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WILLINGNESS TO ESTABLISH PRIVATE FOREST PLANTATION AMONG DWELLERS IN SOME SELECTED LOCAL GOVERNMENT AREA OF OSUN STATE, NIGERIA

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ABSTRACT

This study was carried out to investigate the willingness to establish private forest plantations among dwellers in Ife North, Ede South and Osogbo Local Government Areas of Osun State. One hundred and seventeen (117) questionnaires were administered randomly to selected respondents from nine (9) selected communities in the study areas, while ninety-three (93) copies of questionnaire were retrieved. Multi-stage sampling technique was used to select respondents from the study area. The willingness of the respondents to private forest plantation establishment showed that 64.5% of the respondents agreed on establishment of private forest plantation. Chi-square analysis indicated that a significant relationship exist between respondents' sex, level of education, source of labour and secondary occupation on willingness to establish private forest plantation. Many of the dwellers faced some problems which influenced their willingness in establishing private forest plantations such as poor extension service, land tenure system, small land holding, non-availability of seed/seedlings, lack of technical know-how, Government policies, trees casting shadow on crops, etc. More dwellers can be encouraged in willingness to participate in private forest plantation through extension service to farmers, government institutions' involvement at various levels of activities that will encourage individuals and organizations to establish private forest plantations. Government policies on land tenure system should be reviewed to encourage individual or private organisations to invest and actively participate more in forest plantation establishment.

Keywords: Willingness, Private Forests, Plantation Establishment

INTRODUCTION

The forest plays an important role in protecting the soil, ameliorating the environment and protecting biodiversity and conserve soil and water. Forests are the main carbon reservoirs as well as the most efficient ecosystems to capture CO₂ from the atmosphere. Adedokun et al. (2011), reported that one of the most important resources of the earth is the forest and it is believed that man cannot survive without trees, especially those that are fruit producing. Ogunwusi (2011) reported that the role of forests in industrial development and in carbon sequestration is becoming very topical, and emphasis should be placed on increasing the area under forest cover through plantation establishment. Therefore, the continuing dependency of the poor living in the rural and urban settings in the developing countries on fuel

wood for cooking and heating has seriously degenerated to environmental degradation (Arowosoge and Oyerinde, 2011). Therefore, the rapid growth of populations and the higher expectations of the people which have been generated throughout the State have led to an increase in the use of forests to such an extent that forests in the State have become degraded if they have not been razed to the ground, while the community involvement in forestry activities has also been ignored by planners and policy makers not only in Nigeria but also all over Africa (Adedayo and Oyun, 2010). However, very little progress has been made over the years in building on this foundation to transform the economy of the state using agriculture and forestry as a driver. Due to a lack of focus in the agriculture sector, the gains achieved by the Western Region government have been gradually eroded (Ministry

of Information, Osun State, 2009). Hence, local people have an important role in agriculture, their involvement in forestry activities varies between cultures, they have names for many different kinds of plants, ways to diagnose and treat human and animal diseases and methods to cultivating fertile and infertile soils. The agroforestry practices adopted by farmers include retention of trees on farmland, planting of trees on boundaries, scattered trees on farmland, shifting cultivation and home gardening (Akinbile *et al.*, 2007)

The forest provides household food and shelter for the people (Omorodion and Ebana, 1994). Precisely, forest plantations around the world provide important source of livelihood for many of the rural poor, although people necessarily make use of the forest. In a matter of fact, forest dwellers do represent the group with the highest level of forest dependency (Arnold, 2001). Forest dwellers are most often indigenous population groups that live in and with the forest according to their own traditions, making the forest also an important part of their social and cultural systems (Arnold and Bird, 1999).

It has been demonstrated that the private sector in forest plantation establishment is probably less than 1.0% of the total forest plantation in the country, although FORMECU (1999) identified a growing interest by the private sector in establishing forest plantations. This study therefore focused on the assessment of the willingness to establish private forest plantation among dwellers in Osun state.

MATERIALS AND METHODS

Study Area

The study was carried out in Osun State in 2018, Nigeria. The State was carved out of the old Oyo State on the 27th August 1991, it is located between longitudes 040301E and 4051E and latitude 70301N and 70501N, South-western Nigeria. It covers an area of approximately 14,875 square kilometres. It is also divided into three Federal senatorial districts, each of which is

composed of two administrative zones. The 1991 census puts the population of the State at 2.2 million, SEEDS (2007). The State is made up of 30 Local Government Areas (LGAs) with over 200 towns, villages and other settlements. The State has a considerable number of highly urbanized settlements, some of which are Osogbo, Ile-ife, Ipetumodu, Ilesa, Ikirun, Iwo, Ede, Ila Orangun and Ikire. Others include Ejigbo, Ilobu, Gbongan, Okuku, Inisa, Ijebu-Ijesa, Ipetu-Ijesa etc. The people of the State are mainly traders, artisans and farmers. Their other occupations include hand-woven textiles, tie and dye, leather work, calabash carving and mat weaving. Osun State is bounded in the west by Oyo State, Ondo and Ekiti States in the East, Kwara State in the North and Ogun in the south. The state runs an agrarian economy with a vast majority of the populace taking to farming, SEEDS (2007).

Experimental Design

The population of this study comprised of the people in three LGAs selected from three Senatorial District of Osun state. Target population of this study comprised the households of some selected communities in the three local governments. Multi-stage sampling was used to select the respondents in the study area. One (1) Local Government Area was randomly selected from each of the three (3) Senatorial Districts to give a total number of three (3) Local Government Areas in the study area. Three (3) communities were selected in each local government area using random sampling techniques to make a total of nine (9) communities. In each of the nine (9) sampled communities, thirteen (13) household heads were systematically selected in each community to make a total number of one hundred and seventeen (117) respondents and semi structured questionnaire were administered to them. While ninety-three (93) copies questionnaires were retrieved. The selected local government areas and the sampled communities are presented in Table 1.

Senatorial District	Local Government	Communities
Osun East	Ife North	Ipoeye, Olobo, Oyere- aborishade.
Osun West	Ede South	Olodan, Ararimu, Elewure.
Osun Central	Osogbo	Boredun, Onigboyi, Owode.

Data Analysis

The data was analysed using frequency distribution and percentages. The hypotheses of

the study were tested using chi-square and Pearson product moment correlation (PPMC).

RESULTS

Table 2 shows there were more males (92.5%) to establishing of private forest plantation than females (7.5%) in the study area. The age distribution shows that, the age of most respondents was within the range 40-49years which has the highest percentage of 53.8%. The marital status of the respondents showed that married (88.2%) were more willing to be involved in private forest plantation establishment than single (11.8%) people, due to the fact that married people have more responsibilities and cautious of their decisions. Therefore, their participation

would improve their standard of living which will also have major impact for their future. The result further showed that there were more Muslims (55.9%) than Christians (43%) in the study area. The household sizes of the respondents showed that majority (72.0%) of them have family size between 0-4. The educational background of the respondents revealed that majority (80.6%) had secondary education followed by primary and tertiary educations were 15.1% and 4.4%, respectively. The table further shows that respondents with 12 years of formal education had the highest percentage of (81.7%).

Table 2: Socio-economic characteristics of the study respondents in Osun State

Variable	Frequency	Percentage (%)
Sex		
Male	86	92.5
Female	07	07.5
Age(Years)		
21-29	02	02.2
30-39	15	16.1
40-49	50	53.8
50-59	25	26.9
60 Above	01	01.1
Marital status		
Married	82	88.2
Single	11	11.8
Religion		
Christianity	40	43.0
Islamic	52	55.9
Traditional	01	01.1
Household size		
0-4	67	72.0
5-8	26	28.0
Level of education		
Primary education	14	15.1
Secondary education	75	80.6
Tertiary education	04	04.4
Years of Formal Education		
6 years	14	15.1
12 years	76	81.7
16 years	03	03.2
Total	93	100.0

Table 3 shows that 65.6% of the respondents haven't heard about private forest plantation establishment. This result implies that majority of the respondents were ignorant about private forest plantation establishment which may contribute to low involvement in private forest plantation establishment in the study area. Also 50.5% of the respondents were not practicing agroforestry.

While 49.5% were practicing it. Most of the 62.4% respondents didn't know that individuals or private organizations can establish forest plantations but 37.6% of the respondents know that individual or private organization can establish forest plantation. Most of the 53.8% respondents don't have any relationship with forest staff while 46.2% of the respondents have

relationship with forest staff. From the table, it shows that 65.6% of the respondents have difficulty coping with tree tending. This result implies that majority of the respondents were having difficulty in coping with tree care and monitoring. Table 3 also show that 48.4% of the respondents have heard about the policy guiding forestry activities, this result implies that majority of the respondents have no knowledge about the policy guiding forestry activities. Most of the respondents (62.4%) don't know how to plant trees while 37.6% of the respondents know how to plant tree. Most of the 62.4% doesn't have

knowledge on management activities involved in forest plantation establishment. Furthermore, 87.1% of the respondents know that trees or forest plantation establishment takes several years to mature and also 86.0% of the respondents agreed that exotic species in private forest plantation establishment are better than indigenous species, this result is in agreement with the findings of Udofia *et al.*, (2011), that vast areas of forest are being converted into plantation of exotic tree species, due to the fact that they grow faster than the indigenous species.

Table 3: Knowledge of respondents on private forest plantation establishment practices in Osun State

S/No.	Knowledge on forest plantation establishment	Yes F (%)	No F (%)
1	Have you heard about PFP?	32 (34.4)	61 (65.6)
2	Are you practicing Agroforestry?	46 (49.5)	47 (50.5)
3	Do you know that individual or private organization can establish forest plantation?	35 (37.6)	58 (62.4)
4	Do you have any relationship with forest staff?	43 (46.2)	50 (53.8)
5	Difficult coping with tree tending?	61 (65.6)	32 (34.4)
6	Have you heard about policy guiding forestry activities?	45 (48.4)	48 (51.6)
7	Do you know how to plant trees?	35 (37.6)	58 (62.4)
8	Do you have knowledge on management activities involves forest plantation establishment?	35 (37.6)	58 (62.4)
9	Trees/forest plantation establishment takes several years to mature?	81 (87.1)	12 (12.9)
10	Indigenous species are better than exotic species in PFP establishment?	13(14.0)	80(86.0)

Table 4 revealed that only 81.7% of the respondents identified fire outbreak as not a constraint, which is quite reasonable because forest plantation establishment will combat excessive fire outbreak. Inadequate forest extension worker was also identified as a major constraint with (92.5%) of the respondents affirmed that forest extension workers were not enough to sensitize them on the need to establish forest plantation. The result is in agreement with the finding of Dezoysa (2002) who pointed out that extension sometimes is successful in creating awareness and promoting trees, but the extensions effort often fails with no provision for follow-up visits. Another major constraints identified by the respondents is land tenure system which accounted for (83.9%). It was observed that the land use act of 1978 vested the ownership of land on government. The table further revealed that (95.7%) of the respondents identified government

policies on forestry as a major constraint. The table also shows that lack of technical know-how which accounted for (66.7%) is one of the main constraints to forest plantation establishment. Above average (53.8%) of the respondents also identified private forest establishment as long term investment which involves capital tie down investment. Most finance houses in Nigeria believe in short term, highly predictable and profitable investments..

Table 4 also shows that 50.6% of the respondents had low response based on perceived constraints to private forest plantation establishment in the study area. This implies that some of the perceived constraints are not directional to what can affect respondents' willingness to participate in establishment of private forest plantation.

Table 4: Perceived constraints of respondents to private forest plantation establishment in Osun State

S/No.	Constraints plantation establishment	Major F(%)	Minor F(%)	Not constraint F(%)
1	Fire outbreak	4 (4.30)	13 (14.0)	76 (81.7)
2	Poor extension service	86 (92.5)	7 (7.5)	0(0.00)
3	Land tenure system	78 (83.9)	14 (15.1)	1 (1.1)
4	Small land holding	79 (84.9)	13 (14.0)	1 (1.1)
5	Non availability of seed/seedlings	89 (95.7)	4 (4.3)	0(0.00)
6	Lack of technical know-how	62 (66.7)	29 (31.2)	2 (2.2)
7	Long term investment	50 (53.8)	8 (8.6)	35 (37.6)
8	Lack of finance	84 (90.3)	8 (8.6)	1 (1.1)
9	Government policies	89 (95.7)	4 (4.3)	0(0.00)
10	Shortage of labour supply	77 (82.8)	16 (17.2)	0(0.00)
11	Poor transportation during raining season	81 (87.1)	12 (12.9)	0(0.00)
12	Trees casting shadow on crops	72 (77.4)	15 (16.1)	6(6.5)
13	Unnecessary competition for soil nutrient with arable crops	71 (76.3)	13 (14.0)	9 (9.7)

Table 5 indicates the willingness of the respondents to support private forest plantation establishment. The table revealed that most of the respondents (65%) agreed on willingness to private forest plantation establishment, some were

undecided (15%) while 20% disagreed on willingness to private forest plantation establishment. This may be due to the perceived benefits they stand to gain if they establish the plantation.

Table 5: Willingness of the respondents to private forest plantation establishment in Osun State

S/No.	Willingness to forest plantation establishment	Agree F(%)	Undecided F(%)	Disagree F(%)
1	I will like to establish PFP?	60 (64.5)	6 (6.5)	27 (29.0)
2	Economy diversification will make me to invest in establishment of PFP.	56 (60.2)	10 (10.8)	27 (29.0)
3	I will establish PFP if there is availability of land.	62 (66.7)	11 (11.8)	20 (21.5)
4	Climate change can make me to establish PFP to mitigate its effect	59 (63.4)	15 (16.1)	19 (20.4)
5	If i have access to loan, i will establish PFP.	61 (65.6)	11 (11.8)	21 (22.6)
6	I will establish PFP as a means of income generation.	62 (66.7)	16 (17.2)	15 (16.1)
7	Arable crops can be interplant with trees known as Agroforestry practice.	61 (65.6)	13 (14.0)	19 (20.4)
8	I will involve and establish PFP to encourage urban forest development	61 (65.6)	15 (16.1)	17 (18.3)
9	I will establish PFP for the community benefit	61 (65.6)	14 (15.1)	18 (19.4)
10	If land acts are reformed, I will engage in PFP establishment	61 (65.6)	14 (15.1)	18 (19.4)
11	Establishment of PFP will improve the sustainability of forestry sector	61 (65.6)	14 (15.1)	18 (19.4)
12	Government involvement at various level of activities will encourage individual and organisation to establish PFP	61 (65.6)	13 (14.0)	19 (20.4)
13	Awareness creation by stakeholders will enable individual to participate in establishment of PFP	61 (65.6)	11 (11.8)	21 (22.6)

Chi-square analysis (Table 6) revealed that, significant relationship exist between the sex,

level of education, source of labour and secondary occupation on willingness to establish private

forest plantation, sex ($X^2 = 23.038, P = 0.000$), level of education ($X^2 = 18.476, P = 0.001$), source of labour ($X^2 = 10.073, P = 0.006$) and secondary occupation ($X^2 = 12.458, P = 0.052$). This implies that the sex, level of education, source of labour and secondary occupation of the respondents influenced their level of willingness to establish private forest plantation. However,

age ($X^2 = 12.615, P = 0.126$), marital status ($X^2 = 2.005, P = 0.367$) religion ($X^2 = 2.340, P = 0.674$) and household size ($X^2 = 0.065, P = 0.968$) of respondents were found to have no significant relationships with their level of willingness to establish private forest plantation.

Table 6: Chi-square analysis of socio-economic characteristics of the respondents and their willingness to establish private forest plantation in Osun State

Variables	X ² -value	P-value	Decision
Sex	23.038	0.000	S
Age	12.615	0.126	NS
Marital	02.005	0.367	NS
Religion	02.340	0.674	NS
Household size	00.065	0.968	NS
Level of education	18.476	0.001	S
Source of labour	10.073	0.006	S
Secondary occupation	12.458	0.052	S

S = ($P \leq 0.05$)

The result as presented in Table 7 revealed that there was significant relationship between knowledge and willingness to establish private forest plantation ($P < 0.05$). This means that

knowledge is power and the more knowledgeable the respondents has on activities involves in establishment of forest plantation the more their willingness to establish private forest plantation.

Table 7: Pearson Product Moment Correlation analysis showing relationship between knowledge and willingness to establish private forest plantation in Osun State

Variable	r-value	P-value	Decision
Knowledge and Willingness	0.854	0.000	S

willingness to establish private forest plantation in Osun State

The result on the table below showed that there was significant relationship between perceived constraints of the respondents' and their willingness to establish private forest plantation ($P < 0.05$). This implies that constraints perceived or faced by individuals will determine their

willingness to engage in private forest plantation. The negative sign on the r-value indicates that there was an imbalance relationship between the perceived constraints and willingness to establish private forest plantation among the respondents.

Table 8: Pearson Product Moment Correlation analysis showing relationship between perceived constraints and willingness to establish private forest plantation in Osun State

Variable	r-value	P-value	Decision
Perceived constraints and Willingness	-0.213	0.040	S

DISCUSSION

The result showed that most of the respondents were still within the age range of forties which confirmed the report of Adekunle, (2009) which stated that people in this age group (40-49 years)

are agile and gainfully employed in farming, hence the importance of their involvement on decision making process of farmers with respect to adoption of improved agricultural technologies and other production related decisions to

establishment of forest plantation. The result is attributed to the fact that most of the households are headed by males and establishment of forest plantation with other forestry activities might be tedious and could be done by men than women.

It was revealed from the result that respondents' household size is not large, because every household head is cautious and considers their economy status. The result further showed that the literate level of the respondents in the study area was above 80% which has enhanced their willingness to establish private forest plantations. Therefore, it is in agreement with the findings of Adejoba and Oyewale, (2012) which says as the level of education attainment increases, the level of willingness also increases.

The result also agrees with the findings of Banjo and Abu (2014) who reported that formal education is an essential socio-economic factor that influences farmers' decision because of its effect on the knowledge, perception, perceived constraints and the willingness in establishing forest plantation that can increase productivity.

The result revealed that knowledge of agroforestry practices is low; this is contrary to the findings of Akinbile *et al.*, (2007) that agroforestry has a way of instituting sustainable agricultural development in Nigeria. This is because agroforestry has the ability to combat the various environmental problems by assisting farmers to maintain the fertility of their soils, ensure diversification of crops, wood and timber species and to stabilize, improve and conserve the environment. The result also revealed that policies on forestry were identified as a major problem; this is in line with the report of Onyekwelu (2001), that there is need to reform government policies, incentives,

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extension service, and provision of seed/seedlings. Also tackling other problems like long gestation period, land tenure, shortage of labour supplies and logging problem due to poor transportation during the raining season.

The result also revealed that majority of the respondents believed that establishment of forest plantation is a long time investment; this is in line with the findings of Dezoysa et al (2002) that over 46% of the participants in the programme consider the investment in forest plantation as an investment for the future especially for their children

CONCLUSION

The establishment of forest plantation is a key to sustainable harvest of wood products in order to support human society. Incessant deforestation has been a major problem which is resulting to uncertainty of weather conditions which is gradually transforming to climate change and variability. Therefore, our environment needs to be managed in such a way that we will have a balance the ecosystem and its services. Thus, respondents' knowledge on forest plantation enables them to show willingness in participating in trees planting. This is as a result of the perceived benefits associated with forest plantations.

Recommendation

Therefore, if Forest Research Institute of Nigeria and all stakeholders at all levels in forestry activities should initiate and sustain programmes that will enlighten and encourage the individual participation in forest plantation establishment. It will serve as benefits for the participants in private forest plantation.

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