Assessment of Women Role in Agroforestry Practice in Jos North Local Government Area of Plateau State, Nigeria

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KEYWORDS

Agroforestry
Assessment,
Jos-North
Role,
Women,

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ABSTRACT

This study was carried out to assess role of women in agroforestry practice in Jos-North Local Government Area of Plateau State using two study area Mazah and Naraguta. Simple random sampling was used to administered 75 copies of questionnaire in each of the two study areas thereby having a total of 150 selected respondents, out of which 139 was retrieved (Mazah; 75 and Naraguta; 64). Data collected were analyzed using simple descriptive statistics. The results from the study showed that agroforestry practices carried out in both study areas range from Taungya (55.4%), agri-silviculture (16.5%), shifting cultivation (16.5%), silvo-pastoral (7.2%) and horti-silviculture (4.3%). The specific roles played in agroforestry by respondents range from harvesting of tree products (41.7%), tree planting and maintenance (37.4%), seedling production (8.6%) and processing (3.6%) respectively. The study also showed that agroforestry serves as source of income (44.6%), source of food (24.5%), timber production (16.5%) and medicinal purposes (12.9%). The study was able to establish that agroforestry practices have significant improvement on their crop production, and resultant increase in their incomes. It is therefore recommended that women involvement in agroforestry should be encourage in the study areas through advocacy and availability of inputs that will promote their performance for better output

INTRODUCTION

Across Africa, women's participation in agroforestry is integral to the success of the practice (Kiptot and Franzel 2012), as they play a crucial role in most production systems in the household. Women play an active role in the agricultural sector and constitute the bulk of global agricultural producers (Mulugeta and Amsalu 2014). However, they face various constraints and challenges that limit their capacities to achieve optimal production and agricultural development (Degrande and Arinloye, 2014). Their prospects in agroforestry are restricted to activities that men do not value. According to Kiptot and Franzel (2012), agroforestry activities are distinguished based on gender. Thus, men tend to concentrate on trees of economic value while women favour multiuse trees.

This system has however, had severe repercussions on land resources; as continuous tillage of the land easily loosens the soil and results in soil erosion and large-scale environmental degradation. Conventional cropping, and in many parts of the world, mono-cropping has been intensified due to geometric increases in population. This has resulted in increased demand for cultivable land, which has in turn resulted in pressure on land, and consequent cultivation of marginal lands. The breakdown of traditional systems of agriculture such as rotational bush fallow and shifting cultivation, due mainly to population pressure, has also compelled peasant farmers to continuously cultivate the land, damning the consequences of loss in soil fertility, soil erosion and reduced productivity (Jegede *et al*., 2021). FAO (2011) noted that pressures of growing populations in developing countries, have force landless farmers unto soils which cannot sustain crop production, and unto slopes which cannot be safely cultivated with

technologies and resources available to the farmers. The consequences of this to farmers have often been increased wind and soil erosion, silting, flooding and drought. Agroforestry, therefore does not only ensure stability of land resources, but could also be used as a means of controlling large-scale erosion, reclaiming degraded lands, as well as improve food production (Wood, *et al*., 2003).

Gender differences become clearer when looking at women's workloads. It is estimated that women provide 85 to 90 percent of the time spent on household food processing and preparation across a wide range of countries (Fontana and Natali, 2008). Women are also usually responsible for child care and household chores. Depending on household structure and size, these tasks may be extremely time intensive. Hence, this study was undertaken to asses role of women in agroforestry with a view to identify components of agroforestry they are involved in, and to assess benefit of agroforestry practice to women in the study areas.

MATERIAL AND METHODS

Study Area

The study was carried out in Jos-North Local Government Area which lies between latitude 9^0 53' 47.4972" N and longitude 8^0 51' 29.9916" E and strategically located on the high altitude of Jos plateau (NGI, 2025). It has land size of 291km^2 with a population of 429,300 from 2006 census. Jos-North L.G.A shares boundaries to the west with Bassa L.G.A, to the north with Toro L.G.A of Bauchi state, to the East with Jos-East L.G.A and to the south with Jos-South L.G.A respectively. The L.G.A is made up of several districts, towns and villages which include Tudun wada, Ahwol, Gangare, Kabong, Naraguta, Tafawa Balewa, Mazah and Jenta Adamu. The climate is averaging 22^0C daily temperature, humidity 60% and annual rainfall of 1400mm. It experiences two seasons, the dry and wet season. Dry season starts from November and end in March while wet season starts from April and end in October (UniJos Metrological Station Directory, 2009).

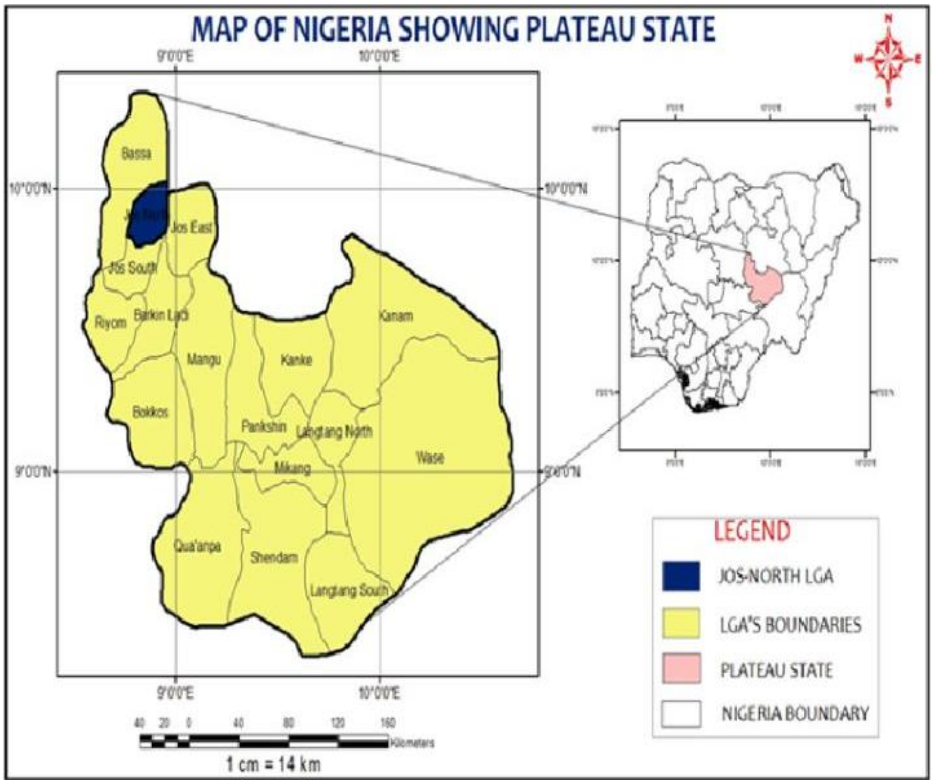

Figure 1: Map of Plateau State showing the study area

Source: Adapted from Administrative map of Plateau State.

Sample Size and Sampling Procedure

The sample size was determined using Krejcie and Morgan (1970) table based on NBS 2006 population projection of Jos-North LGA (429,300), and sample size of 150 respondents was used. A simple random sampling method was used to select sample. One hundred and fifty questionnaire (150) were administered to selected households within the two study areas. Each of the community were given 75 questionnaires through the help of a research assistant. The research assistant is from the study area and is acquainted with the questionnaire and help to interpret the questionnaire in local dialect to the respondents.

Data Collection and Analysis

Data for this study was obtained from primary data through field work from interviews using questionnaire with women specifically designed to gather information on type of agroforestry being practiced, role of women in agroforestry and benefit of agroforestry to women in the study areas. The questionnaire consists of open-ended and closed-ended questions to obtain both quantitative and qualitative data. Simple descriptive statistics such as frequency table, counts and percentages were used to analyse the data.

RESULTS AND DISCUSSION

Component of Agroforestry Practiced by Women in the Study Area

Results in Table 1 shows type of agroforestry practices carried out by women in the study areas. Based on respondent's view, it shows that agroforestry practices carried out in the study areas range from Taungya with 55.4% of women involvement in the model, 16.5% of women practicing shifting cultivation and agri-silviculture, 7.2% of the women practice silvo-pastoral, while 4.3% of the respondents practiced horti-silviculture in the study areas. This finding deviates from report of Roosevelt (2013) who states that shifting cultivation is the dominant land use in Amazon region of the local inhabitant cultural pattern. But it agrees with finding of Alao and Shuaibu (2013) who reported that shifting cultivation is not commonly in use any longer due to rapid population growth and high demand for food.

Table 1: Type of agroforestry practiced in the study areas

	Maza		**Naraguta**		**Total**	
Variables	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Taungya	45	60.0	32	50.0	77	55.4
Shifting cultivation	10	13.3	13	20.3	23	16.5
Agri-silviculture	12	16.0	11	17.2	23	16.5
Silvo-pastoral	5	6.7	5	7.8	10	7.2
Horti-silviculture	3	4.0	3	4.7	6	4.4
Total	**75**	**100**	**64**	**100**	**139**	**100**

Source: Field Survey, 2024

Role of women in agroforestry practice

Women play very important role with their involvement in agroforestry practice in the study areas (Table 2). Major specific roles played in agroforestry by the respondents range from harvesting of tree products (41.7%), tree planting and maintenance (37.4%), seedling production (8.6%) and processing (3.6%). This helps in contributing to household income through selling of tree products (fruits, nuts, timber), non-timber forest product, value added products (jams, handicrafts), engaging in livestock related activities and providing agroforestry inputs and supplies. This result is in contrast with the report of Regassa (2006) who observed that women involvement in agroforestry is not significant despite variations from one household to the other.

Benefits of Agroforestry to women in the study areas

Result in Table 3 on agroforestry benefit to women in the study areas showed that all respondents benefit from agroforestry practices with significant improvement on their crop production, and resultant increase in income. The result further shows that majority of respondents depend on agroforestry which serves as source of income (44.6%), while others include source of food (24.5%), timber production (16.5%) and medicinal purposes (12.9%). This indicated that agroforestry practice among women added significant improvement to their production which brought increase in their income, created more sources of income and other economic and social benefits. This result corroborates findings of Adekunle and Bakare (2004),

Kalaba *et al*., (2010) who opined that agroforestry contributes greatly to good production and add to per capita income of the farmers.

Table 2: Role of women in agroforestry in the study areas

	Maza		Naraguta		Total	
Variables	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Tree planting and maintenance	36	48.0	16	25.0	52	37.4
Harvesting of tree products	31	41.3	27	42.2	58	41.7
Processing	2	2.7	3	4.7	5	3.6
Seedling production	4	5.3	8	12.5	12	8.6
Others	2	2.7	10	15.6	12	8.6
Total	**75**	**100**	**64**	**100**	**139**	**100**

Source: Field Survey, 2024

Table 3: Benefits of Agroforestry to women in the study areas

	Maza		Naraguta		Total	
Variables	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Source of income	32	42.6	30	46.9	62	44.6
Medicinal purpose	11	14.7	7	10.9	18	12.9
Timber production	12	16.0	11	17.2	23	16.5
Source of food	20	26.7	14	21.9	34	24.5
Others	0	0.0	2	3.1	2	1.4
Total	**75**	**100**	**64**	**100**	**139**	**100**

Source: Field Survey, 2024

CONCLUSION AND RECOMMENDATION

This study concludes that women are involved in agroforestry just like their menfolk, and participation in farming activities such as seed sourcing, planting, weeding and harvesting was high. Since this study recognized that women participation in agroforestry was high, it is recommended that government and relevant institutions should intervene to encourage establishment of rural microcredit institutions with regulations friendly to women, and ensure that women get access to extension services for better performance. There should also be establishment of women groups for knowledge sharing, financial support, access to markets. and offer training programs on agroforestry management.

REFRENCE

Adekunle, V. A. J. and Bakare, Y. (2004). Rural livelihood benefits from participation in the Taungya agroforestry system in Ondo State of Nigeria. *Small-scale Forest Economics, Management and Policy*, 3(1), 131-138. doi.org/10.1007/s11842-004-009-y

Alao, J. S. and Shuaibu, R. B.(2013). Agroforestry practices and concepts in sustainable land use systems in Nigeria . *Journal of Horticulture and Forestry*, 5(10), 9-12. doi.org/10.5897/JHF11.055 http://www.academicjournals.org/JHF

Degrande, A. and Arinloye D. D. A. (2014). Gender in agroforestry: Implications for Action Research. *Nature and Fauna Journal*, 29(1), 6-11. https://hdl.handle.net/20.500.11766/5471

FAO. (2011). *World Census of Agriculture: Analysis and International Comparison of the Results* (1996-2005). FAO Statistical Development Series No. 13. Rome.

Fontana, M. and Natali, L. (2008). Gendered patterns of time use in Tanzania: Public investment in infrastructure can help. Paper prepared for the IFPRI Project on 'Evaluating the Long-Term Impact of Gender-focused Policy Interventions 53p.

Jegede, O. R., Monu, J. O. and Olumide, O. H. (2011). Availability and utilization of Information Communication Technology in teaching and learning: A case study of Michael Otedola College of Primary Education, EPE, Lagos State. *Information Technologist (The)*, 8(2), 75-84

Nigeria Geographic Information (NGI) (2025). Jos North Local Government Area Latitude and Longitude. www.LatLong.net Retrieved on 17-01-2025

Kalaba, K. F., Chirwa, P., Syampungani, S. and Ajayi, C. O. (2010). Contribution of agroforestry to biodiversity and livelihoods improvement in rural communities of Southern African regions. Tropical Rainforests and Agroforests under Global Change: Ecological and Socioeconomic Valuations. Springer, New York, pp461-476.

Kiptot, E. and Franzel, S. (2012). Gender and agroforestry in Africa: A review of women's participation. *Agroforestry Systems*, 84(1), 35-58. doi.org/10.1007/s10457-011-9419-y

Krejcie, R. V. and Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610

Mulugeta, M. and Amsalu, T. (2014). Gender, participation and decision-making process in farming activities: The case of Yilman Densa District, Amhara Region, Ethiopia. *Journal of Economics and Sustainable Development*, 5(1), 28-34.

Regassa, A. (2006). Gender and Agricultural production among Maqi Oromo. Social Anthropology Dissertation Series No. 10 Department of Sociology and Social Anthropology, Addis Ababa University.

Roosevelt, A. C. (2013). The Amazon and Anthropocene: 13,000 years of human influence in a tropical rainforest. *Anthropocene*, 4, 69-87 doi:10.1016/j.ancene.2014.05.001

Woods, L.E. (2003), Land Degradation in Australia. (2nd ed.) Department of Home Affairs and Environment: Australian Government Publishing Service, Canberra. ISBN: 064403176X 105p.