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Perceived beneficial impact of community trees on residents' physical health condition and mental wellbeing in Oluyole Forest Environment, Nigeria

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Abstract

Many studies had investigated the utilization of various parts of forest trees for medicinal treatment of health challenges, but notwithstanding, there is a rise in physical and mental instability among many people, especially nasal congestion, respiratory diseases and central nervous system disorders. Hence, this study assessed the perceived beneficial impact of community trees on residents' physical and mental well-being in the selected study area. A three-stage procedure was employed for sampling of the study, with the 1st stage being a purposive selection of 4 wards selected from 10 wards in Oluyole Municipality because the 4 wards possessed a greater population of rural dwellers than the remaining 6 wards. 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 analyzed with frequencies, percentages, chi square, PPMC and linear regression. The majority of household heads were mostly male (72.0%), of active age (67.6%), had tertiary education (61.0%), were indigenous (64.6%), and about 46.3% practiced farming as their major occupation. Different tree species were identified, with most residents having benefited and agreeing to their impact on their health. The ethnicity (χ^2=5.109) and land acquisition (χ^2=8.064) had significant association with the perceived impact of trees on residents' health at α=0.05. In addition, age and marital status were extant factors that influenced the dependent variable. Policy instruments 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, Perceived Benefits, Individual Behavior, Physical/Mental Stability

Introduction

The recent challenge in today's world is the plundering 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 rescue, they might be plunged into complete destruction (Wassie, 2020). According to the Food and Agriculture Organisation (2010), a forest is a land area which spans more than 0.5 hectares with many trees about 5 metres tall and a canopy cover of more than 10% or trees having the ability to reach these thresholds, well situated naturally and uninterrupted.

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, and 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 number of forests are plundered, exposing land to excessive use due to its dependence on urbanisation and industrialisation. The Food and Agriculture Organisation listed the requirements of sustainable forest management as utilization of resources, reforestation, afforestation and a legal policy and institutional framework. FAO (2005) reported that the survival of people is associated with their dependency on forest ecosystems and resources, and anything short of that is detrimental to their well-being. When there is a high level of deforestation, temperature rises and rainfall reduces, culminating in 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) reported that the deficit of wood in the Niger Delta Nigeria, resulted from the loss of forest ecosystem, which invariably creates direct ultraviolet rays, causing various health conditions for the inhabitants residing in the region.

Chukwu and 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 environmentally sustainable utilisation is assured among benefiting local communities. According to the World Health Organisation (2017),

determinants of an 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 delved into the ethnomedicinal use of forest trees for the treatment of various health challenges, and 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 the 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 tree parts such as leaves, twigs, bark or roots.

According to Yilmaz et al. (2018) planting trees improves the aesthetic quality of the environment, thereby contributing to the aesthetic values of the environment, like playing important roles in the ecosystems by providing a canopy effect, enhancing the water vapor of the environment through the evapotranspiration process, helping air pollutant reduction and carbon emission reduction, and enabling 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, stormwater mitigation and management, education, ethnomedicine, and many more, 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 the Oluyole forest community, Oyo State, Nigeria.

Methodology

Study area

The investigation into the beneficial impact of community trees for healthy living was conducted in the Oluyole forest communities of Oluyole Municipality, Ibadan, Oyo State. The municipal area has its headquarters situated in Idi-Ayure town. It was established in 1976 and occupied 660 km². The population of the municipal area is 290,800 people, according to the National Population Commission projection of 2022 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 the Olode section, respectively. The wards in the Idi-Ayunre section are Orita/Odo Ona Elewe, Odo-Ona Nla/Idi-Ayunre, Abanla, Olonde, Onipe/Busogboro and Orisunbare, while the wards in the Olode section are Ayegun, Pegba/ Egbeda Tuba, Muslim/Ifelodun, Latunde and Olomi/ Olunde. The available natural resources of the council include land, water, forests, and agricultural products such as cocoa, coffee, kola nuts, cashew, teak, poultry products, and so on.

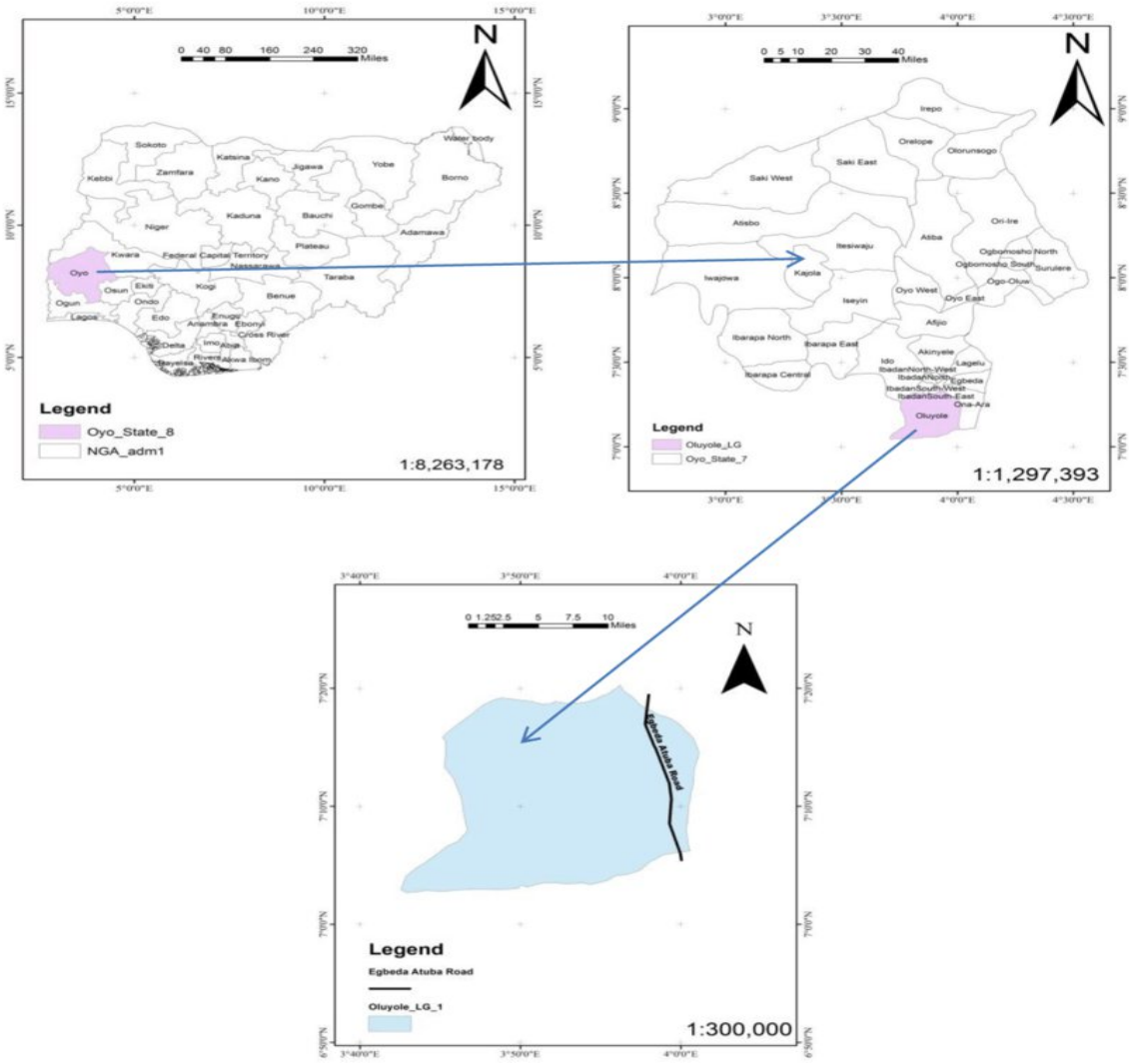

Figure 1. Map of the study area showing Oluyole Forest Environment, Nigeria

Sampling procedure and sample size

Three-stage procedure was adopted to carry out sampling of the study. Firstly, a purposive selection of four wards was due to high population of rural dwellers in communities with concentration of trees out of 10 wards in Oluyole municipal area. These four communities were Odo-Ona Nla/ Idi Ayunre; Abanla/ Olonde, Onipe /Busogboro; and Orisunbare was

conducted. The 2nd stage was the systematic selection of households in each community and in all the selected of households in the communities, multiple households were selected as follows, Odo- Ona/Idi-Ayunre, 15 households; Abanla/Olonde, 12 households; Onipe/Busogboro, 8 households, and Orisunbare, six households. In the 3rd stage, a total of 82 household heads were selected through, with two household heads chosen from each of the following communities. Idi-Ayunre (15 households x 2) = 30 respondents, Abanla/Olonde (12 households x 2) = 24 respondents, Onipe/Busogboro (8 households x 2) = 16 respondents, Orisunbare (6 households x 2) = 12 respondents. The total sample size was 30 + 24 + 16 + 12 = 82 respondents. 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:

$Y= B_O+B_1 X_I+B_2 X_2+B_3 X_3+B_4 X_4+B_5 X_5+B_6 X_6+B_7 X_7+ \mu$……..…… (1)

Where:

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

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

$X_{I.....} X_n$ 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.

X_1 = Age of the household head (measured in years),

X_2 = Sex of the household head (Dummy: 1= male, 0 = if otherwise),

X_3 = marital status (measured by years)

X_4 = Education level (number of years of schooling of the household head),

X_5 = Household size (numbers of people in each household)

X_6 = Farm size (measure in hectares)

X_7 = Membership of social organisation (Dummy: 1= yes, 0 = if otherwise),

X_8 = Major occupation (1 = for having occupation, 0 if otherwise),

X_n = Others

Results

Table 1 presented the distribution of residents' socio-economic characteristics in the Oluyole Forest Environment, Oyo State. This revealed the parameters of the population of study in the

study area. The table showed the distribution of respondents' sex, with 72.0% of them being male and 28.0%female. 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 indigenous to 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 a farm size of 1-5 hectares. Other distributions: 1-10 years of experience (35.0%), and about 40.0% of them had land acquisition through inheritance.

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	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		
Indigenous	53	64.6
Non-indigenous	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
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

Table 2 presented the types of trees identified in the 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 also other trees found in the studied area.

Table 2. Types of trees identified in the study area

Tree species (Scientific Name)	Common Name	Yes	No
Adamsonia digitata	Baobab tree	63 (76.8)	19 (23.2)
Azadirachta indica	Neem tree	65 (79.3)	17 (20.7)
Angeissus leiocarpa	African birch	62 (75.6)	20 (24.4)
Butyrospermum paradoxa	Shea tree	56 (68.3)	26 (31.7)
Ceiba petandra	Silk cotton tree	69 (84.1)	13 (15.9)
Diospyros mespiliformis	Jackal berry	51 (62.2)	31 (37.8)
Entada africana	African dream herb	82 (100.0)	-
Eucalyptus camaldulensis	River red gum tree	52 (63.4)	30 (36.6)
Fiscus glumosa	Mountain tree	48 (58.5)	34 (41.5)
Magnifera indica	Mango tree	65 (79.3)	17 (20.7)

Note: Percentage in Parentheses

Table 3 presented factors that may influence the perceived impact of community trees in the Oluyole Forest Environment, Oyo State. The table showed the distribution of the pronounced factors which influenced the 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 %).

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

Table 4 presented the benefits of trees to residents' physical health and mental well-being in the Oluyole Forest Environment, Oyo State. This table shows the benefits derivable from trees in the studied communities. The table showed the distribution had more moderate derivable benefits of community trees, such as cleansing by trees intercepting particulate materials (69.5%), reduction of emotional and psychological stress (67.1%), improved cardiovascular function (62.2%), reduction in effect of ultraviolet radiation (URV) (67.1%).

Table 4. Benefits of community trees to residents' physical health and mental well-being

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, Sulphur (IV) oxide 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 helps 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 due to the protective capacity of trees against gaseous pollutants	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

Table 5 presented the perception of residents on the impact of trees on their physical and mental wellbeing in the Oluyole Forest Environment, Oyo State. The distribution showed that most residents' perceptions of trees towards health were positive. It revealed respondents' favourable attitude towards spending time around the trees reduces stress and lowers blood pressure (76.8%), and the presence of trees would contribute greatly to their health (76.0%). About 72.0% of respondents had a favourable attitude towards trees, which made them feel comfortable and relaxed, while few residents agreed that trees make them enjoy serenity and tranquility in their environment (12.2%)**.**

Table 5. Perceived impact of trees on residents' physical health and mental well-being

Perception of Impact 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 well-being	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 around 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

The table presented a summary of chi-square analysis of the relationship between respondents' socio-economic characteristics and the perceived impact of trees on their physical health and mental well-being, with ethnicity (p = 0.05) and land acquisition (p = 0.00) related to the perceived impact of trees on their physical health and mental well-being. This indicates that land acquisition enhances the impact of trees on inhabitants' well-being due to the interest of rural dwellers in planting of trees on a large expanse of land. Apeh *et al.* (2023) corroborates the finding that farming households in their dwelling environment adopt the planting various trees based on their several benefits of shelter, cooling of high temperature, reducing pollutants, improving their livelihood and general well-being.

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
Sex	0.089	0.76
Marital Status	1.473	0.68
Religion	2.139	0.24
Education	7.164	0.07
Nativity	0.035	0.85
Occupation	5.109	0.40
Ethnicity	8.064	0.05
Land acquisition	29.456	0.00
Family size	3.752	0.15

The Table presented summary of Pearson product moment correlation of identified types of trees with respondents' physical health and mental well-being in the studied area (r = 0.259, p = 0.19).

Table 7. PPMC analysis of relationship between identified type of trees and respondents' physical health and mental well-being

Variable	r-value	p-value
Identified Trees	0.259	0.19

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The Table presented summary of Pearson product moment correlation of identified benefits of trees with respondents' physical health and mental well-being in the studied area (r = 0.311, p = 0.004).

Table 8. PPMC analysis of relationship between benefits of trees and respondents' physical health and mental well-being

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

The table presented a summary regression analysis of extant factors on residents' physical health and mental well-being in the studied area. This was revealed as age (β = -0.323, p = 0.03), marital status (β = 0.273, p = 0.05) and benefits of trees (β = 0.314, p = 0.004). The estimated Y = -305.2 + 8.4X shows the fitness of the linear regression. The predicted Y is estimated to be -305.2 when X = 0. The slope shows that change in the estimated Y for a unit change in X. Hence, the negative slope indicates that as the independent variable X increases, the dependent variable Y tends to decrease. This shows an inverse relationship between the independent variables and the dependent variable.

Table 9**.** Regression analysis of extant factors between benefits of trees and perceived impact of trees on residents' physical health and mental well-being

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Sig.
Parameters	Beta	Std. Error	Beta		
(Constant)	1.398	.529	-.025	2.641	.01
SEX	-.026	.116		-.228	.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*

Discussion

Socio-Economic characteristic of the respondents

The result in Table 1 shows that the 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 the Ijaiye Forest of Nigeria. The result revealed that 38.8% of the respondents were 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 indicates that marriage confers some level of commitment and social responsibility, which portends that residents are mature and have versatility. Furthermore, Table 1 showed that 48.8% of respondents' practice Islam as a religion, followed by Christianity (46.3%), while the least (4.9%) are traditional worshippers. This indicates that Islam and Christian worship were dominant 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 indigenous, while 35.4% were non-indigenous, which indicates a heterogeneous population in the study area. Also, 46.3% of the respondents prioritized farming as their major occupation.

Types of trees identified

The results in Table 2 showed the types of trees identified in the study area. It was revealed that the 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 *azadirachta indica* in their area. Furthermore, the results showed that 75.6% of the respondents signified having a mature *Angeissus leiocarpa* in their compound. The table further showed that 68.3% of respondents planted *butyrospermum 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 respondents 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 a 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 custodians of the community trees in the study area.

Factor influencing perceived impact of community trees

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 influences 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 trees is one of the major factors that influence the effect of community trees on resident health. Further, it was observed that 65.9% of respondents 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 a private forest as a long-term business project and for the betterment of society. The study showed that some residents (29.3%) agreed that trees do not have any benefits but are just standing there, whereas 70.7% of respondents identified trees as being beneficial to man. It was observed that 40.2% believed that trees are only useful for fuel wood. This result implies that the majority of the residents know that trees have many benefits for their health apart from using them 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.

Benefits of community trees to residents

The result in Table 4 revealed most people in the study area moderately benefited from the management of community trees. The majority of residents (69.5%) moderately benefited and agreed that cleansing by trees intercepts particulate materials, followed by 67.1% who optimally benefited from the values trees serve, such as as reducing emotional and

psychological stress and enhancing the reduction of ultraviolet radiation (URV). Thus, the level at which residents benefited, whether high or moderate, was spellbinding. This may be as a result 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 are more committed to their physical utilisation. This result, 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.

Perception of impact of trees on residents' physical health and mental well-being

The results in Table 5 revealed the perception of the residents on the impact of community trees on their 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, lowers blood pressure and improve 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 at least 12.2% of residents signified the health impacts of trees and that trees make them enjoy serenity and tranquility in their environment**.** The result corroborates the findings of Turner-Skoff and Cavender (2019), who reported that trees enhance health and social well-being by cleansing and detoxifying air pollution, reducing stress and supporting physical activities, as well as enforcing strong family ties with relatives and friends. Past research investigations revealed that the presence of trees enhances improvement in people's mental and physical health, the concentration of children in schools and improvement in the success rate of the examinations (Turner-Skoff and Cavender, 2019).

Hypotheses testing

The result in table 6 showed there was a significant association between ethnicity ($\chi^2 = 5.109$, $p = 0.05$), land acquisition ($\chi^2 = 8.064$, $p = 0.00$), and the perceived impact of trees on residents' health. This result indicates that ethnicity in the community confers the 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 result in table 7 showed there was no significant relationship between the 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. Further, results in Table 8 showed there was a significant relationship between

the 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 the benefits of trees are embraced by the residents, which ultimately contributes to the health condition of residents of the Oluyole forest environment.

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 ($\beta = 0.314$, $p = 0.004$) had significant influence on the perceived impact of trees on residents' physical health and mental wellbeing at $\alpha_{0.05}$. The estimated $Y = -305.2 + 8.4X$ implied that for every one-unit increase in the independent variable, the dependent variable is expected to decrease by the value of the slope. Therefore, a negative slope is an indication of a negative association between variables, suggesting that changes in the independent variables are associated with changes in the opposite direction in the dependent variable. The diagnostic test indication for normality as $p > 0.05$ showed that residuals are normally distributed. Also, for homoscedasticity, $p > 0.05$ showed constant variance. The model appears to meet the assumption of linear regression.

This result implies that age, marital status and benefits of trees were major extant factors which significantly contribute to the perceived impact of trees on residents' health, which confers that age and marital status bring about the commitment of the people to bear on the importance of trees to the wellbeing and survival of the people, while the benefits of trees showcase the reason for their embrace and utilisation in the Oluyole forest environment.

Conclusion

The study showed that most household heads were male, with majority 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 is 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 incentivize conservation of trees in communities in Nigeria. In addition, the 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 destruction of the forest estates and open-grown trees in communities all over Nigeria.

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