

Rural People Participation Strategies and Forest Conservation: A case Study of Mokwa Local Government Area of Niger State, Nigeria

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Abstract The purpose of this study is to investigate the rural people participation strategies and forest conservation in Mokwa Local Government Area (MLGA) of Niger state. The study aims to understand the level of participation of rural people in forest conservation efforts and to identify the strategies that can be implemented to enhance their involvement in sustainable forest management. In order to achieve this purpose, a survey research design was used for this study. Simple random sampling technique was employed to select six communities within the MLGA, while systematic random sampling technique was used to select 120 respondents for the study. The data collection methods included informal interviews with community heads, forest users, and personal observations from the field visits. Additionally, a twenty-item four-point Likert scale questionnaire was used as a formal instrument for data collection. The analysis of the data collected revealed that the major occupations in the study areas are farming (57.5%), followed by artisans (25%) and civil servants (9.2%). This indicates that a significant portion of the population in the study area relies on natural resources for their livelihoods. The findings also showed that there is a need to enhance the participation of rural people in forest conservation efforts, as their involvement is crucial for the sustainable management of forest resources. Overall, the study highlights the importance of understanding the participation strategies of rural people in forest conservation efforts. By identifying the barriers to participation and implementing strategies to enhance their involvement, it is possible to promote sustainable forest management practices in the study area. This research contributes to the existing literature on rural participation in forest conservation and provides valuable insights for policymakers and practitioners working in the field of natural resource management.

Keywords: Forests, Rural, Participation, Conservation

I. Introduction

Rural people's participation in forest

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management is being widely adopted in many developing countries as an alternative method of managing forest resources [1].

This approach can help mitigate deforestation, flooding, and soil fertility loss, which are major environmental threats faced by local communities. Nigeria's forests are among the most threatened in the world due to factors such as population growth, timber logging, charcoal production, and agriculture, which are predominantly carried out by the local

community. The major problems in Nigeria that encourage forest destruction are escalating poverty and lack of education. As of 2005, Nigeria was the most extremely deforested area in the world according to the Food and Agriculture Organization of the United Nations [2]. Between 2000 and 2005, Nigeria had lost 55.7% of its primary forests, and the rate of forest change continued to increase annually. Primary forests are defined as forests with no visible signs of past or present human activities [2]. Rural people's participation in forest management can play a crucial role in addressing these challenges. By involving local communities in decision-making processes and empowering them to take ownership of forest resources, it is possible to promote sustainable forest management practices. This can help to conserve biodiversity, protect watersheds, and improve the livelihoods of rural populations who depend on forests for their survival.

In Nigeria, there have been efforts to promote community-based forest management initiatives, such as the establishment of community forest reserves and the implementation of sustainable forest management practices. These initiatives have shown promising results in terms of reducing deforestation rates, improving forest health, and enhancing the resilience of local communities to environmental threats [3]. However, there are still challenges that need to be addressed in order to fully realize the potential of rural people's participation in forest management. These include issues related to land tenure, resource rights, capacity building, and access to markets. It is important for policymakers, researchers, and practitioners to work together to develop effective strategies and policies that can support and strengthen community-based forest management initiatives in Nigeria and other developing countries.

In conclusion, rural people's participation in forest conservation is a valuable approach that can help to address the environmental challenges faced by local communities in Nigeria and other developing countries. By empowering local communities to take an active role in managing forest resources, it is possible to promote sustainable development, conserve biodiversity, and improve the livelihoods of rural populations [4]. It is essential to continue supporting and scaling up community-based forest management initiatives in order to achieve long-term conservation and development goals. The increasing rate of deforestation in recent times has led to the loss of several million hectares of forest. This incidence has deprived most forest communities of immense benefits derivable from forest. To address this issue, this research determined to investigate the rural people participation strategies and forest conservation in Mokwa Local Government Area of Niger state.

II. Materials and Method

Survey research design was considered the most suitable for this study. This research design studies phenomena as they exist at the particular time of an investigation. This study examined rural people's participation strategies and forest conservation in Mokwa Local Government Area of Niger state. The target population according to the 2006 population census was 244,937 (NPC, 2006) and it has an area of 4338km² while its latitude is 9° 17' 41.35"N and longitudes 5° 03' 14.83"E. The study area experiences tropical climatic condition, dry and rainy seasons with annual rainfall varying from 1100 mm in the Northern part of the state to 1600 mm in the Southern parts. The rainy season lasts for about 150 days in the Northern parts of about 120 days in the Southern parts of the state.

The sample of this study consisted of one hundred and twenty (120) respondents that were randomly selected from six forest communities (Mokwa town, Tatabu, Twale, Takuma, Kudu and Kparki) in Mokwa Local Government Area of Niger State. Figure 1 shown Mokwa Local Government Area of Niger state. The simple random sampling technique was adopted in selecting the six forest communities, while the systematic sampling technique was adopted in selecting the respondents used for the study. The data collection methods included informal interviews with community heads, forest users, and personal observations from field visits. Additionally, a twenty-item four-point Likert scale questionnaire was used as a formal instrument for data collection. It was a well-

structured questionnaire tagged “Rural people participation strategies and forest conservation in Mokwa Local Government Area” and it was divided into two sections. Section A contained the personal data of the respondents while section B was designed using four points modified Likert scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). It covered important items measuring the variables of the study. The help of the foresters and six villagers were employed, one from each village for local language interpretation and other local help. These interviews accompanied by personal observations which allowed to show the reliability of the answers given. The data collected were analyzed using descriptive statistics in the form of frequency tables and percentages.

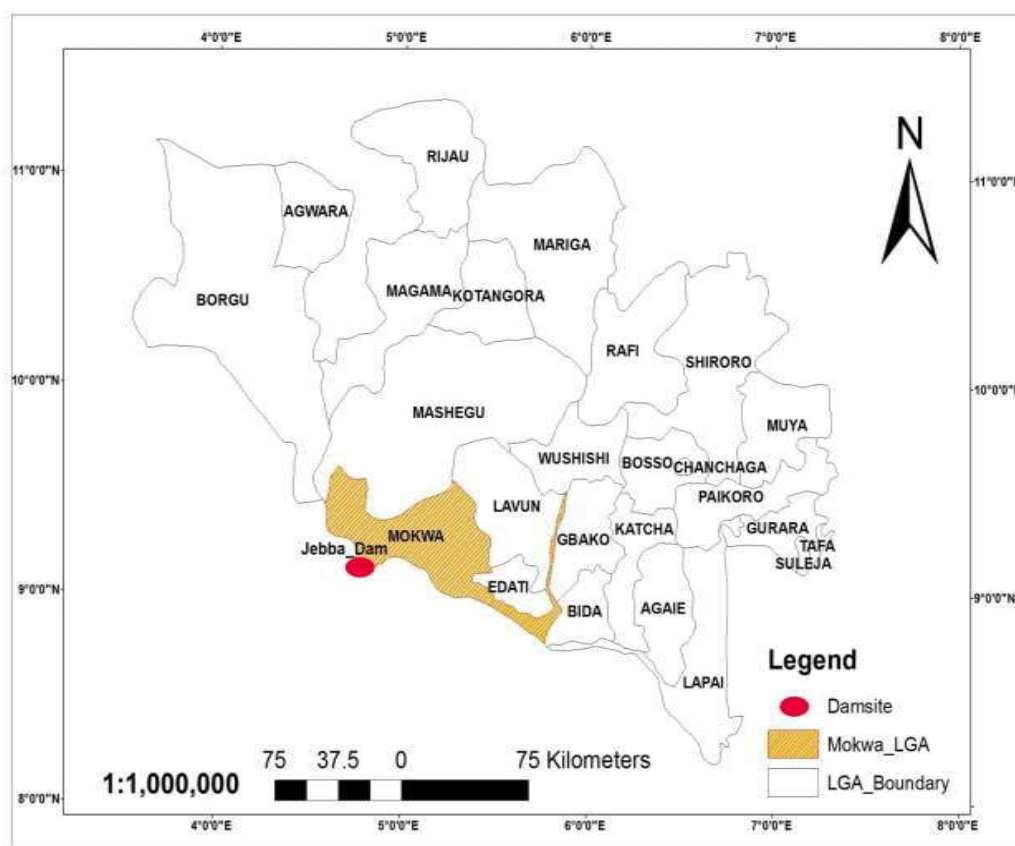


Figure 1: Map Showing Mokwa Local Government Area of Niger State

III. Results and Discussion

The socio-economic characteristics of the respondents in the study areas are presented in Table 1 and data analysis of conservation strategies in the study areas are presented in Table 2. Data of personal characteristics of the respondents was observed that (28.3%) of the respondents were between ages 15-30 years, (40.0%) was the maximum of the respondents between ages 31-45 years, while (22.5%) were between ages 46-65 years and 65 age above were the minimum (9.2%). Respondents were

mostly males (75.8%) in their active age while (24.2%) were female; (36.7%) attended Primary school, (38.3%) attended secondary school, (13.3%) attended tertiary Institution while (11.7%) did not have circular education, and the majority of them are farmers as revealed by the respondents, 30.0% of the respondents were single, 61.7% were married, 7.5% were divorced and (0.8%) were widowed. The major occupation in the area is farming (57.5%), artisan (25.0%), civil servant (9.2%) and others were (8.3%).

Table1: Socio-Economic Characteristics of the Respondents

Socio-Economic	Frequency	Percentages
Age (Years)		
15-30	34	28.3
31-45	48	40.0
46-65	27	22.5
Above 65	11	9.2
Educational Status		
Non circular Education	14	11.7
Primary Education	44	36.7
Secondary Education	46	38.3
Tertiary Education	16	13.3
Marital Status		
Single	36	30.0
Married	74	61.7
Divorced	9	7.5
Widowed	1	0.8
Gender		
Male	91	75.8
Female	29	24.2
Occupation		
Artisan	30	25.0
Civil servant	11	9.2
Farming	69	57.5
Others	10	8.3

Field survey (2024)

Table 2: Data Analysis of Conservation Technique in the Study Area

Factors	Frequency (n = 120)	Percentage (%)
Agro-forestry practices	27	22.5
Afforestation and reforestation	29	24.2
Public enlighten	25	20.8
Enforcement of forest law and policy	21	17.5
Educate others	18	15.0
Field survey (2024)		

A. Forest Conservation Techniques in the Study Area

From the data collected, Table 2, 22.5% of the people in the community interested in agroforestry practice involving economic trees. From the qualitative information, it was disclosed that the agroforestry system of farming will help them to grow other crops to sustain their living before the maturity of the trees. Due to this, forest official disclosed that some secondary schools had been adopted in the study area as a way to support people's participation efforts in forest management and conservation, thereby, combating these crises of deforestation from the bottom.

Afforestation and Reforestation was (24.2%), government intervention by creating more forest reserves through the green bond in the study areas has also helped a lot, as revealed by the respondents. In fact, there are so many challenges facing forest reserves in the study area, such as security and bush burning as revealed by the respondents, but government officials have been intervened in the other to stop the issue. Notwithstanding, some stakeholders suggested that rural people's participation would have been the best way to curtail the problems. The Government officials revealed that, lack of jobs and high rate of poverty in the country contribute to apathetic

rural people participation in protecting forest, and it has forced people to encroach forest reserves indiscriminately by felling of trees.

However, in the study areas, people did not have capacity to buy kerosene because, as it is very cost. As a result of this, most of the people depend on fuel wood widely known as charcoal and this charcoal production has severe effects on our forest reserves. Respondents suggested alternative energy sources for the people will help the community to participate in forest conservation. From the qualitative information, the local people exploit these forest resources indiscriminately to meet their needs. The community's chiefs and Forest officials revealed that effort had been made to synthesize people in the communities. Especially, how community can participate in forest conservation and management outside natural forests areas to reduce pressure on natural forests, for timber, fodder and fuel wood demands, but there is no government incentives to back it up.

Public enlightenment had (20.8%), when the communities have knowledge about the benefits of community participation in forest conservation, forest degradation would be totally reduced. However, respondents revealed that perpetual public enlightenment on the benefit of the forest is still ongoing. The forest official stated that if rural people participation in forest management and conservation will yield positives results, some daily needs have to be

provided, such as creation of jobs because *there is clear link between degraded forests and poverty*. It was estimated that one billion of the world's poorest people in about 30 heavily deforested countries would be alleviated from poverty if the government given them support for managing neighboring public forest land and sharing the benefits within their communities [5].

Enforcement of forest law and policy had (17.5%), there is no doubt if there is suffering on the ground, violation of the laws and orders will emerge. The respondents revealed that rural people aware of government laws and policy on the forest matters, but *Poverty forces humans to kill the goose that lays the golden eggs*. From the qualitative information, the local people believe that, there is no alternative for them to survive than depleting the forest, because of their daily needs such as fuel wood, electric poles, roofing, tables, chairs etc. As revealed by the Government officials, a wide variety of policies are currently in place to protect the forests but need community participation to be effectively enforced and government incentives such as vehicles for the forest patrol.

According to government officials, in 2016, the state government employed five hundred forest guards as part of an effort to protect the forest reserve from indiscriminate deforestation. The team accomplish great success, impound bags of charcoal from producers. But, this task force team, vanished after a new government assumed office in 2023. Because, they did not exist within the purview of the forestry department.

Educate others had (15%), training and education of stakeholder's helps people to understand how to prevent and reduce adverse environmental effects associated with deforestation and to take appropriate action when possible.

B. Rural People Participation and Factors that Hinder Their Participation in Forest Conservation

Most of the respondents revealed that, lack of participation was due to high rate of poverty in the communities, lack of secure tenure of forests and lack of environmental committees. However, it was discovered that the community involvement in forest management was low because of lack of incentives that can relieve the communities. The leaders of the communities that would have been a source of help in the community know little or nothing about the importance of the forests' conservation issues. Notwithstanding, poverty in the area has resulted in local people being pre-occupied with their immediate survival, hence have less time for environmental protection. Many households cannot survive to take their children to school. However, this has led to over reliance on forest resources such as charcoal productions, building materials, illegal trees felling, timber logging and wood carvings. Expansion of farming activities into forested areas were also observed to be contributing factors to environmental degradation in the area.

It was discovered that the majority of the people in the community have no access to participatory processes. But, the few people who have access are unable to present their view due to lack of support, this is in conformed to [6] and [7]. Meanwhile, overexploitation of timber and felling of trees for charcoal making and for purposes of construction has resulted in environmental degradation threat in the areas. Farmers also cut down forests indiscriminately for the purpose of farming activities and building constructions in the area. The upcoming trees have been cut for firewood purposes and shrubs for thatching. It was revealed through the questionnaire that most of the local people rely on firewood as their main source of energy because all others alternative are difficult for the local people to access because of the economy crises in the country "*Poverty forces humans to kill the goose that*

lays the golden eggs” thus, the Mokwa forests are facing heavy looming threats.

Through the investigation, it was discovered that these forests users do not replace the trees that have been cut. The survival of the forest based on replacement of cut trees to ensure its continuity as forests. There is also unregulated tree harvesting, as the locals’ have no woodlots on their farms.

However, respondents also mentioned the challenges facing the effectiveness of community participation, to include limited involvement of women in decision-making processes and the need for increased awareness and cooperation within communities.

C. Participation Benefits the Environment, but People Feel Like Working without Proper Tools

Notwithstanding, the people of the communities felt that the government still in charge of forests resources and does not tolerate broad rural people participation and utilization of resources. Table 3 shows the criteria of rural people perception on forest management. However, from the data, 62% fall into good criteria and moderate Table 3, most

of the respondents relied on forest resources and desired to preserve it while 38% relied on forest resources without having agenda to preserve it. Community notice that they were bound from inbound the community forests, while several strangers, like investigators, tourists, researchers and scientists invade the forest irrespective of the neighboring dwellers being informed of it. However, one of the respondents says: “As long as the forests are theirs (the community) they are being oppressed and still achieve nothing from it. The local people do not achieve anything right away from the revenues from the forests” this is conformed with [8] providing benefits and incentives for local communities is also problematic and calls for improvement. Most of the respondents said the significant demand from community directly from forest product was firewood and medicinal plants. Some elite about forestry in the communities concerned about environmental problems, such as declined in the forest animals and medicinal plants.

Table 3: Criteria of Rural People Perception on Forest Management

Variable	Criteria	Parameters	Frequency(120)	Percentage (%)
Perception	Good	Relies on forest resources and desire to preserve it	60	50
	Moderate	Relies on forest resources, but do not realize that it needs to be preserved	14	12
	Poor	Relies on forest resources but not preserving it	46	38

However, some respondents said community participation in forest conservation and management needs to begin from the adjacent or closed residents to the forests. They must be more broadly involved and allowed the authority to conserve the forests like old days. Additionally, “old days” meant for the era before the creation of forest reserves and had a zealous sense of “our forest” in it. More understanding of forest conservation and management activities was also required. The transformation of duties on forest conservation practices must be more obviously beginning from the communities up to the government and subsequently to other stakeholders. Most of the respondents felt the necessity for cooperation to carry out their conservation work properly. This comprises provision of education and management techniques and easiest entree to hands-on conservation gains, such as fertilizers, seedlings, and modern capacity building in forest management expertise. The demand for entrée to forests for firewood was emphasized and discussed. The importance of forest fire prevention was also discussed, as well as the necessity for more teaching on sustainable forest management techniques.

IV. Conclusion

This study revealed that, there were low rates of rural people participation in forest conservation in the study areas due to poverty in the communities, lack of secure tenure of forests, lack of environmental committee, limited involvement of women in decision-making processes, the need for increased awareness and cooperation within communities and legal rights from the government. The participation strategies in the study areas include agroforestry practices, afforestation and reforestation, public

enlighten, educating others and enforcement of forest law and policy.

However, trees moderate local climate by reducing wind speed and high temperature through the atmosphere humidity. Rural people participation would enable communities to manage their forest resources in an efficient, equitable and sustainable manner. From the study, it is recommended that local people's participation is a viable option for forest conservation and management that can create benefits and favorable conditions for the communities.

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