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ASSESSMENT OF COMMUNITY WILLINGNESS TO ESTABLISH PRIVATE PLANTATIONS FOR SUSTAINABLE FORESTRY INITIATIVE IN TARABA STATE, NIGERIA

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Abstract

The rapid increase in demand for wood products has contributed to the loss of natural forests in Taraba State. Investment in Private Own Plantations (POPs) is important for increasing wood supply and promoting sustainable forest development. This Study aims to assess community willingness to establish a POP for a sustainable forestry initiative in Taraba State, Nigeria. A total of 360 respondents were selected using a multistage sampling technique. The respondents were drawn from the following categories: timber contractors, Harvesters, Processors, Charcoal producers, among others. Descriptive statistics were used to analyse the data. The findings of the Study show that, majority of the respondents are Youths, Males (80%), married (85.7%), with a moderate household size of 4-7 (57.1%) and with a low educational background (26.3%). Most of the respondents, 350 (100%), are aware of POP. Thirty-one Government Own Plantation (GOP) exist in the study area, with Kurmi having the highest hectares of GOP and seven POP, with Danladi Kwagiri Teak Plantation having the highest number of hectares of land cover for POP in the Study area. Land for the Plantation was acquired by inheritance (54.1%), purchase (34.3), lease (8.6) and gift (5.7%). The purpose of establishing Plantations was Timber, Poles, recreation and Non-timber Forest Products. Inadequate capital, land tenure system, inadequate policies & regulations, long-term gestation period of trees, shortage of labour, poor extension services and poor roads were found to be factors influencing community willingness to establish POP in the Study Area.

Keywords: Government-owned Plantation, Forest Investment, Forest Management, Wood Product Demand



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INTRODUCTION

Nigeria's Forest cover is estimated to be 9.6 million hectares or 10.8% of the total land mass (FAO, 2020). The establishment of Private Own Plantations can play a critical role in addressing the challenges facing Nigeria's Forest cover and maximizing their potential for sustainable development (Ogunwale *et al.*, 2020). Private Own Plantations is therefore the establishment or development of Forest Plantations by individuals, families, communities, villages, companies, co-operative bodies, social clubs, and institutions other than government agencies. Examples of Private Own Plantations in Nigeria are Timber and plywood plantation in Sakpoba, Edo State, Teak plantation owned by Alhaji Taliat Ainkunmi in Ikire, Osun State, Evergreen Tree Plantation situated at Ijari, Ijebu Ode, Ogun State (Akinbowale *et al.*, 2019).

Some benefits of POPs in Nigeria include economic benefits such as creating employment opportunities, generating income for local communities, reducing dependence on imported Forest products, and contributing to the country's Gross Domestic Product (National Bureau of Statistics, 2021). Private-owned Plantations can contribute to conserving biodiversity and ecosystems as well as mitigating climate change (World Bank, 2021). It serves as a carbon sink, which helps to reduce greenhouse gas emissions and combat global warming.

Private plantations can also protect watersheds, regulate water cycles, and prevent soil erosion, enhancing the resilience of ecosystems and communities to climate change and natural disasters. It contributes to biodiversity conservation, social benefits, and ecosystem sustenance (Akindele *et al.*, 2020). It also provides traditional medicine, food, fuel wood, and other essential services to local communities, especially in rural Areas. The

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participation of local communities in Private Forest establishment and management enhances decision-making, reduces conflicts, and promotes social cohesion (Adetoro *et al.*, 2019).

The main aim of the Study is to assess community willingness to establish POP in Taraba State. The Specific objectives are to: assess the socio-economic characteristics of the respondents in the study area, examine people's awareness of POP in the study area and identify forest plantations and their ownership structure, purpose, sources of funds and seedlings in the study area. Most of the Forest Plantations in Taraba State are largely dependent on public funding. Public funding of Forest Plantations has been inadequate and untimely at the State level. Besides, studies have shown that the funded Forest Plantation project had been invaded by crude exploitation in Taraba State (Zaku & Ishaku, 2022). The Afforestation project has either been destroyed or exported out of Nigeria at a scandalous scale and without any thought of a replanting program (Zaku & Ishaku 2022). It is apparent that natural and Forest Plantations managed by the government have faced incessant depletion, and hence the need for Private Forest Plantation establishment.

Several studies have been carried out on Private Forest Plantation in Nigeria by Scientists, such as Adejumo (2017) & Adebayo *et al.* (2019), with less information on people's willingness to establish Private Forest Plantation. To date, information is lacking on people's willingness to establish Private Forest Plantation in Taraba State. The absence of up-to-date information on community willingness to establish Private Forest Plantation in Taraba State justifies the need for the current Study.

The Study will contribute to other literary works on community willingness to establish a POP, which could

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be relied upon for livelihood support. Information from the Study can assist communities in Taraba State in the identification and promotion of POP establishment. It can also serve as baseline information on POP establishment. It is hoped that the findings of the Study will be used as a resource material by politicians, policy makers and economic planners who may have limited knowledge about the POP establishment to help them formulate policies on the Private Forest Plantation establishment in Taraba State.

MATERIALS AND METHODS

Study Area Description

Taraba State is in the North-Eastern part of Nigeria, with its State capital at Jalingo. Taraba State is located between the latitudes 6° 30' & 9° 36' N and Longitude 9° 10' & 11° 50' E (Fig.1). Taraba State is bounded in the West by Plateau, Nasarawa and Benue States, respectively. On the Eastern part, it shares its boundaries with Adamawa State and Cameroon. While Bauchi and Gombe States on the Northern part. The State has sixteen Local Government Areas and a total estimated population of 3,609,800 (National Population Pre-Census, 2022). The soil is generally sandy loam. Soil colour ranges from greyish brown to brown, and it is well-drained (Ojanuga, 2006; TSD, 2014). It is a savanna region with plenty of grass, shrubs and a few scattered trees. Three distinct Agro-ecological zones exist as follows: High-Forest, Guinea and Sudan Savanna, respectively. The rainfall of about 4000mm is recorded in the Mambilla Plateau of Taraba State (TSD, 2014).

The major occupation of the People of Taraba State is Agriculture. Cash crops produced in the State include cocoa, coffee, tea, pea, kola nut, ground nuts and cotton. Crops such as maize, rice, Sorghum, millet, cassava and yams are also produced in commercial quantities. Cattle,

sheep and goats are reared in large numbers, especially on the Mambilla Plateau and along riverside Areas.

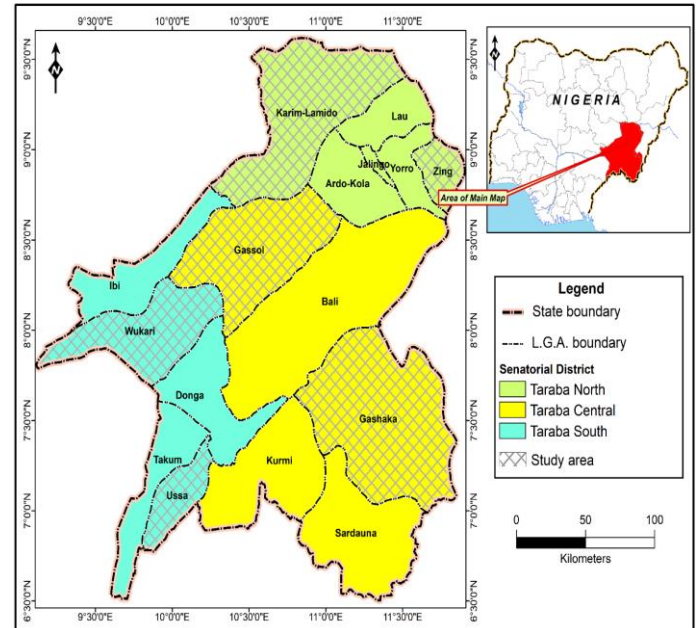


Figure 1: Map of Taraba State showing the Study Areas

Zaku & Ishaku (2022)

Sampling Procedure and Sample Size

A reconnaissance Survey was carried out in March and April 2024 to select the sites for the study. A multi-stage (4 stages) sampling technique was used for the Study because the population is large, widely dispersed and difficult to sample directly (Diaw *et al.*, 2002). The first stage involved the division of Taraba State into three (3) ecological zones as follows: Taraba North (Ardo-Kola, Jalingo, Karim-Lamido, Lau, Yorro and Zing Local Government Area), Taraba Central (Bali, Gashaka, Gassol, Kurmi and Sardauna Local Government Area) and Taraba South (Donga, Ibi, Takum, Ussa and Wukari Local Government Area).

The second stage involved purposive selection of two (2) Local Government Areas from each of the three ecological zones. A total of six (6) Local Government Areas (LGAs) were selected for the Study. The third stage involved the purposive selection of two (2) wards from each of the six (6) LGAs, bringing the total number to twelve (12) wards for the study. The fourth stage

involved the purposive selection of thirty (30) respondents from each of the twelve (12) wards, thereby bringing the total to 360 Respondents for this Study. A total of 360 semi-structured questionnaire copies with open and closed-ended questions were developed and administered to the Respondents to generate data for this Study. The respondents were drawn from the following

Variables	No of Respondents	Percentage (%)
Age of Respondents		
31-45 years	300	85.7
46-60 years	40	11.4
61 above	10	2.9
Total	350	100
Sex of the Respondent		
Male	280	80
Female	70	20
Total	350	100
Marital status of the Respondents		
Single	40	11.4
Married	300	85.7
Divorced	5	1.4
Widow/Widower	3	0.9
Single Mother	2	0.6
Total	350	100
Educational status of the Respondents		
Primary Education		
Secondary Education	92	26.3
Tertiary Education	52	14.9
Adult Education	48	13.7
Qur'anic Education	90	25.7
Total	68	19.4
Household Size of the Respondents		
1-3		
4-7	48	13.7
8-12	200	57.1
13 & above	52	14.9
Total	50	14.3
	350	100

categories: Timber contractors, Harvesters of Forest products, Processors of Forest products/charcoal producers, Marketers of Forest products/wood exporters, Livestock managers, Large-scale Farmers, saw millers, Medicinal herbs collectors, Building and energy materials Users, Freelance investors.

The questionnaires were validated using the method of Adesoye (2004). The respondents were drawn from the following: Timber contractors, Harvesters of Forest products, Processors of Forest products/charcoal producers, Marketers of Forest products/wood exporters, Livestock managers, Large-scale Farmers, Saw millers, Medicinal herbs collectors, Building and energy materials Users and Freelance investors respectively.

Data Analysis

Data generated from the Study was subjected to Descriptive Statistics. Descriptive Statistical tools such as Means, Frequencies and Simple Percentages were used to analyze the results.

RESULTS

Socio-economic characteristics of the Respondents in the Study Area

The result on socio-economic characteristics of the respondents on age shows that, 31-45 years, 300(85.7%); 46-60 years, 40(11.4%); 61 years and above, 10 (2.9 %) respectively (Table 1). The result on sex of the respondent indicated that 280 (80%) are males while 70 (20%) are females (Table 1). The result on marital status of the respondents shows that; singles are 40 (11.4%); married 300 (85.7%); divorced 5 (1.4%); widow/widower 3 (0.9%) and single mother 2 (0.6%) respectively (Table 1). The result on educational status of the respondents indicated that, primary education had 92(26.3%); secondary education, 52(14.9%); tertiary education, 48(13.7%); adult education, 90(25.7%) and Qur'anic education, 68(19.4%), respectively, (Table 1).

The results on household size of the respondents showed: 1-3, 48 (13.7%); 4-7,200 (57.1%); 8-12, 52 (14.9%); while 13 and above had 50 (14.3%), respectively, (Table 1).

Table 1: Socio-economic characteristics of the Respondents in the Study Area People's awareness on Public and Private Forest Plantation in the Study Area

The result of the community's awareness on GOP and POP in the study area showed that all the respondents are aware of both public and private own plantation, 350 (100%). The result on their sources of awareness showed that; radio, 200 (57%); forest extension agent/ officers, 48 (13.7%), television, 2(0.6%), newspapers/pamphlets, 3(0.9%), NGOs, 10 (2.9%); Farmers, 52(14.9%), National Orientation Agency, 25 (7.1%) and tree planting campaigns, 10(2.9%), respectively (Table 2).

Table 2: People's awareness of Public and Private Forest Plantation in the Study Area

Variables	No of Respondents	Percentage (%)
Awareness of GOP in the Study Area		
Yes	350	100
No	0	0
Total	350	100
Awareness of Private Forest Plantation in the Study Area		
Yes	0	0
No	350	100
Total		
Sources of awareness		
Radio	200	57
Forest extension	48	13.7
	2	0.6

agent/officers	3	0.9
Television	10	2.9
Newspapers/ pamphlets	52	14.9
NGOs	25	7.1
Farmers	10	2.9
	350	100
National Orientation Agency		
Tree planting campaign Meetings		
Total		

Forest Plantations and their Ownership Structure, Purpose and Sources of Funds, Seeds/Seedlings in the Study Area

The result on the GOP found in the study area showed that; Taraba State has a total of 31 Gazette public forest reserves, with Wukari having four (4) reserves with a total land mass of 13,045 ha; Kurmi, 3 with a land mass of 33,027 ha; Ardo-kola, 1 with a land mass of 4,968; Takum, 2 covering 3,318 ha of land; Bali, 6 covering 20,273 ha; Gashaka, 1 with a land mass of 6,216 ha ; Gassol, 1 covering 6,242 ha of land mass; Donga, 2 with 13,974 ha; Ussa,1 with a land mass of 7,966 ha; Sardauna, 9 covering a land mass of 6,516 ha and Zing, 2 covering 52 hectares respectively (Table 3).

Table 3: Public Forest Plantations in the Study Area

S/ N	Reserve Name	Locati on (LGA)	Natural Type	Forest	Total Area of Reser ve (ha)
	Agbon	wukari	Tree/woodland/shr ubs		3,337
	Sonkpa	wukari	Trees/woodland/sh rubs		1,321
	Bantaje	wukari	Trees/woodland/sh rubs		6,423
	Jabwanje	wukari	Trees/woodland/sh rubs		1,964
	Amboi	kurmi	Lowland rainForest & montane Forest		6,985
	Baissa	kurmi	Lowland rainForest/ Plantation		11,279
	Bissaula	kurmi	Lowland rainForest		14,763
	Bakin dutse	Ardo kola	Trees/woodland/sh rubs		4,968
	Takum	Takum	Lowland rainForest		943
	Chancha nji	Takum	Trees/woodland/sh rubs & Plantation		2,375
	Suntai	Bali	Trees/woodland/sh rubs		2,337
	Maihula	Bali	Trees/woodland/sh rubs & Plantation		399
	Wurkam	Bali	Trees/woodland/sh rubs		5,768
	Dakka	Bali	Trees/woodland/sh rubs		7,071
	Gangoro	Bali	Trees/woodland/sh rubs		4,698
	Gangume	Gashak a	Trees/woodland/sh rubs		6,216
	Garbacha	Gassol	Trees/woodland/sh		6,242

de		rubs	
Kakiwar gi	Donga	Trees/woodland/sh rubs & Plantation	6,674
Sayindo	Donga	Trees/woodland/sh rubs	7,300
Kamatan	Ussa	Lowland rainForest & montane Forest	7,966
Kasa kogi	Sardau na	Trees/woodland/sh rubs	2,500
Kocheho dawadi	Sardau na	Plantation	891
Dorofi	Sardau na	Plantation	28
Maisama ri	Sardau na	Plantation	249
Mayo ndaga	Sardau na	Plantation	44
Gembu	Sardau na	Plantation	39
Kakara	sardau na	Plantation	39
Nguroje	Sardau na	Plantation	70
River Nwum	Sardau na	Montane Forest	2,656
Monkin	Zing	Plantation	24
Zing	Zing	Plantation	28
Total			115,597

Private Own Plantations in the Study Area

The result of POP found in the study area showed that Elder Edward Adi Ajibauka plantation, 70 with a total land mass of 3 hectares; Hon. Danladi Kwagiri plantation, 80 covering a land mass of 5 hectares; Alhaji Musa karim plantation, 45 with land mass of 1.5 hectares, Global methodis church plantation, 50 with land mass covering of 2 hectares; Tutare farms, 20 covering about 3 hectares of land mass; Alhaji Mustapha Sale farms, 30 covering about 4 hectares of land mass

and Abdullahi Adamu farms, 55 occupying 4.5 hectares of land mass respectively (Table 4).

Table 4: Private Own Plantations in the Study Area

Variables	Plantation type	Total area of reserve (ha)	No of Respondents	Percentage (%)
Elder Edward Adi Ajibauka Plantation	Eucalyptus Plantation	3	70	20
Hon Danladi Kwagiri Plantation	Teak Plantation	5	80	22.9
Alhaji Musa karim Plantation	Mixed Plantation	1.5	45	12.9
Global Methodis Church Plantation	Eucalyptus Plantation	2	50	14.3
Tutare Farms	Mixed Plantation	3	20	5.7
Alhaji Mustapha Sale Farms	Mixed Plantation	4	30	8.5
Abdullahi	Mixed Plantation	4.5	55	15.7

Adamu n Farms			
Total	23	350	100

Ownership Structure, Purpose and Sources of Funds and Seeds/Seedlings of Forest Plantations in the Study Area.

The result on ownership structure of Forest Plantation showed that individuals, 100 (28.6%); family, 50 (14.3%) and Public, 200 (57.1%), respectively (Table 5). Also, the result of land acquisition structure for POP establishment in the study area showed that land acquisition by inheritance had 180 respondents representing 51.4%; land acquired by purchase, 120 (34.3%); Leased, 30 (8.6%); and land acquired by gift, 20 (5.7%), respectively (Table 5). The result on purpose of POP establishment in the study area indicated that establishment for timber purposes had 100 respondents representing 28.6%; pole, 80 (22.9%); Recreation, 60 (17.1%); Non timber forest products, 40 (11.4%) and Timber, pole, recreation & non-timber forest products (All of the above) had 70 (20%) respectively (Table 5).

Table 5: Ownership structure, Land acquisition structure and Purpose of Forest Plantations in the Study Area

S/N	Variables	No of Respondents	Percentage (%)
Ownership structure			
	Individual	100	28.6
	Family	50	14.3
	Public (government)	200	57.1
	Total	350	100
Land acquisition structure			
	Inherited	180	51.4
	Purchased	120	34.3
	Leased	30	8.6
	Gift	20	5.7
	Total	350	100
Purpose of Forest Plantations			
	Timber	100	28.6
	Pole	80	22.9
	Recreation	60	17.1
	NTFPs	40	11.4
	Timber, Pole, Recreation and Non-Timber	70	20
	Total	350	100

Forest Product s
Total

Sources of Funds and Seed/ Seedlings for Private Forest Establishment in the Study Area

The result on sources of funds for private forest establishment recorded personal savings with 250 respondents representing 71.4% and Loans with 100 (28.6%), respectively, while contributions from members and well-wishers as well as grants had no scores respectively (Table 6). The result on sources of seeds and seedlings was Personal Nursery, 100 (28.6%); private nursery, 150 (42.8%) with Local government and State nurseries with 50 respondents each representing 14.3% each, respectively, (Table 6)

Table 6: Sources of Funds and Seedlings for Private Forest Plantation Establishment in the Study Area

S/N	Variables	No of Respondents	Percentage (%)
	Sources of Funds		
	Personal savings	250	71.4
	Loans	100	28.6
	Grants	0	0
	Donations or Contributions from members and well-wishers or NGOs	0	0
	Total	100	100
	Sources of Seedlings		

Personal Nursery	100	28.6
State Nursery	50	14.3
Private Nursery	150	42.8
LGA Nursery	50	14.3
Total	350	100

DISCUSSION

Socio-economic characteristics of the Respondents in the Study Area

The results on age of the respondents implied that most of the respondents are youths, strong and energetic and can carry out strenuous work expected in the establishment and maintenance of Forest Plantations in the Study Area. The study therefore corroborates Adebayo *et.al*, (2019) and Adetero *et.al*, (2019) on their separate studies on POP development and establishment, respectively. Both agreed that strength is required to develop and establish plantation.

The highest number recorded of male on sex of respondents implies that majority of the respondent are males. This may be since, those involved in plantation development and establishment are mostly males because of the strength and labour involved. This does not mean that women does not have strength to work in a Plantation. Women also carry minor works in a plantation such as collecting of firewood, weeding, fire tracing etc. However, activities such as logging and pruning that requires a lot of energy and strength are only carried out by men. The findings of this study confirm the report of Akindele *et.al* (2020). Where he concluded that strength is a requirement in plantation establishment. He concluded that plantation

establishment is tedious, labour and time intensive and arduous and can only be carryout by males.

The high number recorded of married on marital status of the respondents in the study area implied that, majority of the respondents are married with many wives. This is because the wives are used for labour in plantation establishments. This may be due to the wives are themselves being a good source of family labour in Forest Plantation establishment in the study area. The findings of this Study corroborates Ogunwusi *et.al*, (2017) on his studies on plantation establishment and income from Forest products, which saw marriage as an additional advantage to family labour and family income against the unmarried.

The high number recorded of primary and adult education implied that most of the respondents have low level of education. The educational status of the respondent has implication for plantation establishment. For instance, getting people to accept, adopt or establish a Forest Plantation requires awareness and acceptability. This becomes only possible when people are well informed by way of education when people school beyond secondary schools, even their reasoning and perceptions of policies or societal issue will be coherent and will differ from the less schooled. This explains why there are less number of Private Forest Plantation owners. This agreed with Ajayi *et.al*, (2018) on his studies on prospects and challenges of Private Forest Establishment in Nigeria. Here low level of education was seen as one of the challenges of Private Forest Plantation establishment in Nigeria. The results on household size show that most of the Respondents are farmers and use family labour. This therefore, gives them advantage over their counterpart with lesser number of household size. These large household sizes provide family labour which is required in Forest plantation establishments. The findings of this study corroborate

Adekunle (2020) were reported that large household size provides labour needed in plantation establishment.

People's Awareness of Public and Private Forest Plantation in the Study Area

The highest level of 100% awareness on Public and Private Forest Plantation by the Respondents in the Study Area may be due to effective utilization of the variation in the different sources of media used. These sources includes; Radio, farmers, Extension agents, National orientation agency, Television, Newspapers and pamphlets, tree planting campaigns and Non-governmental organizations respectively. These agencies create awareness on the importance of forest and plantation in the study area. The singular challenge here has been funds for the establishment of POP. The findings of this study agree with Ajayi *et al*. (2018) where it was concluded that awareness on Private Forest Plantation is there already and what is left is the capital to establish POP.

Forest Plantations and Its Ownership Structure, Purpose, Sources of Funds, Seeds/Seedlings in the Study Area

The high numbers of POPs recorded in Kurmi, Bali, Donga and Wukari Local government Areas of Taraba State may be due to large expanse of land available in those local governments. It may also be attributed to the favourable climatic and edaphic factors of the region or local governments. Another reason could be that, majority of the inhabitants of these four (4) local government Areas are either crop farmers or herders and whose livelihoods depends on the two. This agrees with the findings of Adebayo (2002, 2012) and Ojanuga (2006) on their separate studies on climatic and edaphic factors of Taraba State where they reported that the climatic and edaphic factors favour tree planting. Taraba state is the third largest state in Nigeria with a total land mass of 54,473 km² (5,447,300 ha), while the total land mass occupied by GOP is to the sum of 115,597 ha/

1,155.97km². i.e 2.12% of the total land mass of the state is occupied by GOP which is relatively poor or low. Therefore, there is need for more action plan by the Public sector (government) to invest in more forest plantation establishment.

The Number recorded of POP in the Study Area with a total land mass of 23 hectares implies that such Plantations are well known by many in the study area. This could be due to their sizes, their products and their marketability. Also, because they are not many, they become very easy to identify. The study corroborates the submission of Adebayo *et.al*, (2019); Adetero *et.al*, (2019) and Ajayi *et.al*, (2019) respectively in their separate studies on the requirements of POP establishment. They concluded that, more would go into Forest Plantation establishment if incentives are provided. But, since incentives are not given, only few will go into forest plantation establishments thereby resulting in the low number of total land mass. I.e. 23 hectares/ 0.23km² and 0.0004% from the entire total land mass of Taraba state which is 54,473km². This calls for a serious action plan to encourage the Private sectors, individuals to invest more in POP establishment.

Ownership Structure of Forest Plantation, Purpose and Sources of Funds, Seeds and Seedlings in the Study Area

The high number recorded of GOP under the ownership structure of plantation implied that most of the Forest Plantation in the Study Area are owned by the State government and they depend largely on public funding (government funding). It is apparent that public funding of GOP has been inadequate and untimely at the State level. Besides, GOP is being invaded by crude exploitation (Zaku & Ishaku, 2022). Similarly, the afforestation project in the study area has either been destroyed or exported out to china at a scandalous scale and without any thoughts of replanting program (Zaku & Ishaku, 2022).

According to Zaku & Ishaku (2022), the demand for wood raw materials by industries in recent times in Taraba State has outstripped the production capacity of the Forest. Scandalous exploitation of the Forest is being done to meet the increasing demand of the ever-increasing population of Taraba State. Consequently, forest land has been degraded, and the Forest resource base has been depleted. There is little or no interest by individuals, organizations and communities willing to invest in the establishment of POP in Taraba State. This may be due to the constraints of funds or capital. It is therefore believed that, if people have access to funds or capital, they will be motivated to establish their own POP. People sees government property as nobody's properties and they use it anyhow without maintenance. It is also felt that, when people are encourage to own their own Plantation, they will maintain it well, since it is their own. Also, the pressure on the exploitation of wild trees in the forest and free areas in the Study Area will be reduced. This Study corroborates with the submission of Zaku & Ishaku, (2022) on their studies on evaluation of forest policy implementation in Taraba State where they concluded that people should be encouraged to own their own Plantations or plant seeding's of trees of their choice in their farms and around their houses to help reduce the pressure on the wild ones.

Land acquisition for Private Forest Plantation in the Study Area

The highest percentage recorded on Land acquisition for POP in the Study Area on Inheritance and purchase implied that, majority of the respondents acquired their land for POP by inheritance and Purchase respectively while only a few got it by Lease and gift, respectively. The findings of the study corroborate with Evans, (1992); Evans & Tumbull (2004) and Faleyimu *et al* (2013), respectively. All of which concluded that, Land acquisition for Private Forest Plantation are through inheritance and purchase.

Most of the POP owners affirmed that they got their Land by inheritance. Land by inheritance is small particularly where the family is large, leading to excessive land fragmentation. This explains why some of the Plantations are small. Also, Lands are expensive and only the rich can buy large acreage of land. This explains why many are unwilling to go into POP in the Study Area. The land acquired by Lease and Gift are not always practiced except on exceptional cases, as children of such Land owners have begun the process of recovering such Lands. This is no longer tenable in Taraba State.

Purpose, Sources of Funds, Seeds/ Seedlings for Private Forest Plantation in the Study Area

The high percentages recorded of timber, poles, recreation, non-timber forest products implied that, there were the Purposes for which Private Own Plantations were established in the study area. The Findings of the study agreed with the submission of Adebayo et.al, (2019). This is true because the rate of Forest loss does not match Government effort towards the protection of the Forest. It is felt that, if individuals and communities go into the establishment of Private Own Plantations, the pressure on Natural and Public Forest will be reduced and the above purposes will be met sustainably.

Similarly, the high percentages recorded of personal savings and Loans on Sources of Funds implied that they were the main sources of Funds for the establishment of POP in the study area. The Findings of the Study Corroborates Faleyimu *et al.* (2013) and Adekunle, (2020), respectively, who both concluded in their separate studies that, Personal savings and Loans from Commercial Banks are the main sources of Funds for the establishment of Private Forest Plantation in the Study Area.

The high percentages recorded of Private and government own nurseries, Private and Government

nurseries on sources of seeds/seedlings for POP implied that, they were the various sources of Seeds/Seedlings used in POP in the Study Area. The findings corroborate Evans Julian, (1992) and Enters et al. (2003), respectively, both of which concluded that personal nurseries, Government and Private nurseries were the main Sources of Seeds and Seedlings for POP.

CONCLUSION

The findings of the Study shows that majority of the Respondents are Youths, Males, Married with Moderate Household size and with Low educational background. Most of the respondents have the knowledge of POP through Media (Radio) which serves as a major source of their awareness. The Study identified thirty-one (31) GOP in Taraba state covering about 115,597 hectares (1,155.97km²/ 2.12%) of Land Mass from the Total 54,473 km² land mass of the State with Kurmi local government having the highest hectares land (33,027 ha) of the plantation. Also, seven (7) POP with a total land mass of 23 ha (0.23km²/ 0.0004%) of the total land mass of Taraba state (54,473km²) with Honourable Danladi Kwagiri teak plantation having the highest number of hectares (5 ha) of Land cover of Private Forest Plantation was identified.

Land for the plantation were acquired either by inheritance, purchased, leased or gift. Similarly, the purpose for establishing the plantation were timber, poles, recreation and non-timber forest products. Also, Funds for establishing plantation were gotten from personal savings and loans. Similarly, seeds/seedlings were gotten from personal nursery, State nursery, private nursery and local government nursery, respectively.

The study recommends providing low-interest credit facilities with minimal collateral to support individuals interested in establishing POPs. Improving rural feeder roads is essential for transporting forest inputs, labour, and products. Communities should be encouraged to

cultivate fast-growing tree species, and government forestry policies should remain stable to ensure long-term sustainability. Government agencies should use digital platforms to communicate new forestry technologies and sustainable practices.

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