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An Appraisal of Benefits Derived from Taungya Farming on the Communities Around Onigambari Forest Reserve, Oyo State

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Abstract
Research on the economic benefits derived by communities around onigambari forest reserve where farmers participated on taungya farming was conducted using a multistage sampling. The first stage was done through purposive sampling technique to select the four communities where farmers participated in taungya farming, while structured questionnaires were administered to the farmers within selected communities through random sampling. A total of Two Hundred questionnaires were administered. Result from the research showed that male was more among the taungya farmers (79%), young adults within the age range of 30 – 50 years are more than the aged people showing that energetic people are needed in farming. The average respondents in this research are primary school holders 58% and a school certificate holder 22%, showing that many of them might not be employed into white Collar Job and hence the need to engage themselves in farming as a primary occupation and their immediate family members as source of labour for farming operation having an average household size of between 6 and 10 members. Some of the crops cultivated by these farmers are maize, cassava, yam, cocoyam, tomatoes, pepper, etc. They enjoyed reduced weed, non-application of fertilization and free land for farming. They also helped the government plant up hundreds of hectares of land with valuable tree species and maintained the young plantation for the government until the trees form good canopy.
Keywords: Economic benefits, taungya farming, forest crops, diversity conservation, food production

Introduction

The need for sustainable food production is necessary in Nigeria based on the high increase in the population. Sustainable food production system as the system that delivers food security and nutrition for all in such a way that social, economic and environmental conditions are not compromised as defined by [5]. Unfortunately, food system has been identified as the largest driver of environmental degradation, biodiversity lost, water pollution and deforestation, hence the need to combine food production and environmental rejuvenation inform of afforestation together on a piece of land. The arable crops could only be cultivated within three to four years of the establishment of the young forest plantation when properly maintained as stated by [2]. Taungya farming system support the poor and those who have no access to family farmland. It also helps in reforestation. It contributes to household economy through provision of food, employment and increased income [7]. There are two types of taungya farming, (1) Traditional taungya farming (2) Departmental taungya farming [3]. According to [2], many of the plantation that were established in Ondo state Nigeria was achieved through taungya farming. Hence, it is a good method of plantation establishment when properly monitored.

Onigambari forest reserve has a large land area of Nine Thousand hectares, two thousand hectares were allocated to triton farms in 2015 by Oyo State government for both crop farming and animal husbandry. However, the government gave the company the mandate to raise tree seedlings to be allocated to arable crop farmers to plant up open spaces within the forest reserve to enrich the reserve with economic tree species.

The need to establish more forest plantation is enormous, as most of the tropical forest in Nigeria is becoming degraded. [8] stated that original moist forest in West Africa has greatly reduced and the leftover is heavily

depleted and most forest land has been lost to human activities. Hence the need to enrich the already degraded forest land with economic tree species to help increase the forest cover for sustainable water cycle and the release of fresh air to the environment. This can be achieved alongside with food production through taungya system.

Methodology

Study Area

The study area is Onigambari forest reserve. It covers about nine thousand hectares of land. The forest reserve is located between latitude $7^0$25N and $7^0$55N, and longitude $3^0$53E and $3^0$90E on the Idi Ayunre - Ijebu Ode Road, Oyo State. The communities around Onigambari Forest Reserve includes; Aba nla, Zeriki, Busogboro, Oja Bada, Longe, Onipe amongst others are presented in table 1.

A multi-stage sampling was used, in which purposive sampling was adopted to choose four communities around Onigambari Forest Reserve where rural farmers that participated in taungya farming are residing. On the other hand, a simple random sampling was used to select 200 farmers that participated in taungya in Onigambari forest reserve within the period of 2017 – 2020 through public private partnership involving Oyo state Department of forestry allocating land, triton farms limited raising tree seedlings being distributed to farmers for planting in their allotted farm land. Fifty farmers in each of the four communities selected were randomly selected and administered questionnaires making a total of two hundred questionnaires administered.

Table 1: The communities around Onigambari Forest Reserve

Communities	No of Questionnaires
Aba – nla	50
Olubada	50
Ojabada	50
Zeriki	50

Result and Discussion

Table 2: Socio-economic Characteristic of respondents

Variable	Frequency	Percentage
Gender		
Male	168	79
Female	32	21
Total	**200**	**100**
Age		
Less than 30 years	22	11
31 – 40 years	62	31
41 – 50 years	76	38
51 – 60 years	24	12
Above years	16	8
Total	**200**	**100**
Education status		
OND & above	4	2
School Certificate	44	22
Primary Certificate	116	58
Non-formal	36	18
Total	**200**	**100**
Variable	**Frequency**	**Percentage**
Marital status		
Single	38	19
Married	158	79
Divorced	8	4
Widow	16	8
Total	**200**	**100**
Household size		
Less than 2	38	19
3 – 4	56	28
5 – 7	64	32
8 – 10	36	18
Above 10	6	3
Total	**200**	**100**

Table 3: Land allocated for the farmers

Variable	Frequency	Percentage
1 – 2 acres	82	41
3 – 4 acres	76	38
5 – 6 acres	30	15
Above 6	12	6
Total	**200**	**100**

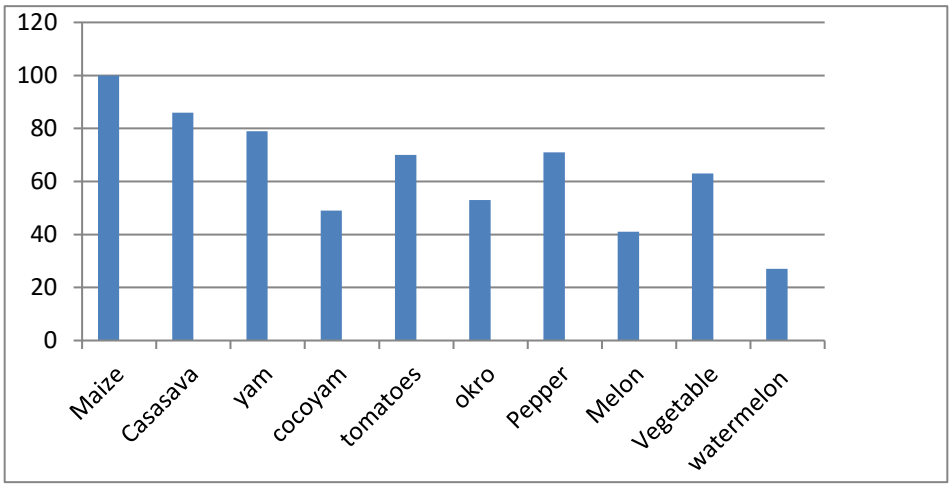

Figure 1: Crops planted by the farmers through Taungya

Discussion

The result on gender of the taungya farmers shows that many of these farmers are male, representing 79% as the respondents while female is just 21% of the respondents. This result also corroborates the findings of [3] that stated that male is more involve in Taunya farming in Onigambari forest reserve. [1], also made similar submission that male is more involved in farming than female in rural areas. He also submitted that farming, is a tedious occupation that needs strong and energetic people to do. Therefore, it is expected to have more men in farming activities. Although many wives of men who are farmers also help their husbands in some less tedious activities on the farm. Finding from this research work also show that many of these farmers do not have degree or higher institutional certificate that can guarantee a white-collar job for them as many of them only have primary school certificate 58% and secondary certificate 22%. Hence, they need to engage in farming as their primary occupation. The result on the household shows that 32% of respondents have household size of between 5 - 7 and 28% have household size of 3 - 4 while 18% of them have household size of 8 - 10 people. This also corroborate the finding of [4] that household size of Taungya farmers were within the range of 6 – 10 persons. This will also make them to rely on their immediate family members as source of labour.

The result on crops cultivated by these farmers shows that all of them planted maize, 86% planted cassava, 79% of them planted yam, 70% of them planted tomatoes, 71% of them planted pepper 63% of them also planted vegetables while 53% planted Okro and 49% of them planted cocoyam. The proof of these crops cultivated by these farmers is evident is the food crops available in the closest market to these farmers, this market is called Ogunmakin market which shared boundary with Ojabadan which is the one of the communities covered for this research work. On getting to Ogunmakin market on the early hours of the market day one will see farmers bringing their food products from these rural communities for sales in this market. All of the food crops shown in this research work are displayed by these Taungya farmers and sold relatively cheap.

It could also be deduced from these crops produced that maize is a stable food in Nigeria which could also be cultivated in the rainforest zone of the country especially during the wet season. Cassava, yam, tomatoes, pepper and vegetables are also largely cultivated by these farmers because of their high demand in this local market.

The result on land area planted with trees shown that an average farmer make use of 3 acres of land for Taungya farming which means that an average of 3 acres is being forested by each of the respondent farmer. This is an indication that the purpose of cultivation of both arable crops and forest crops on the same piece of land is still being achieved here. As long as the individual farmer still make use of the same land for arable crops cultivation, the forest trees planted are still being maintained by the farmers and under strict monitoring of the forest officers in charge of the forest reserve.

Conclusion

This study shows that Taungya farming is a bridge between land use for forest establishment and food production, it is important to conclude that this practice should be done by government at all levels to mitigate the prevalent global warming while also boasting food security as the increasing population is causing increase demand for food. Taungya farming also help in the conservation of biodiversity as both tree crops and arable crops are allowed to grow together until when the forest crops completely form canopy hereby increasing the vegetative cover. Human activities have greatly impacted biodiversity and it has intensified to the extent of undermining primary functions of natural system as stated by [6]. Hence, Taungya system is being used as means of conservation. Government at all levels should encourage plantation establishment through Taugya especially in south western part of Nigeria for energetic young people to be gainfully employed in farming so as to boost food production and enrich the forest estate.

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