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PUBLIC PERCEPTION TOWARDS URBAN FOREST RESTORATION: A CASE STUDY OF BENIN CITY, EDO STATE, NIGERIA

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ABSTRACT

This study assessed the perception and attitudes of the urban dwellers of Benin City, Nigeria towards forest restoration. A fifty percent sampling intensity was used to select 16 wards out of the 32 wards in the Local Government Area of Benin City using picking without replacement method. A total of 304 questionnaires were distributed and 287 retrieved (87 from Ikpoba-Okha, 95 Egor and 105 Oredo Local Government Areas) respectively. Results showed that the respondents were people of all age groups who are married and educated (61.1%). Some of the respondents (Egor (46%); Ikpoba-Okha (44%); Oredo (49%) LGAs) were not aware of its purpose of forest restoration program. The highest responses were recorded in Egor LGA, were the respondents agreed that the forest provides benefits such as sources of fish varieties, wildlife and plants (97%); timber and tourism opportunities (83.1%); soil and water health (80%); scenery, sounds and smell in the forest (79%); platform for scientific observation and experimentation (64.2%) while 55.8% were of the opinion that forests held ancient traditional beliefs. The study revealed constraints faced were lack of funds, lack of access to road, forest organization staff, fragmentation and connectivity and land use change. It was evident that certain individuals (in Ikpoba-Okha and Oredo) had a limited understanding of the benefits of forest restoration, leading to resistance towards these programs. Also, there was a perception that forest restoration activities were time-consuming, costly and would not yield immediate results which discourage participation. Community-based forestry, urban forestry initiative campaigns should be included in forest restoration programs.

Key words: Perception, Attitudes, Forest Restoration, Fragmentation, Environment

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INTRODUCTION

A Forest includes natural forests and forest plantations, it is used to refer to land with a tree canopy cover of more than 10 percent and area of more than 0.5 ha (FAO, 2000). Forests are determined by the presence of trees and the absence of other predominant land uses such as Agricultural, Residential and Commercial purposes, etc. Forest degradation affects about 2 billion hectares of land and threatens the food, water and energy security, as well as the livelihoods and wellbeing of nearly 3.2 billion people (FAO, 2022). Forest restoration uses a wide range of means from agroforestry to sustainable forest management to help bring deforested and degraded land back into production and improve wellbeing, provide alternative sources of forest products, improve soil fertility and reduce erosion. It also has "huge potential" to strengthen, accelerate and scale up local-level and national capacity for climate action (FAO, 2022). As such, a functionally restored ecosystem may have different structure and composition than the historical reference condition (King and Hobbs, 2006) and Forest landscape restoration (FLR); differs from site-

level restoration because it seeks to restore ecological processes that operate at larger landscape-level scales (Mansourian and Vallauri, 2005). FLR is a process that aims to regain ecological integrity and enhance human well-being in a deforested or degraded forest landscape (Maginnis & Jackson, 2007). This explicitly incorporates human activities and needs. Restoration is examined in terms of a degraded starting point and an ending point of an idealized natural forest (Stanturf *et al*., 2014).

Forest Restoration involves the process and practices to improve the condition of degraded forest area. It includes conserving wild plants and protecting the soils and water sources that are part of the forest ecosystem. It is possible to establish native species and encourage the regrowth of existing ones in a degraded forest. Restoration improves landscapes that are deforested or underutilized (Robert, 2014). Restoration provides significant economic benefits, including increased agricultural productivity, reduced healthcare costs, and improved water quality (TEEB, 2010).

The perception and attitudes of people towards forest restoration vary from place to place, and from time to time, successful restoration requires the active participation and support of local communities, and understanding their perceptions and attitudes towards restoration is crucial for success (Gomback, & Sunderland, 2017). However, it will be more impactful to know the perception and attitude of people in the urban area like Benin City, Edo state, Nigeria towards forest restoration. This can provide useful information to enable policymakers, practitioners develop effective communication and outreach strategies with urban dwellers to ensure greater participation in restoration initiatives; and also, understanding the success of restoration efforts, identifying barriers to restoration. The aim of this study is to determine the awareness, attitude and assess the factors which influence the perceptions of the urban dwellers of Benin City towards forest restoration.

METHODOLOGY

Study area

This Study was conducted in Benin city, Edo state, Nigeria. It is the fourth-largest city in Nigeria, after Lagos, Kano, and Ibadan (Census, 2006). It has a land area of 1,219.626km^2 and bounded by latitude 5° 54´ 4´´ N – 6° 50´ 0´´ N and longitude 5° 14´ 40´´E – 5° 50´ 0´´E. There are three Local Government Areas (LGAs) in Benin metropolis; Oredo, Egor, Ikpoba-Okha. Benin City.

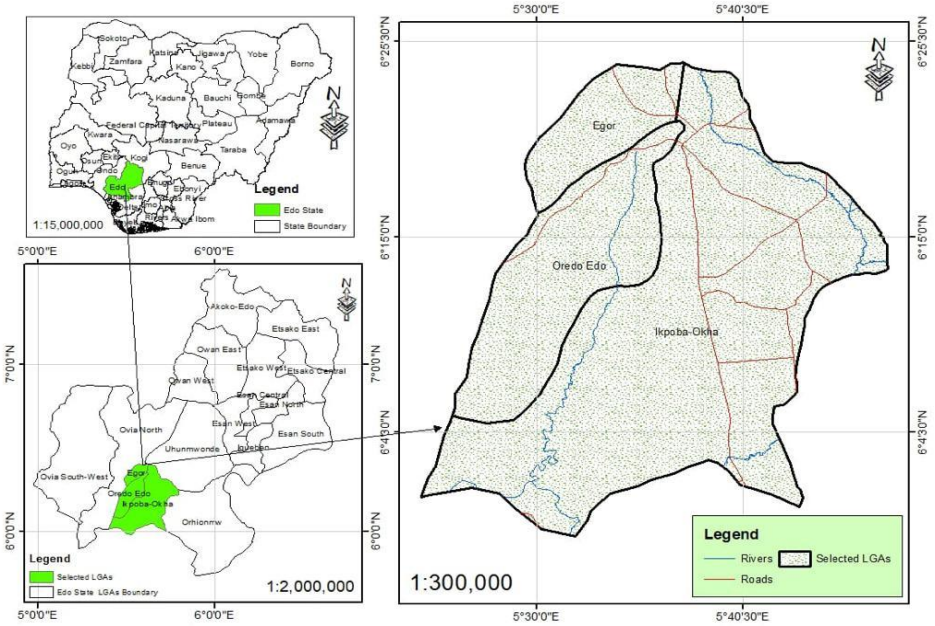

Figure 1: Egor, Oredo and Ikpoba-Okha LGAs of Benin City, Nigeria

Sampling technique

The target respondents were the inhabitants of Benin City made up of 3 Local Governments Areas; Ikpoba-Okha, Oredo, Egor with 10,12, and 10 wards respectively, giving a total of 32 wards. A total of 16 wards (sample sizes of 5, 6 and 5 obtained for Ikpoba-Okha, Oredo and Egor respectively) were selected, using 50% sampling intensity with the stratified proportional allocation method of a sampling according to Husch *et al*. (2003).

$$ni = (Ni/N)\ n \ldots\ldots (1)$$

Where ni = Number of sample ward to be allocated to the stratum each.
Ni = Total Number of sample ward in each of the stratum.
N = Total Number of the whole sampling ward.
n = Number of sample ward plot to be allocated to all the strata.

Data collection

Questionnaire were used for data collection and interview with the respondents. The questionnaire was divided into two parts A and B. Part A of the questionnaire elicited information on the socio-demographics of the respondents and part B contains the tool to obtain information on their perceptive and attitude towards forest restoration in Benin City, Edo state, Nigeria. Information was obtained from respondents in households across the selected wards using the method of picking without replacement. A total of 287 (87 from Ikpoba-Okha, 95 from Egor and 105 from Oredo LGA respectively) questionnaire were retrieved, amounting to 87.25%. Data was collected on respondents' awareness and perception on forest restoration programmes and the importance; factors that influence forest restoration; and perceived constraints to forest restoration.

Data analysis

Data collected were analyzed using inferential statistics with the use of analysis of variance (ANOVA) at the 5% level of significance as well as descriptive statistics of frequency and percentages reported in tables and charts and means.

RESULTS

Socioeconomic characteristics of respondents

Table 1 shows the demographic distribution of respondents in the study area. The respondents include people of all age groups (61.1%). The study revealed that forest restoration sounded strange to the respondents from their perception and attitudes. The age distribution of respondents showed that 78.9%, 40.2% and 39.0% were below the age of 20-29 for Egor, Ikpoba-Okha and Oredo respectively; while 60 (20.9%) of the respondents were age 50 years and above. The highest level of education obtained by respondents in the study area were tertiary education, and this implies majority of the respondents are able to access basic information on the importance of forest trees to the environment, this motivated and modified their perception and attitude towards forest restoration**.**

Respondents' awareness and perception on forest restoration programmes

The awareness and perception of the respondents towards forest restoration is presented in Figure 2: Egor, Ikpoba-Okha and Oredo (72.6%, 69.5% and 77%) respectively, while 46%, 44% and 49% were not aware of its purpose of forest restoration in Egor, Ikpoba-Okha and Oredo LGAs. This meant that the respondents had low level of awareness of the benefits of forest trees to their environment and ecosystem.

In Ikpoba-Okha, 56.5% agreed that forest restoration help recover native plant and animal species that are rare and endangered in order to maintain biodiversity. 50.6% was of the view that large tree should not be removed during forest restoration; also, 49.5% agreed that restoration efforts should return to the forest while 37.3% note that it helped to improve and protect human livelihood. In Egor, 51% of the respondents agreed that forest restoration help to improve and protect human livelihood; 50.6% were of the opinion that restoration should return to the forest and help recover native plant and animal species that are rare and endangered in order to maintain biodiversity and large trees should not be removed during forest restoration (40%). In Oredo, 50.6% of the respondents were of the view that forest restoration can help recover native plant and animal species that are rare and endangered in order to maintain biodiversity; restoration should return to the forest (48.3%); large trees should not be removed during forest restoration (50.5%); and to improve and protect human livelihood (33.3%).

Table 1: Socio economic characteristics of respondents

Variables	Egor		Ikpoba-okha		Oredo	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Age (Years)						
Below 20	4	4.2	8	9.2	11	10.5
20-29	75	78.9	35	40.2	41	39.0
30-39	4	4.2	10	11.5	15	14.3
40-49	4	4.2	9	10.3	11	10.5
Above 50	8	8.4	25	28.7	27	25.7
Total	95	100.0	87	100.0	105	100.0
Sex						
Male	30	31.6	25	28.7	35	33.3
Female	65	68.4	62	71.3	70	66.7
Total	95	100.0	87	100.0	105	100.0
Marital status						
Single	40	42.1	33	37.9	40	38.1
Married	39	41.1	37	42.5	46	43.8
Divorced	8	8.4	8	9.2	8	7.6
Widowed	8	8.4	9	10.3	11	10.5
Total	95	100.0	87	100.0	105	100.0
Household size						
Below 3	27	28.4	35	40.2	47	44.8
4-5	52	54.7	25	28.7	57	54.3
Above 6	16	15.9	27	31.1	1	0.9
Total	95	100.0	87	100.0	105	100.0
Religion						
Muslim	15	15.8	12	13.8	12	11.4
Christian	80	84.2	75	86.2	92	87.6
Traditional	0	0	0	0	1	1.0
Total	95	100.0	87	100.0	105	100.0
Occupation						
Farmer	1	1.1	0	0	5	4.8
Trader	55	57.9	53	60.9	59	56.2
Civil servant	13	13.7	12	13.8	17	16.2
Student	26	27.4	22	25.3	24	22.9
	95	100.0	87	100.0	105	100.0
Education status						
Non formal	0	0	1	1.1	5	4.8
Primary	13	13.7	12	13.8	12	11.4
Secondary	24	25.3	22	25.3	31	29.5
Tertiary	58	61.1	52	59.8	57	54.3
Total	**95**	**100.0**	**87**	**100.0**	**105**	**100.0**

Respondents' opinions on the factors that influence forest restoration

Ninety-seven percent (97%) of the respondents in Egor indicated that forests provide cover for sources of fish, wildlife (Figure 4); while 83.1% of Egor respondents revealed that the forest provides timber, tourism opportunities such as outfitting and guiding; 80% of respondents said clean air soil and water are provided by the forests. Similarly, 79% are of the opinion that they enjoy the scenery sights, sounds and smell in the forest; 64.2% are of the view that forest restoration of the environment increases scientific observation or experimentation; 55.8% are of the opinion that the forest held a history of ancient tradition usually passed from generation

to generation. In Ikpoba-Okha and Oredo, 55% and 51% asserted that they enjoying the scenery sights, sounds and smell in the forest while 39% and 45% of respondents of Ikpoba-Okha and Oredo were of the opinion that the forests provided coverage for sources of variety of fish, wildlife, plants.

The respondents' opinions on the constraints to urban forest restoration

The result presented in Figure 5 revealed that 98.3%, 94% and 96% of the respondents in Egor, Ikpoba-Okha, Oredo LGAs respectively asserted that lack of funds were serious constraints to urban forest restoration.

Other constraints expressed by the respondents include: Lack of Access to Road (Egor (84%), Ikpoba-Okha (94%) and Oredo (44.8%)); Forest Organizational Staff (Egor (58%), Ikpoba-Okha (65.2%) and Oredo (82.6%)); Fragmentation and Connectivity (Egor (77%) Ikpoba-okha (44.8%) and Oredo (39.5%)); Land Use Change (Egor (56.3%) Ikpoba-okha (84.7%) and Oredo (92%); Resource Availability and Population Growth (Egor (76%), Ikpoba-Okha (83%) and Oredo (75.2%)), and Lack of Forest Seeds (Egor (93%) Ikpoba-Okha (56%) and Oredo (40.2%)).

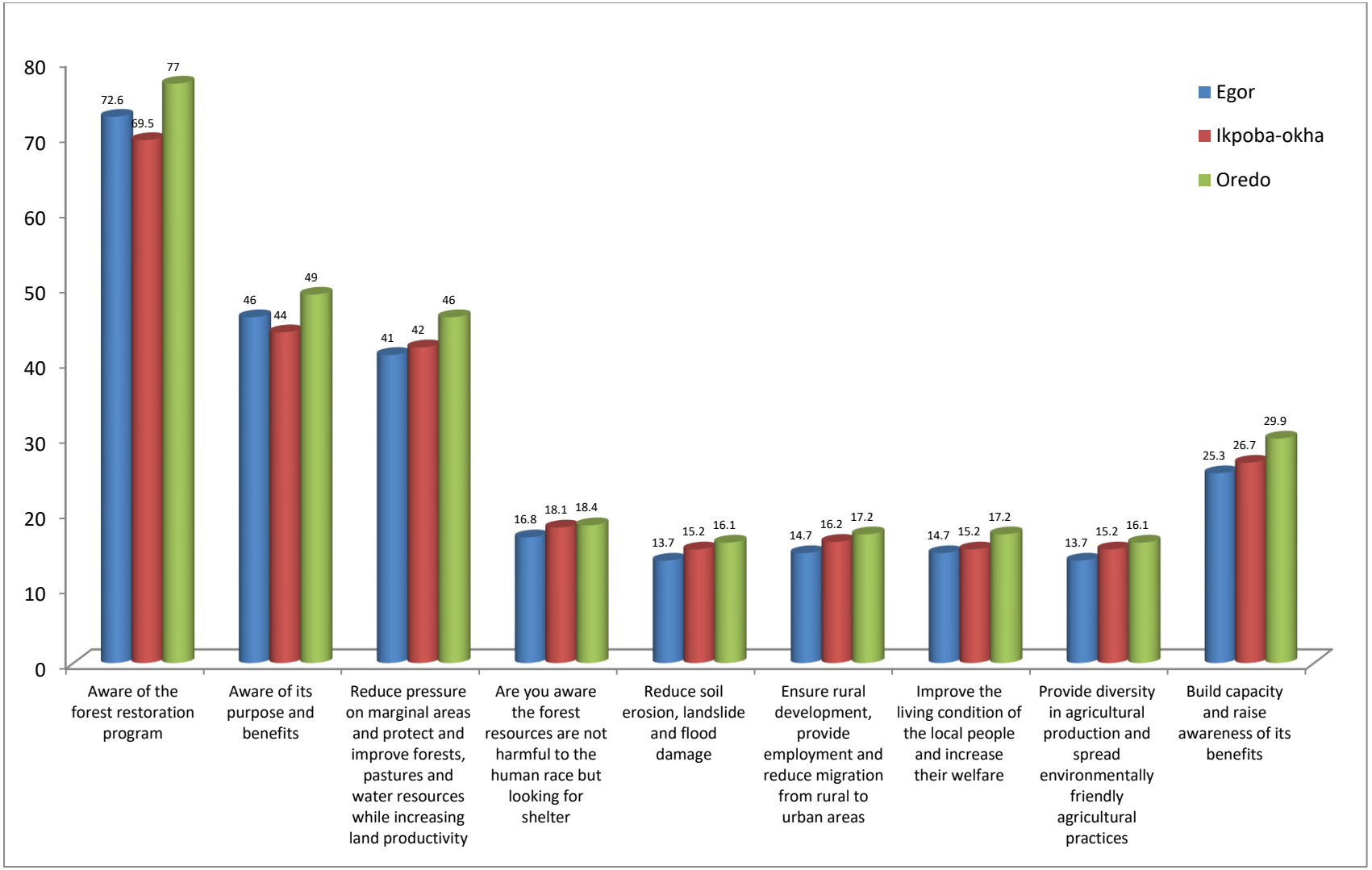

Figure 2: Respondents awareness of forest restoration program in the study area

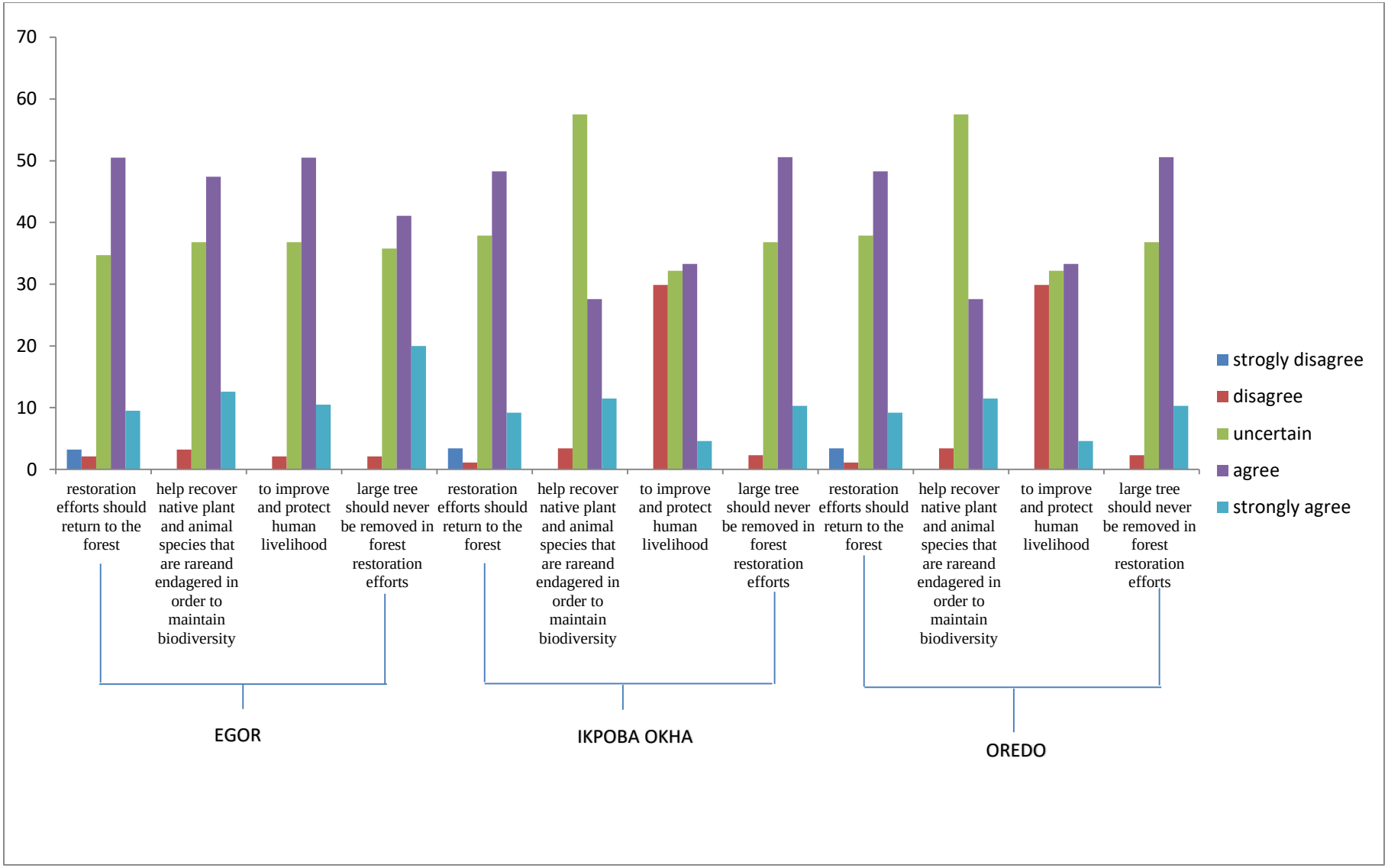

Figure 3: Attitude and Perception of respondents towards forest restoration

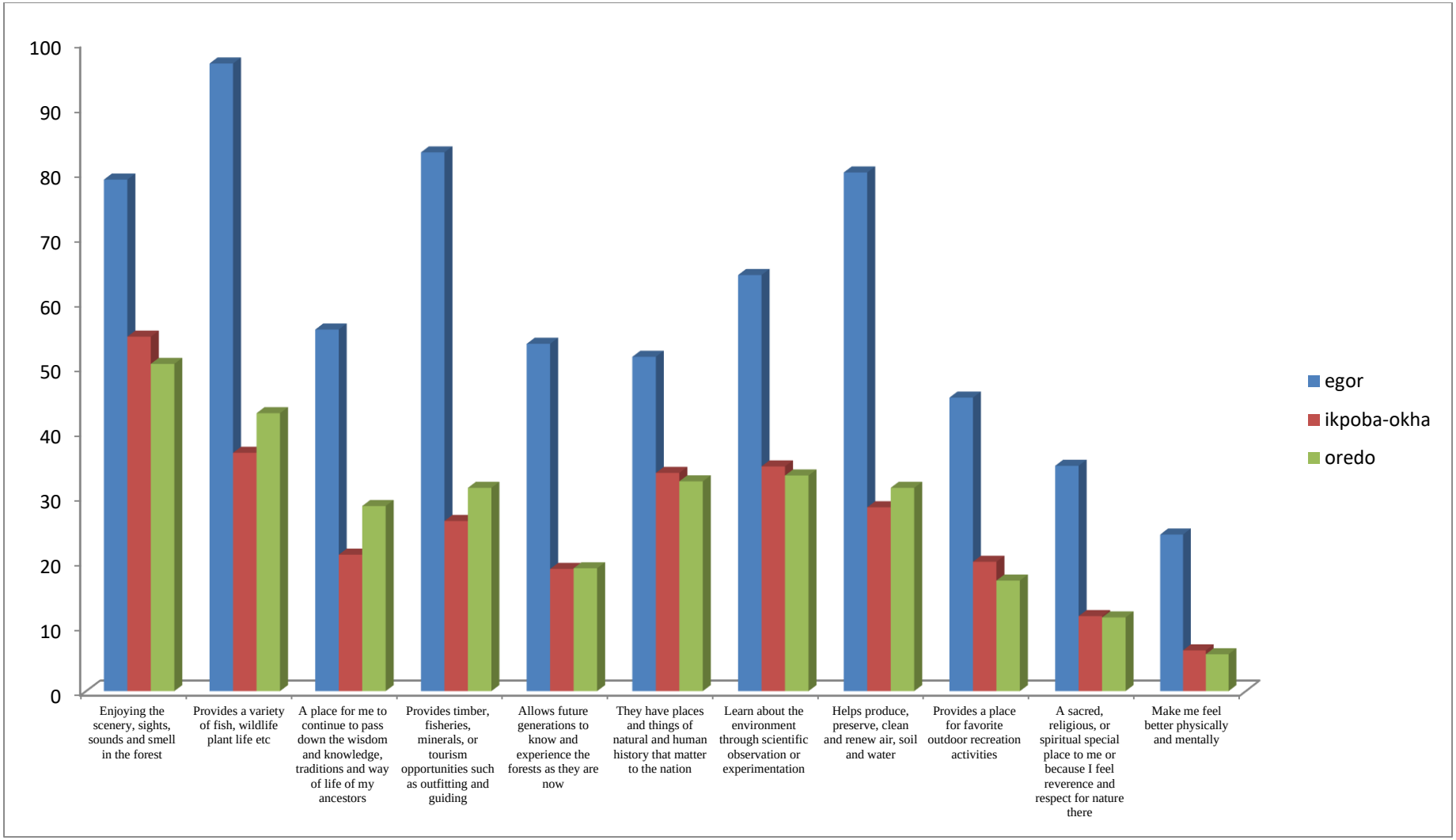

Figure 4: Distribution of respondents on factors that influence forest restoration

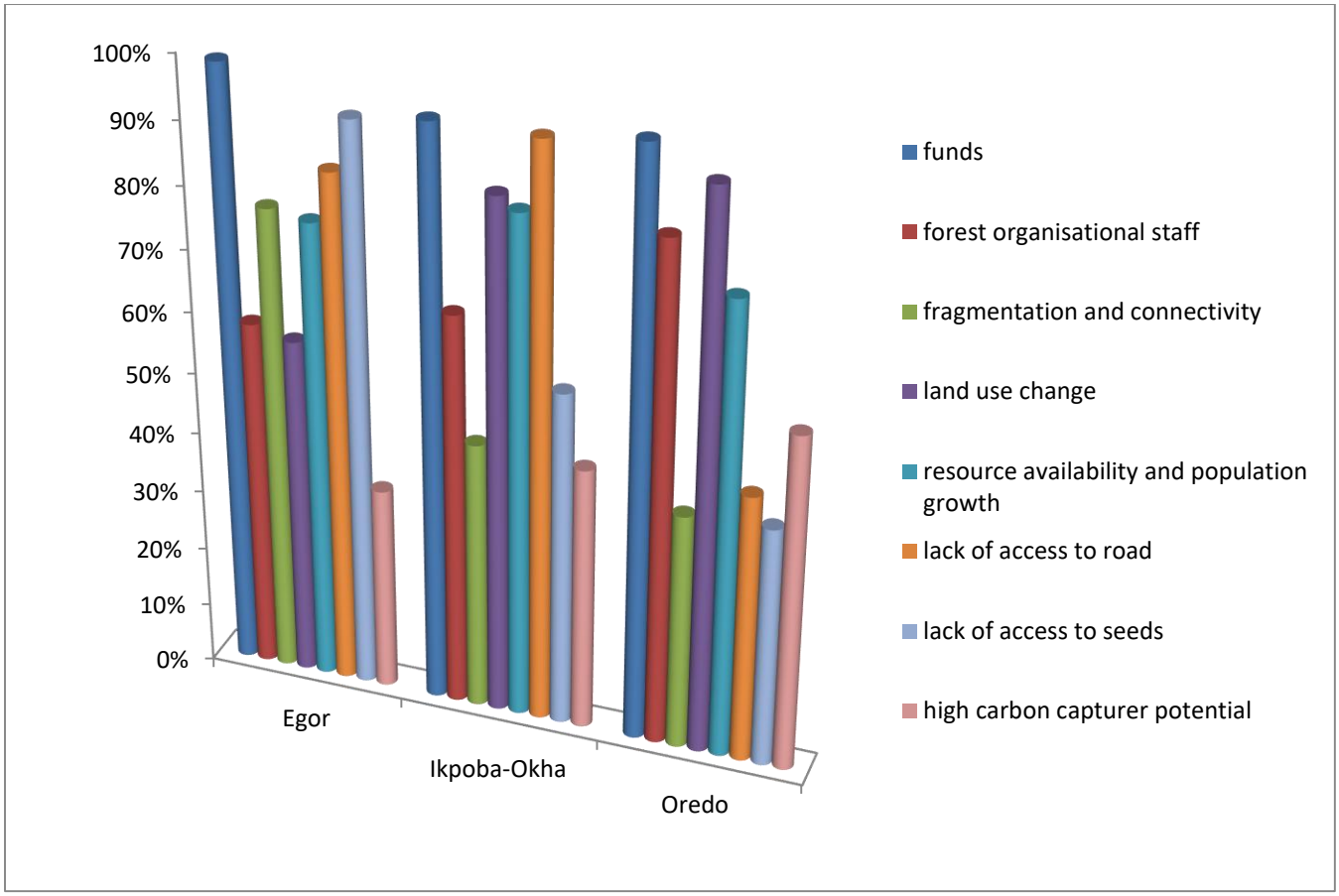

Figure 5: Constraints encountered during forest restoration

DISCUSSION

The results indicate that there was a low level of awareness of the benefits of forest trees to their environment and ecosystem among the respondents of Egor and Oredo LGAs. Turner-Skoff and Cayender (2019) noted that, creating awareness of forest trees necessity in urban settlements will result in sustainable cities with happier and healthier people. Hence the need for awareness campaigns on the importance of trees among rural and urban dwellers.

Furthermore, the various perception by the respondents of three LGAs about forest restoration and agrees with Gómez-Baggethun *et al*. (2009) that forest reforestation program provides employment in terms of tree planting, maintenance and monitoring including timber and non-timber forest products thereby enhancing local economies. Also, public perceptions of people towards forest restoration appreciates the fact that it improves recreational opportunities and scenic beauty associated with restored forests (Raymond, 2010). However, the respondents of Egor were more aware of forest restoration benefits to the economy and ecosystem than the two other LGAs. Seth (2003) noted that forest trees are important to humankind not only economically, environmentally and industrially but also spiritually, historically and aesthetically, as they sustain human life through direct and indirect gains by providing a wide range of products for survival and prosperity.

The results also indicate that forest restoration is faced with lack of funds which is a very limiting constraint. Guariguata and Brancalion (2014) observed that limit and availability of funds and resources are needed for effective forest restoration,

the effectiveness of payments for environmental services is a catalyst for forest restoration initiatives, as, many projects fail to meet their objectives because they do not incorporate the social aspects enough in their planning or implementation (Naiman, 2013).

a limited understanding of the benefits of forest restoration, leading to resistance towards these programs. There is perception that forest restoration activities are time-consuming, costly, and will not yield immediate results which discourage participation. From this study, it is necessary that; continuous education of the public about the importance of the subject matter and its long-term benefits through awareness campaigns, mass media may foster sense of ownership and ensure that the local community's perspectives and needs are considered.

CONCLUSION

The study shows that there is growing support and recognition of the importance of restoring forest ecosystems. Many people from the study area understand the crucial role that forests play in mitigating climate change, conserving biodiversity, and providing various ecosystem services. This awareness can lead to a more positive and favorable attitude towards forest restoration programs within. However, some challenges and negative perceptions still exist. Certain individuals and communities have

REFERENCES

FAO (2022) of the Contributions to the Report of the United Nations Permanent Forum on Indigenous Issues article. Rome, Italy. 22nd Session.

FAO, (2000). Global Forest resources Assessment 2000 Rome, Italy.

Gomback, W.S. and Sunderland, T.C. (2017). Forest landscape restoration: Progress in the last decade and remaining challenges. *Current Opinion in Environmental Sustainability*. 29: 97-103.

Gómez-Baggethun, E., Groot, R., Lomas, P.L. and Montes, A. (2009). Cultural perceptions of ecosystem services and their valuation: The case of mountain landscapes in the Picos de Europa National Park, Spain. *Environmental Conservation*. 36 (3): 295-309.

Guariguala, M.R. and Brancalion, P.H.S. (2014). Current Challenges and Perspectives for Governing Forest Restoration. *Forests*. 5: 3022-3030.

Husch, B., Beers, T.W. and Kershaw, J.A. (2003). Forest Mensuration (4th edition). John Wiley & Son Inc, New Jersey, USA.

King, E.G. and Hobbs, R.J. (2006). Identifying linkages among conceptual models of ecosystem degradation and restoration: Towards an integrative framework. *Restoration Ecology*, 14 (3), 369–378.

Maginnis, S. and Jackson, W. (2007). What is FLR and how does it differ from current approaches? The forest landscape restoration handbook. London, United Kingdom.

Mansourian, S., Vallauri, D. and Dudley, N. (2005). Forest restoration in landscapes: Beyond planting trees. New York, NY: *Springer*. 10:1007/0-387-29112-1.

Naiman, R.J. (2013) Socio-ecological complexity and the restoration of river ecosystems. *Inland Waters* 3: 391– 410. https://doi.org/10.5268/IW-3.4.667.

Raymond, C. M. (2010). Where are the unloved landscapes? A spatial analysis of public attitudes towards forest regeneration in Australia. *Journal of Environmental Management*, 91(4), 798- 808.

Robert W. (2014). Restoration: It's About More than Just the Trees. Approaches to Restoration. World Resources Institute: *Climate*. Washington, DC.

Stanturf, J.A., Palik, B.J., Williams, M.I., Dumroese, R.K. and Madsen, P. (2014). Restoration Paradigms. *Journal of sustainable forestry* 33 (sup1), S161-S194.

Seth M.K. (2003). Trees and their economic importance. *Botanical Review* 69: 321–376

TEEB (2010), The Economics of Ecosystems and Biodiversity: Mainstreaming the Economics of Nature: A Synthesis of the Approach, Conclusions and Recommendations of TEEB.

Turner-Skoff, J.B. and Cayender, N. (2019). The benefits of trees for livable and sustainable communities. *Plants, People, Planet*. 1 (4): 323-335.