

Role of Forest in Promoting Rural Livelihood in Ganye Local Government Area of Adamawa State, Nigeria

^{*1}Gaya A.S., ²Hammanjoda B. and ³Jalo J.N

¹Department of Forestry Technology, Adamawa State College of Agriculture P.M.B. 2088 Ganye, Adamawa State, Nigeria

²Department of Animal Health and Production Technology, Adamawa State College of Agriculture P.M.B 2088 Ganye, Adamawa State, Nigeria

³Department of Agricultural Extension and Management, Adamawa State College of Agriculture P.M.B 2088 Ganye, Adamawa State, Nigeria

*Corresponding Author E-mail: augustinegaya@gmail.com

Accepted 19 July 2016

Abstract

This study determined the Role of Forest in Promoting Rural Livelihood in Ganye Local Government Area of Adamawa State. The specific objectives were to: describe the socio-economic characteristics of the respondents, identify the factors that could enhance food security, examine the benefits derived from forest for promoting rural livelihood, and to identify the measures that could encourage the sustainable management of natural resources in the study area. Both primary and secondary data were used; descriptive statistics was employed for the analysis of data. The study revealed that majority (31.3%) of the respondents fall within the age of 30 – 49 years of age with 35% of them having access to primary education. Majority of the respondents (93%) are farmers. 75% of them are male who are married (60%) with their household sizes of 11 and more people in a household, with 6-10 years of farming experiences. Majority of the respondents identify food production (84%), food storage (60%), and food selection (61%) as major measures that could enhance food security in the study areas. Major benefits as pointed out by the respondents includes: fuel wood (70%), charcoal (60%), food/ fruits (51), timber (52%) and non-timber products (52%). The respondents identify afforestation (71%), avoidance of deforestation practice (71%) and agro-forestry practice (71%) as the major measures that could result to sustainable management of natural forest resources. The study recommended the following: encouragement of afforestation and agro-forestry practices, discouragement of illegal hunting of bush meat, avoidance of discriminate setting of fire on forest and bush land, rural household to be educated by extension agents on the use of new technologies for the storage of forest products, workshops and seminar to be organize to educate rural dwellers on the management of natural resources in the study area.

Keywords: Forest, rural, livelihood, household, role, sustainable, natural resources.

INTRODUCTION

In many countries around the world, people living in rural areas have lower incomes and are generally less prosperous than their urban counterparts. The reason for this are often complex and vary from country to country. However, it is generally acknowledged that rural areas have fewer opportunities for creating employment and wealth due to their distance from Markets lack of infrastructure and in some cases natural disadvantages (Acharya, 2007). In light of such disadvantages, many government attempt to promote the development of rural areas on the grants of social equity, because of their disadvantages, rural development strategies often focus on the factors of production that rural areas usually do have, which are natural resources such as agricultural land and forest (Alibaba et al., 2000).

Forest is a plant community which is predominant of trees and other vegetation and usually characterized by a close

canopy. Forest account for about 75% of the gross primary productivity of the earth's biosphere, and contain 80% of the earth's plant biomass (Belcher, 2003). Forest play a significant role in natural economies and that of informal activities in the sector (fuel wood and non-timber forest products (NTFP) collection) contribute to household income and employment generation (Charkravarty et al., 1991). In the dry forest of South Africa, Cocks et al (2003) showed that forest income represent around 20% of average total household income. The comprehensive study by Das (2000) in Zimbabwe showed that 35% of average total household income (cash and subsistence) came from non-cultivated environmental goods.

In Nigeria, Forest, trees on farms and agro-forestry system contribute to food security, nutrition and livelihoods in several ways, including as a direct source of food, fuel, employment and cash income. They are fundamental to rural dwellers, particularly many indigenous peoples, and are important providers of ecosystem Services including maintaining or restoring soil fertility, protecting watershed and water courses. For most of the year, the arid and semi-arid lands depend on trees as a source of fodder for their livestock. Forest serves as habitat to an estimated 80% of the world biodiversity; forest provides genetic material important for crop and livestock improvement and is home to many pollination species (Zeller, 2004).

Traditionally, rural small holders in developing countries have been viewed primarily as farmers essentially cultivating crops and raising livestock's for their livelihood. However research discovery shows that rural households generate high environmental income, i.e. cash or subsistence based contributions from non-cultivated land such as natural forest, bush, mangrove, rivers or wild lands. Most forest income is environmentally sourced (i.e. a subsidy from nature with low management intensities), but plantation forestry is by definition excluded (Mahapatra, 1999).

The food, fuel and fodder requirement of continuously increasing human and livestock production have generated enormous pressure of forestland arable land, leading to depletion of natural resources, thereby affecting natural and human environment. Rural areas therefore face particular challenges as regards growth, job opportunity and sustainable management of natural resources. Forest offer real opportunities in terms of their potentials for growth in new sectors, the provision of rural amenities and tourism, their attractiveness as a place in which to live and work, and their role as a reservoir of natural resources and highly valued landscape (Belcher, 2003).

METHODOLOGY

Study Area

The study was conducted in Ganye local government area of Adamawa state, Nigeria. Ganye local government local area is located in the southern part of Adamawa state. It lies between latitude 8 40' to 8 15'N of the equator and longitude 12 15' and 11 30'E of the green wish meridian (Adebayo, 1999). It is bounded by Jada local government to the north, Toungo local government to the south, Taraba state to the west and republic of Cameroun to the east (AD ADP, 1999). Ganye local government consist of seven districts namely; Sugu, Yebbi, Gurum Pawo, Jagu, Timdore, Bakari Goso and Gamu respectively. It has a land mass of about 1,475km² with an estimated population of 58,565 according to 2006 National population Census (NPC, 2006). The major occupation of the indigenes is farming, animal rearing, and business activities while major crops grown include; yam, cassava, rice, maize, sorghum, and sugarcane among others.

Source of Data Collection

Data for the study were obtained from primary source, using both structured and unstructured questionnaires and interview schedules, which were administered to the respondents. Data were collected on the socio-economic characteristics of the respondents as well as factors enhancing food security, benefits derived from forest and sustainable management of natural resources in the study area.

Sampling Techniques and Sampling Size

A random sampling technique was used to select one hundred and twenty(120) respondents and were administered questionnaires for the study. An interview guide was also developed. However, only one hundred (100) questionnaires was retrieved from the respondents and used for the analysis.

Data Analysis

Descriptive statistics was used in analysing the data. The descriptive statistics used includes frequency count and percentages. It was used to describe the socio-economic characteristics of the respondents, factors enhancing

food Security, benefits derived from the forest and sustainable management of natural resources in the study area.

RESULTS AND DISCUSSION

The socio-economic characteristics of the respondents examined include age, sex, marital status, educational attainment, household size and year of farming experience and all these are shown in Table 1. The result on the table revealed that 20% of the respondents were the age range of 29 years and below. 30% of the respondents were between the ages of 30-49 years and 12% were between ages of 50-59 years while only 8% were 60 years and above. This implies that, most of the respondents were young people who were at their prime age and are capable of getting involved in different income generating activities from the forest to augment feeding and betterment of their living standard. The gender distribution of the respondents as shown on table 1, indicated that majority (75%) of the respondents were male and 25% were female. This revealed that more men were involved in forest activities in the study area than their female counterparts. This could imply that men are stronger, more active and have the ability to work for long. The marital statuses of the respondents revealed that majority (75%) of the respondents were married. 22.5% were divorced while 13.8% of them were single and widowed respectively. This implies that there is likely to have one form of responsibility or the other for the well being of their family members. The educational attainment of the respondents revealed that only 22% of the respondents had no-formal education while 78% had one form of formal education or another. This implies that the respondent's level of education could influence their livelihood activities or potentials in the forest zone on their Socio-economic status which should be used to boost production. Similarly Wold bank (2006) cited that education is one of the potentials rural dwellers Possess in improving their socio-economic status. The table indicated that majority (68%) of the respondents had household size of more than 11 people, while only 8% of the respondents had household size less than 4 person. 6% of the respondents had household size ranging between 4-7 person and 18% of them had their household size of 8-11 person. This implies that the rural household have relatively large household size and this probably necessitated them to engage in different types of activities including that of the forest for augmenting their production activities, increase income and attainment of higher socio-economic status. Table 1 further revealed that majority (93%) of the respondents had farming as their primary occupation. 40% of the respondents are civil servants, 31% of them are housewives. 12% are traders, while 4% of them are artisan and petty traders and 2% of the respondents are marketers. This is common with most rural parts of Nigeria and Africa at large. It also agrees with Quaye(2009), who said that about 70% Nigerian are farmers. This shows that, to alleviate poverty, the study area will have to be reached through the farmers, e.g. provision of fertilizers and introduction of new practices to boost productivity. On the other hand, the study area could be engaged in economically more viable activities like processing which will lead to diversification and also create a large market for their produce thereby reducing poverty. Result on farming experience shows that most of the respondents (40%) had farming experience between 6-10 years. 22% had farming experience between 1-5 years. 20% had farming experience of 11-15 years, while 10% of the respondents had their farming experience between 16-20 years and 8% of them had more than 20 years of farming experience. It shows that most of the respondents were experienced in farming. This implies that respondents can take advantage of their experience and improve upon their productivities.

Table 1. Socio-Economic Characteristics of the Respondents

Table	Frequency	Percentages
Age (years)		
<30	20	20.0
30-39	30	30.0
40-49	30	30.0
50-59	12	12.0
60 and above	08	8.0
Sex		
Male	75	75.0
Female	25	25.0
Marital Status		
Single	11	11.0
Married	60	60.0
Widowed	18	18.0
Divorce	11	11.0

Continuation of table 1

Table	Frequency	Percentages
Household Size		
<4	08	8.0
4-7	06	6.0
8-11	18	18.0
More than 11	68	68.0
Occupation		
Farming	93	93.0
Housewives	31	31.0
Civil Servants	40	40.0
Trading	12	12.0
Artisan	04	4.0
Marketing	02	2.0
Petty Trading	04	4.0
Educational Attainment		
No formal education	22	22.0
Adult education	02	2.0
Primary education	35	35.0
Secondary education	22	22.0
Tertiary education	19	19.0
Farming experience		
1-5	22	22.0
6-10	40	40.0
11-15	20	20.0
16-20	10	10.0
21 and above	08	8.0

Source: Field Survey, 2015

through engaging in other forest activities. This will certainly improve their income and thus increasing their socio-economic status.

The measures for enhancing food security are shown in Table 2. The table revealed that food production in the study area is ascertained by majority (84%) of the respondents as measure for enhancing food security among rural household. Other measures indicated by the respondents that could also enhance food security include; food processing/preparation (19%), food storage (60%), dietary food selection (15%), food grading (42%), food preservation (35%), food purchase (8%), and food selection for household use (61%). Available statistics shows that 46% of the respondents stressed out that adequate information, access to good road network, good marketing services and access to extension services are capable of enhancing food security in the study area.

Table 2. Measures for Enhancing Food Security

Table	Frequency	Percentages
Measures for enhancing food security		
Food Production	84	84.0
Food Processing/ Preparation	19	19.0
Dietary Food Selection	15	15.0
Food Storage	60	60.0
Food Grading	42	42.0
Food Preservation	35	35.0
Food Purchase	8	8.0
Food Selection for Household use	61	61.0
Adequate Information	46	46.0
Access to Good Road Network	46	46.0
Good Marketing Services	60	60.0
Access to Extension Services	46	46.0

Source: Field Survey, 2005

The benefits derived from the forests to promote the livelihood of the rural dwellers are shown in table 3. The table proved that majority (70%) of the respondents obtained fuel wood from the forest. 60% of the respondents derived charcoal from burnt forest wood, while 52% of them obtained timber and non timber from the forest, 30% of the

respondents obtained honey, and 51% of them obtained food and fruits, which all of these products can be sold out for generating income for the sustenance of the rural household.

Table 3. Benefits derived from forest

Table	Frequency	Percentages
Benefits derived from Forest		
Non Timber	52	52.0
Honey	30	30.0
Charcoal	60	60.0
Timber	52	52.0
Food/ Fruits	51	51.0
Bush Meat	20	20.0
Fuel Wood	70	70.0
Employment	08	8.0

Source: Field Survey, 2005

Available statistics in table 4 shows that majority (71%) of the respondents pointed out that afforestation practice and avoidance of deforestation practices are measures for sustainable management of the natural resources in the study area. Other management practices disclosed by the respondents for the management of natural resources include; afforestation practice (60%), avoidance of: burning the natural forests and bush land (50%), and illegal hunting of bush meat (41%). 49% of the respondents revealed that avoidance of over exploitation and over cultivation of the natural land are also measures that could bring about good management of the natural resources in the study area.

Table 4. Sustainable Management of Natural Resources

Table	Frequency	Percentages
Sustainable Management of Natural Resources		
Afforestation	71	71.0
Avoidance of burning natural forest and bush land	50	50.0
Avoidance of illegal hunting of bush meat	41	41.0
Agro-forestry practices	60	60.0
Avoidance of deforestation practices	71	71.0
Avoidance of over exploitation	49	49.0
Avoidance of over cultivation	49	49.0

Source: Field Survey, 2005

CONCLUSION

The findings of the study shows that majority (75%) of the respondents are male in their productive stage, had formal education and were married (60%) with house hold size more than 11 person and were experience farmers. The respondents identify food production (84%), food storage (60%), food processing (19%) and food preservation (35%) as measure for enhancing food security among others. Benefits derived from forest include: Non timber (52%), honey (30%), charcoal (60%), bush meat (20%), fuel wood (70%), fruits/ food (51%) and employment opportunity (8%). 71% of the respondents identify afforestation and avoidance of deforestation practice as measure for sustainable management of natural resources among others in the study area.

RECOMMENDATIONS

1. Afforestation and agro-forestry practices should be encourage among the rural dwellers while discouraging deforestation of forest lands.
2. Illegal hunting of bush meat should be discourage
3. Farmers in the rural areas should be discouraged on the application of fire on forest and Bush lands.
4. Government should provide good access road network for the movement of Products from one point to another.
5. The rural household should be more educated through extension agents on the use of new technologies for storage of commodities from the forest
6. Workshops and seminars should be organized to educate the rural dwellers to ensure effective to manage the natural resources in the study area.

References

- Acharya AK(2007). Environment-India: Tribals distressed by ban on forest gathering. In: Inter press news agency.
- AD ADP (1999). "Cereal Production in Adamawa State". Pp. 17-18.
- Adeboyo A(1999). Sunshine, Temperature, evaporation and relative humidity. In: A spatial analysis. The J. Socio-Economics. 33: 650-671
- Alibaba MD, Subba Rao DV, Vasundev N(2000). Economics of minor forest products in Adilabad district (Andhra Pradesh). Indian J. Agric. Econ. 55(3): 451-452.
- Belcher BM(2003). Forest Conservation for Rural Development. International Forestry Review. 5(2): 65.
- Chakra V, Verma R(1991). Marketing of minor forest products in tribal sub-plan area through co-operatives in Rajasthan. Indian J. Agric. Econ. 71(282):311-320
- Das SC(1995). NTFP – a means of subsistence for forest fringe dwellers. Proceedings of seminar, March 8-9, 1995. In: Girish M. R. (ed.) 1998, PhD thesis.
- Mahapatra A(1992). Forest dwellers dependence on forest –A case study of pauri bhuinya tribe of Orissa. J. Rural Dev. 11(6): 863-872
- NPC (2006). National Population Census Commission Census Figure 2006
- Quaye S (2009). Food Security Situation in North Ghana, Coping Strategies and Related Constraints. Afr. J. Agric. Res. 3(5): 334-342.
- World Bank (2006). Poverty and Hunger: Issues and Options for Food Security in Developing Countries. Washington.
- Zeller M(2004). Review of poverty Assessment Tools Research Report. International Food Policy Research Institute. 2(3): 48-76.