona/Idi-Ayunre, 15 houses; Abanla/Olonde, 12 houses; Onipe/Busogboro, 8 houses, and Orisunbare, 6 houses. In the 3rd stage, 2 household heads from the selected houses were selected with a simple random sampling to arrive at 82 respondents as the study sample size. Data was collected with the aid of structured questionnaire. Analysis of data was conducted with frequencies, percentages whereas hypotheses were tested with Chi square, Pearson product moment correlation and linear regression.

Model Specification for linear regression was stated as:

$$Y = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + B_5 X_5 + B_6 X_6 + B_7 X_7 + \mu \quad (1)$$

Where:

Y is the predicted perceived impact of community trees on health and mental wellbeing

B₀ is the intercept, the predicted value of Y when X is 0.

X₁..... X₇ are the independent variables expected to influence Y.

μ is the error of the estimate or how much the variation there is in estimate of regression coefficient.

Results And Discussion

Socio-Economic Characteristic of the Respondents

Table 1 presented the distribution of residents' socio-economic characteristics in Oluyole Forest Environment, Oyo State. This revealed the parameters of population of study in the study area. The Table showed the distribution of respondents' sex with 72.0% of them being male and female (32.0%). This was followed by respondents' age where the majority were in the age bracket of 21-30 (38.8%) and aged 31-40 (28.8%). Furthermore, the Table showed that about 55.0% of respondents were married, with 61.0% of them having tertiary education. In addition, about 65.0% were indigene of the studied area. The distribution of the respondents' major occupation revealed 46.3% were practicing farming while 26.8% were artisans. Also, about 57.0% possessed farm size of 1-5 hectares.



Other distributions; Yoruba (56.0%), 1-10 years of experience (35.0%), and about 40.0% of them had land acquisition through inheritance. The result in Table 1 shows that majority of respondents (72.0%) were male. This indicates that men play a major role as the head of families and are more committed to agricultural activities in the study area. This result corroborates the submission of Philips and Ceesay (2020) that the people that depend on forest trees for their survival are male dominated especially in Ijaiye Forest of Nigeria. The result revealed that 38.8% of the respondents was within the age bracket 21-30 years followed by those aged 31-40 (28.8%). This implies that most of the respondents were still in their active and productive age. Further, it was revealed that 54.9% of the respondents were married and this indicate that marriage confers some level commitments and social responsibility which portends that residents are matured and had versatility. Furthermore, Table 1 showed that 48.8% of respondents practices Islam as religion, follow by Christian (46.3%), while the least (4.9%) are traditional worshipers. This indicates that Islam and Christian worshipers were dominants religious practices because community trees enhance shelter for worship sites during special programs and festivities in the study area. It was also revealed that most residents (61.0%) had tertiary education. This implies that most residents in the study area were literate which usually increases their ability to adopt innovations. This agrees with the findings of Oladele *et al.* (2020) that most of the respondents were educated in the rural areas as against the belief system of many people. In addition, most respondents (64.6%) were indigene while 35.4% were non-indigene which indicates a heterogeneous population of the study area. Also, 46.3% of the respondents prioritized farming as their major occupation.

Types of Trees Identified

Table 2 presented the types of trees identified in Oluyole Forest Environment, Oyo State. The list of the tree species common names and their scientific name are shown in the Table below. The Table showed the distribution of available tree species with *Adamsonia digitata* (76.8%), *Azadirachta indica* (79.3%), *Ceiba petandra* (84.1%), *Etanda Africana* (100.0%), and *Magnifera indica* (79.3%) which are much more pronounced in the studied area. However, there are presence of other trees in the studied area. The results in Table 2 showed the types of trees identified in the study area. It was revealed that majority of the respondents (76.8%) identified the availability of *Adamsonia digitata* in their environment. The Table also revealed that 79.3% of residents identified *Azadirata indica* in their area. Furthermore, the results showed that 75.6% of the respondents signified having a matured *Angeissus leiocarpa* in their compound. The Table further showed that 68.3% of respondents planted *Butyrospemum paradoxa* in their environment. The respondents (84.1%) had *Ceiba pentandra* within their environment. The result showed that *Diospyros mespiliformis* was planted by 62.2% of residents in the study area. It was also observed that (100.0%) of the respondent planted *Entada africana*. This indicates that most trees identified were very popular trees in the study area. Furthermore, the study showed that these trees were in abundance in the study area because most of them are indigenous trees. This implies that residents would not stress themselves in searching for nursery to buy seedlings. It was also gathered from the residents that most of these trees grew naturally with little or no supervision, and the residents just need to conserve and be custodian the community trees in the study area.

Factor Influencing Perceived Effect of Community Trees

Table 3 presented factors that may influence perceived effects of trees on community dwellers in Oluyole Forest Environment, Oyo State. The Table showed the distribution of the pronounced factors which influenced perceived impact of community trees, and these are access of people to community trees (68.3%), sustainable management of trees (70.7%), readiness to engage in tree planting and its maintenance (65.9%), rampant illegal felling (72.0%) and so on. The result in Table 3 revealed the factors influencing the impact of community trees on resident' health. Table 3 showed that most residents (68.3%) had access to community trees in their environment. This implies that the residents are having free access to trees in their community. Furthermore, the majority (70.7%) revealed that proper and sustainable management is an important factor that influence the impact of community trees on resident health. The result also signified that 58.5% of respondents' social interactions enhance the impact of trees on their health. This implies that social interaction among residents with community tree is one of the major factor that influence the effect of community trees on resident' health. Further, it was observed that 65.9% of respondent were ready to engage in tree planting and maintenance of existing forest trees in their environment. The result revealed that 67.1% of respondents were ready to fund tree planting and private forest ownership. This indicates that most residents were ready to support and establish private forest as a long term business project and for the betterment of the society. The study showed that some residents (29.3%) agreed that trees do not have any benefits but just standing there, whereas 70.7% of respondents identified trees as being beneficial to man. It was observed that 40.2% believed that trees is only useful for fuel wood only. This result implies that majority of the residents know that trees have many benefits on their health apart from using it as fuel wood. The study revealed that 72.0% of residents signified illegal felling of trees as rampant in the study area. Lastly private forest ownership was encouraged among most residents (67.1%) in the study area.



Table 1: Socio-Economic Characteristics of the Respondents

Socio-Economic Variables	Frequencies	Percentages
Sex		
Male	59	72.0
Female	23	28.0
Age		
21-30	32	38.8
31-40	23	28.8
41-50	15	18.2
51-60	11	13.4
60 and Above	1	1.2
Marital status		
Single	31	37.8
Married	45	54.9
Divorced	4	4.9
Widow (er)	2	2.4
Religion		
Islam	40	48.8
Christianity	38	46.3
Traditional worship	4	4.9
Education		
Non-Formal Education	2	2.4
Primary	11	13.4
Secondary	19	23.2
Tertiary	50	61.0
Nativity		
Indigene	53	64.6
Non-Indigene	29	35.4
Major Occupation		
Farmers	38	46.3
Artisans	22	26.8
Loggers	6	7.3
Non-Timber Forest Products Collectors	10	12.2
Hunters	1	1.2
Others	5	6.1
Farm Size (ha)		
1-5	47	57.3
6-10	22	26.8
11-15	10	12.2
16 and Above	3	3.7
Ethnicity		
Yoruba	46	56.1
Igbo	17	20.7
Fulani	15	18.3
Others	4	4.9
Source of Land Acquisition		
Lease	18	22.0
Inheritance	33	40.2
Purchase	18	22.0
Rent	13	15.8
Years of Residence		
1-10	29	35.4
11-20	21	25.6
21-30	15	18.3
30 and Above	17	20.7
Secondary Occupation		
Trading	44	53.7
Food Vendor	11	13.4
Civil Servants	17	20.7
Others	10	12.2

Source: Field survey, 2023



Table 2: Types of Trees Identified in the Study Area

Tree species (Scientific Name)	Common Name	Yes	No
<i>Adamsonia digitata</i>	Baobab tree	63 (76.8)	23 (23.2)
<i>Azadirachta indica</i>	Neem tree	65 (79.3)	17 (20.7)
<i>Angeissus leiocarpa</i>	African birch	62 (75.6)	20 (24.4)
<i>Butyrospermum paradoxa</i>	Shea tree	56 (68.3)	26 (31.7)
<i>Ceiba petandra</i>	Silk cotton tree	69 (84.1)	13 (15.9)
<i>Diospyros mespiliformis</i>	Jackal berry	51 (62.2)	31 (37.8)
<i>Entada africana</i>	African dream herb	82 (100.0)	0 (0.0)
<i>Eucalyptus camaldulensis</i>	River red gum tree	52 (63.4)	30 (36.6)
<i>Fiscus glumosa</i>	Mountain tree	48 (58.5)	34 (41.5)
<i>Magnifera indica</i>	Mango tree	65 (79.3)	17 (20.7)

Note: Percentage in Parentheses; Source: Field survey, 2023

Table 3: Factors Influencing Perceived Impact of Community Trees

Factors Influencing Perceived Impact of Community Trees	Yes	No
Access to community trees around the resident habitation	56 (68.3)	26 (31.7)
Proper and sustainable management of forest trees	58 (70.7)	24 (29.3)
Social interaction among residents with community trees	48 (58.5)	34 (41.5)
Readiness to engage in tree planting and its maintenance	54 (65.9)	28 (34.1)
Readiness to fund tree planting and start private forest ownership	55 (67.1)	27 (32.9)
It has no value of benefit just standing there	24 (29.3)	58 (70.7)
It is useful for fuel wood only	33 (40.2)	49 (59.8)
Illegal felling is rampant in my area	59 (72.0)	23 (28.0)
Private forest ownership is encouraged among the residents	55 (67.1)	27 (32.9)

Note: Percentage in Parentheses; Source: Field survey, 2023

Benefits of Community Trees to Residents

Table 4 presented the benefits of trees to residents' physical health and mental wellbeing in Oluyole Forest Environment, Oyo State. This Table shows the benefits derivable from trees in the studied communities. The Table showed the distribution had more of moderate derivable benefits of community trees such as cleansing by trees intercept particulate materials (69.5%), reduction of emotional and psychological stress (67.1%), improve cardiovascular function (62.2%), reduction in effect of ultraviolet radiation (URV) (67.1%) and so on. The result in Table 4 revealed most people in the study area moderately benefited in the management of community trees. The majority of residents (69.5%) moderately benefited and agreed that cleansing by trees intercept particulate materials, followed by 67.1% who optimally benefited in the values trees serve as reducing agent of emotional and psychological stress and enhancing reduction of ultraviolet radiation (URV). Thus the level at which residents benefited whether high or moderate was spellbinding. This may be as a results of the fact that most of our ancestors over the decades had lived in villages and from generation to generation have enjoyed the benefits of community trees and thereby more committed to its physical utilisation. This results however corroborates the findings of Seif *et al.* (2021) who stated that most rural communities actively benefited from the physical presence of community trees and their proper conservation management.

Perceived Effects of Trees on Residents' Mental Wellbeing and Physical Health

Table 5 presented the perceived effects of trees on Dwellers' mental and physical wellbeing in Oluyole Forest Environment, Oyo State. The distribution showed that most residents' perception of trees towards health were positive. It revealed respondents' favourable attitude towards spending time around the trees reduces stress and lower blood pressure (76.8%), the presence of trees would contribute greatly to their health (76.0%). About 72.0% of respondents had favourable attitude towards trees in making them feel comfortable and relaxed while few residents agreed that trees make them enjoy serenity and tranquility in their environment (12.2%). Result in Table 5 revealed that perceived effects of community trees on residents' health. The result showed that most residents' perception of trees towards health was highly positive. It was revealed that most residents (76.8%) signified that spending time around the trees reduces stress, lower blood pressure and mood, followed by 76.0% who professed that the presence of trees would contribute greatly to their health. About 72.0% of respondents also strongly agreed that trees make them feel comfortable and relaxed whereas the least 12.2% of residents signified the health impacts of trees that trees make them enjoy serenity and tranquility in their environment. The result corroborates the findings of Turner-Skoff & Cavender (2019) who reposed that trees enhance health and social wellbeing by cleansing and detoxifying air pollution, reduce stress and support physical activities as well as enforcing strong family ties with relatives and friends.



Table 4: Benefits of Community Trees to Residents' Physical Health and Mental Wellbeing

Benefits of Trees	High	Moderate
Cleansing by trees intercept particulate materials	25 (30.5)	57 (69.5)
Absorption of pollutant gasses into inner leaf surfaces	35 (42.7)	47 (57.3)
Removal nitrogen dioxide, sulphureIVoxide and carbon monoxide from industries	29 (35.4)	53 (64.6)
Removal of organic pollutants from indoor air	33 (40.2)	49 (59.8)
Reduction of emotional and psychological stress	27 (32.9)	55 (67.1)
Presence of trees help individuals with stress and depression to recuperate faster.	30 (36.6)	52 (63.4)
Reduction of air pollutant and respiratory condition	35 (42.7)	47 (57.3)
Reduction of excess heat and thermal discomfort	34 (41.5)	48 (58.5)
Improve cardiovascular function	31 (37.8)	51 (62.2)
Improve immune system	38 (46.3)	44 (53.7)
Improve cognition and attention	37 (45.1)	45 (54.9)
Improve active living	33 (40.2)	49 (59.8)
Reduction in effect of ultraviolet radiation (URV)	27 (32.9)	55 (67.1)
Improve social cohesion and interaction	32 (39.0)	50 (61.0)

Note: Percentage in Parentheses; Source: Field survey, 2023

Table 5: Respondents' Perceived Effect of Trees on Mental and Physical Wellbeing

Perceived Effect of Trees	Strongly Agreed	Agreed
Trees give feeling of comfort and relaxation	59 (72.0)	23 (28.0)
Trees give serenity and tranquility in my environment	72 (87.8)	10 (12.2)
Presence of trees improve physical health and mental wellbeing	63 (76.8)	19 (23.2)
Presence of trees help in maintaining mental stability	58 (70.7)	24 (29.3)
Exposure to trees help lessen stress and relieve unnecessary tension	51 (62.2)	31 (37.8)
Spending time around trees sharpens mental articulation in handling family issues	37 (45.1)	45 (54.9)
Exposure to trees helps the body immune system and respiratory system	36 (43.9)	46 (56.1)
Relaxing in the trees estate enhances mental focus and meditation	51 (62.2)	31 (37.8)
Spending time around trees reduces stress and lower blood pressure	63 (76.8)	19 (23.2)
Trees have potential to absorb pollutant gasses in the environment	54 (65.9)	28 (34.1)
Trees provide a nutrition security for the inhabitants around them	55 (67.1)	27 (32.9)
Trees enhance a quick recovery from illness for their inhabitants	58 (70.7)	24 (29.3)

Note: Percentage in Parentheses; Source: Field survey, 2023

Hypotheses Testing

The Table presented summary of Chi-square analysis of relationship between respondents' socio-economic characteristics and perceived impact of trees on their physical health and mental wellbeing: sex ($p=0.76$), marital status ($p=0.68$), religion ($p=0.24$), education ($p=0.07$), nativity ($p=0.85$), occupation ($p=0.40$), and family size ($p=0.15$) had no significant relationship with perceived impact of trees on their physical health and mental wellbeing, while ethnicity ($p=0.05$) and land acquisition ($p=0.00$) had related with perceived impact of trees on their physical health and mental wellbeing. Result in Table 6 showed there was no significant relationship between each of sex ($\chi^2=0.09$, $p=0.76$), marital status ($\chi^2=1.473$, $p=0.68$), Religion ($\chi^2=2.139$, $p=0.24$), education ($\chi^2=7.164$, $p=0.07$) and nativity ($\chi^2=0.035$, $p=0.85$). This implies that respondents' education, Sex, marital status, education and religion do not have significant association with perceived impact of trees on residents' health. However, significant association existed between ethnicity ($\chi^2=5.109$, $p=0.05$) and land acquisition ($\chi^2=8.064$, $p=0.00$), and perceived impact of trees on residents' health. This result indicates that ethnicity in community confers presence of indigenous people and the presence of other migrants that value trees and understand the beneficial impact of community trees on the health condition of the people.

The Table presented summary of pearson product moment correlation of identified types of trees with respondents' physical health and mental wellbeing in the studied area ($r=0.259$, $p=0.19$). Result in Table 7 showed there was no significant relationship between identified type of trees and the perceived impact of trees on residents' health (r -value = 0.259, $p=0.19$). This indicates that identified types of trees do necessarily contribute to the health condition of residents especially if the people do not value and recognize the importance of trees in their environment.



Health and Mental Wellbeing

The Table presented summary of pearson product moment correlation of identified benefits of trees with respondents' physical health and mental wellbeing in the studied area ($r = 0.311$, $p = 0.004$). Further, result in Table 8 showed there was significant relationship between benefits of trees and the perceived impact of trees on residents' health in the study area. ($r = 0.311$, $p = 0.004$). This implies that benefits of trees are embraced by the residents which ultimately contribute to the health condition of residents of Oluyole forest environment.

The Table presented summary regression analysis of extant factors on residents' physical health and mental wellbeing in the studied area. This was revealed as age ($\beta = -0.323$, $p = 0.03^*$), marital status ($\beta = 0.273$, $p = 0.05^*$) and benefits of trees ($\beta = 0.314$, $p = 0.004^*$). The result of regression analysis in Table 9 revealed age ($\beta = -0.323$, $p = 0.03$), marital status ($\beta = 0.273$, $p = 0.05$) and benefits of trees ($\beta = 0.314$, $p = 0.004$) significantly influence perceived impact of trees on residents' physical health and mental wellbeing at $\alpha = 0.05$. This result implies that age, marital status and benefits of trees were major extant factors which significantly contribute to perceived impact of trees on residents' health which confers that age and marital status bring about commitment of the people to bare on importance of trees to the wellbeing and survival of the people while benefits of trees showcased the reason for its embrace and utilisation in Oluyole forest environment.

Table 6: Chi-square Analysis of Relationship between Socio-Economic Characteristics of the Respondents and Perceived Impact of Trees on Residents' Physical Health and Mental Wellbeing

Socio-Economic Variables	χ^2 -value	p-value	Decision
Sex	0.089	0.76	Not significant
Marital Status	1.473	0.68	Not significant
Religion	2.139	0.24	Not significant
Education	7.164	0.07	Not Significant
Nativity	0.035	0.85	Not significant
Occupation	5.109	0.40	Not Significant
Ethnicity	8.064	0.05	Significant
Land acquisition	29.456	0.00	Significant
Family size	3.752	0.15	Not significant

Source: Field survey, 2023

Table 7: PPMC Analysis of Relationship between Identified Type of Trees and Respondents' Physical

Variable	r-value	p-value	Decision
Identified Trees	0.259	0.19	Not Significant

Source: Field survey, 2023

Table 8: PPMC Analysis of Relationship between Benefits of Trees and Respondents' Physical Health and Mental Wellbeing

Variable	r-value	p-value	Decision
Benefits of Trees	0.311	0.004	Significant

Source: Field survey, 2023

Table 9: Regression Analysis of Extant Factors between Benefits of Trees and Perceived Impact of Trees on Residents' Physical Health and Mental Wellbeing

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
Parameters	Beta	Std. Error	Beta		
(Constant)Sex	1.398 -.026	.529 .116	-.025	2.641 -.228	.01.82
Age	-.013	.006	-.323	-2.186	.03*
Marital status	.197	.100	.273	1.980	.05*
Educational status	.077	.072	.130	1.073	.29
Nativity	-.023	.112	-.023	-.208	.84
Major occupation	-.057	.036	-.171	-1.577	.12
Farm size	-.093	.064	-.161	-1.452	.15
Ethnicity	.100	.060	.193	1.666	.10
Source of farm land acquisition	.073	.054	.149	1.343	.18
Years of residence in the environment	-.058	.051	-.137	-1.130	.26
Type of trees identified	-.126	.076	-.182	-1.659	.10
Benefits of trees	.223	.075	.314	2.961	.004*

Source: Field survey, 2023



Conclusion

In conclusion, the study showed that most household heads were male with most residents being active and productive in age. It was also observed that majority of residents identified *Adamsonia digitata*, *Azadirata indica* in their environment. Furthermore, most respondents signified that proper and sustainable management of community trees as being a vital factor that influences the impact of trees on residents' health. Based on the conclusion of this study, the following recommendations are established. The government should incentivise conservation of trees in communities in Nigeria. In addition, government should stop sharp practices among its officers and forest contractors with strong punitive measures. Further, agencies of government on environmental protection and development should educate citizens on the health benefits of trees from eco-friendly practices in both rural and urban centres. Finally, enforcement of extant laws should be enacted to stop illegal destruct of the forest estates and open grown trees in communities all over Nigeria.

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