

## Breaking Down Barriers: An Assessment of Women's Involvement in Community Forestry Processes in Tundu Sariki Village, Sabon Gari, Zaria -Kaduna State, Nigeria

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### ABSTRACT

The contribution of women is often assigned a zero in National Agricultural Statistics, with their labour considered “unpaid family help”; consequently, rural women are ignored or not adequately reflected in forestry or agricultural development. It is based on these premises that this research was carried out to examine the involvement of women in community forestry using Tudun Sarki village as a case study. A simple random sampling technique was used in the selection of the respondents. 120 questionnaires were administered, and 100 were retrieved. The questionnaire was administered in two ways: some were distributed to the respondents and retrieved later, while others were administered by a group of interviewers who could speak and write in local dialects. The face-to-face method of interviews was adopted. The results revealed that 64% of the respondents are married and 50% fall between the age limit of 21 and 30 years, with the majority (42%) having more than ten years of experience in forestry activities. 52% made an average of #5001-#10,000 per month. The majority are literate (32% have post-primary education), and the major forestry benefits derived from community forests are food, fodder and fuelwood (40%), closely followed by medicine, dyes and cosmetics (35%), while utensils and handcrafts have (16%). Women carried out the majority of the work done in the community nursery (72%), the preparation process (86%), and field planting (72%) when compared with their male counterparts. Profit-making is the major (38%) reason, while most women engaged in community forestry through sales of forestry products. Social factors are the major factor hindering the participation of women in community forestry (35%), followed by educational factors (34%) and cultural factors (16%), while the economic factor is the least (15%). The Chi-Square ( $X^2$ ) analysis shows that all the independent variables gave significant relationships with the involvement of women in community forestry in Tudun Sarki village at ( $P>0.05$ ). Women bring unique perspectives, knowledge and skills to the table, enhancing the overall effectiveness of community forestry initiatives.

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## 1.0 Introduction

Community forestry is an evolving branch of forestry in which the local community plays a significant role in forest management and land use decision-making, with support from the government and change agents. (Ikojo, 2001) It involves the participation and collaboration of various stakeholders, including community, government and non-governmental organisations (NGOs). The involvement of each of these groups is dependent on the specific community forest project, the management system in use and the region. It can also refer to forest and tree management activities undertaken either individually or cooperatively by the local people, either on their own or leased private land, on communal lands or on state land. Community forestry is an umbrella term denoting a wide range of activities that link rural people with forests and trees and the products and benefits to be derived from them (Arnold, 1992). Ikojo (2001) referred to community participation in forestry as the process whereby people act in groups to influence the direction and outcome of development programmes that will affect them. The multiple protagonists of women as resource users/managers have become a global issue generating increasing interest among development planners.

The aim of community forestry is to supply forest supply products to local users rather than to conserve biodiversity. Effective management of community forestry leads to sustainable production and sustainable harvest of forest resources. Women account for 70% of agricultural workers, 80% of food producers, and 100% of those who process basic foodstuffs, and they undertake 60-90% of marketing. (Spore, 1993; Sodimu *et al.*, 2008a) Ideally, community forestry activities are those that recognise the intimate relationship of women, men and the trees that surround them. It involves rural women and men in project identification, design implementation, monitoring and evaluation. Throughout the developing world, women make a significant contribution and decisions in forestry, and women are the primary collectors of fuelwood, charcoal and fodder for animals. Women also form a larger part of the labour force in forest nurseries and plantations. Women are fundamental to the success or failure of

development efforts; their roles in community forestry are numerous and range from the collection of seeds and fruits through nurturing and conservation to the processing and marketing of forest products. Women are more knowledgeable about the types of tree species that are useful to their families, and so they leave those undisturbed during farming activities such as land clearing.

Ajayi *et al.* (1997) reported that women herb sellers in Nigeria are very knowledgeable about the use of plants in traditional medicine and are deeply concerned about the alarming rate of harvesting forest resources. The vital role women played in utilising and conserving the forest and environment makes it not logical but critical that they should be included in forest development (Tosanwumi, 1993). Women and their children are collectors of fruits, seeds, leaves, medicinal products, fuelwood and other forest products for members of their family. Women utilise many non-timber forest products (NTFPs), which provide livelihoods, especially during the dry season when they rely on forest foods such as snails, mushrooms, wildlife animals and others (Ozo-Eson, 2002).

The multiple roles of women as active resource users and managers have become a global issue generating and increasing interest among the development planners. Women are more knowledgeable about the types of tree species that are useful to their families and households, and so they leave those undisturbed during farming activities such as land clearing, weeding and other silvicultural activities. Women are collectors of fruits, leaves, seeds, fuelwood and medicinal products for the family. Women carry out silvicultural operations on trees around their homesteads and those on their husband's farms, thereby contributing to sustainable forest management, environmental protection, and biodiversity conservation. Harris (1996) stated that women are very active in afforestation practices and therefore champion communal forest management and development (Anyakoha, 1999). Women are also actively involved in the nursery development programmes.

In the southern part of Nigeria, women are involved in the marketing of forest products, establishment of sawmills, nursery activities, provision of staple food, etc. (Adeleye, 1995, and

Oluwasola *et al.*, 2008). In the northern part of the country, women now have easier access to fuelwood under the afforestation/shelter projects, although the degree of women's participation in these projects. Women are processors and small-scale industrialists of forest products. They are involved in the processing of timber and non-timber forest products in order to improve their livelihoods and boost family income. Some women are involved in the production of woven mats, charcoal, sawn timber, sticks, food condiments, etc. These activities enhance their living standard. Men are also allowed to be involved in forestry research and development. Thus, in realising the talents of women in community forest development, it is important to take into account that women need to be increasingly involved in forestry project design and implementation to provide a positive change. The role of women in forest resources management is very important. The collection of forest products to meet subsistence requirements and also to augment a family's income is generally the responsibility of women. Women therefore remained at the forefront in conversion movements like Chipko and Khejri (Shiva and Bandyopadhyaya 1986).

Development projects proceed better when women's involvement and needs are fully incorporated into project design from the very beginning (IFAD, 2011). Dhimal (2012) emphasises that the participation of women is extremely essential in any development programmes, as they cover more than half of the world's total population, and men shouldn't undermine them. Agarwal (2000) claims that the segregation of women in the resource management process does not only have an effect on the efficient functioning and long-term sustainability of these initiatives but also on gender equity and women's empowerment. The participation of women is very crucial for the success of community forestry. The study done by Adhikari (2009) illustrated that the forest condition becomes better with a greater number of female presences in the forest user groups due to their better quality of forest protection. It is further stated that the involvement of more women in the executive committee helps to improve women's general knowledge and information about forest user groups' rules and

activities, consequently contributing to the increment of women's general knowledge and information about forest users' rules and activities, and consequently contributing to the increment of women's membership and effectiveness in community forestry groups.

The involvement of women in community forestry has been recognised as an important factor in its success due to the crucial decisions that women play in the management and use of forest resources. Several studies have highlighted the importance of women's participation in community forestry. A study by Sarin (1998) in India found that women were actively involved in the collection of non-timber forest products, such as fruits, nuts, and medicinal plants, which are important sources of income for rural households. Women were also involved in the management of community forests, including planning, monitoring, and enforcement. Similarly, a study by Paudel *et al.* (2014) in Nepal found that women's participation in community forestry was positively associated with improved forest condition and increased forest product availability. Gibson (1999) found that women in Nepal had limited access to forest resources due to gendered norms and power relations. Women were often excluded from decision-making processes related to forest management and were subject to discriminatory practices, such as being allocated fewer desirable areas for resource collection. Efforts to address these challenges have included initiatives to increase women's participation and decision-making power in community forestry.

A significant proportion of the forestry industry workforce is made up of women, but their roles are not usually documented or recognised, such as the collection of seeds and fruits through nurturing and conservation to the processing and marketing of forest products. Thus, their working conditions tend to be poor and their wages lower than those of men. 80% of work done in community forestry is carried out by women through their various involvements to make the plantation a success. Upon these, their roles are not usually documented or recognised as their male counterpart. Akpoko *et al.* (1999) elucidate that the contribution of women is often assigned a zero in national agricultural statistics, with their labour considered "unpaid family help";

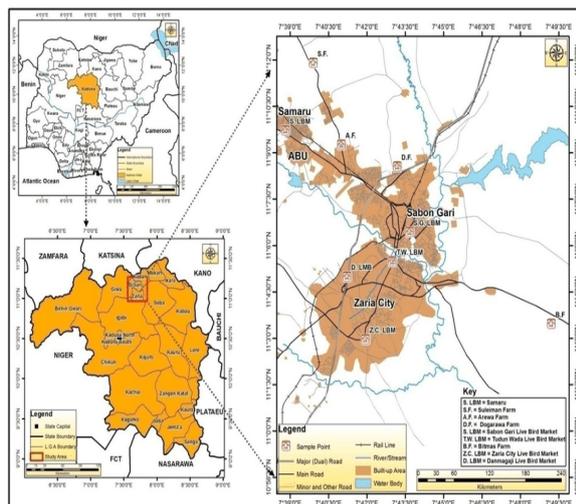
consequently, rural women are ignored or not adequately reflected in forestry or agricultural development. It is based on these premises that this research was carried out to examine the involvement of women in community forestry using Tudun Sarki village as a case study.

## 2.0 Materials and Methods

### 2.1 Study Area

The study was conducted in Tudun Sarki village in Sabon Gari local government area of Zaria, Kaduna State. The village is located at latitude 11°01'30"N/12°15'41"E and longitude 7°06'49"/7°05'40"E of the prime meridian. (NPC, 2006, Sodimu *et al.*, 2021). The vegetation in the local government area is the Northern Guinea Savanna with annual rainfall of 1500mm-2000mm. Tudun Sarki village is an agrarian community. They produce crops such as rice, maize, millet, soybeans, beans, etc. The indigenous people of Tudun Sarki village are predominantly Muslims and are Hausa. (NPC, 2006, Sodimu *et al.*, 2021).

Figure 1  
 Map of the Study Area



### 2.2 Data Collection and Source

Primary data and secondary were used for this study. The primary data were collected using structured questionnaire. The questionnaire was designed to collect the following types of information. Demographic characteristics of the sample respondents such as age, marital status, education status and so on.

- i. Benefits derived by women in community forestry
- ii. Involvement of women in community forestry
- iii. Reasons for engaging in community forestry
- iv. Factors inhibiting participation of women in community forestry.
- v. The secondary data involved the use of text book, journals, conference, proceedings and so on.

### 2.3 Sampling Technique

A total of one hundred and twenty (120) questionnaire was randomly administered in the study area. The questionnaire was designed in English Language and administered in two ways, some are distributed to the respondents and retrieved later while others are administered by group of interviewers who could speak and write in local dialects. Face - to - face method of interviews was adopted by the group.

### 2.4 Analytical Technique

Simple descriptive statistic such as percentages frequency distribution tables, mean standard error and Chi square test ( $\chi^2$ ) were used to analysed the data collected. The Chi square test ( $\chi^2$ ) was used to test for hypothesis formulated.

$$(H_0^1):$$

There is no significant relationship between selected demographic characteristics of the respondents and the role of women in community forestry.

$$\chi^2 = \frac{\sum(O - E)^2}{E}$$

Where:

O = observed frequency,

E = corresponding expected one

$\chi^2$  = chi square value

## 3.0 Results and Discussion

### 3.1 Demographic Characteristics of Sampled Respondents

Some demographic characteristics are known to influence the involvements of women in community forestry in Tudun Sarki Village of Sabon Gari local government Area Zaria, Kaduna State. The variable analyzed include; Age, Marital

status, years of experience, educational status and so on.

Table 1  
*Respondents Distribution According to their Age Group*

Age group	Respondents	Percentage (%)
10-20	10	10
21-30	50	50
31-40	24	24
41-50	9	09
50 above	7	07
Total	100	100

Table 1 reveals that the majority of the respondents fall between the age ranges of 21-30 years (50%) followed by 31-40 years (24%). This means that the groups of women are highly involved in the community forestry and are active, energetic, hale and hearty. Those above 50 years (7%) are not so much involved in community forestry because they are old and not active. The above result is similar to the work of Adeyeye (1995) on a preliminary investigation of women's activities in forestry. Also, in accordance with the work of Sodimu *et al.* (2008a), which shows that the 21-30-year age bracket is an active and highly productive age for women's involvement in forestry-related professions in northern parts of Nigeria.

Table 2  
*Respondents Distribution According to their Marital Status*

Marital Status	Respondents	Percentage (%)
Single	25	25.0
Married	64	64.0
Divorced	04	4.0
Widow(er)	07	7.0
Total	100	100

Table 2 reveals that 64% of women who are involved in community forestry are married. This is closely followed by single women with 25%. This shows that both married and single women in the study area are involved in community forestry. Akindele (1992) stated that married women and their children were involved as a result of the benefits they derived from the community forestry to support the family income through gathering and selling of firewood, wild fruits, edible mushrooms, leaves, herbs, etc., which in turn helped to improve and increase their standard of livelihood, while the single women's involvement can be as a result of

culture or awareness from tree planting and public enlightenment on radio and television. The least respondents are the divorced, with 4%. Perhaps this might be due to culture or because they are old. The above result is in accordance with the work of Ajayi *et al.* (1997), who observed that the majority of married women work hard to support their families, which in turn increases their status in society.

Table 3  
*Educational Level of the Respondents in the Study*

Educational Level	Respondents	Percentage (%)
Primary	16	16.0
Secondary	32	32.0
Tertiary	10	10.0
Quranic studies	34	34.0
Non- formal education	8	8.0
Total	100	100

Table 3 shows that the majority of the respondents have Quranic knowledge, with 34%, and this is closely followed by the respondents with formal education: Secondary (32%), Primary (16%), Tertiary (10%) and illiterates (no formal education) (8%). This connotes that the majority of the women have Quranic knowledge and are also literates; they can read and write and interpret any new development and awareness in the community forestry to the others who are illiterate, and more so, they would be able to convince them of the significant importance of community forestry to the community and environment at large. The results are in agreement with the work of Njoku (1991), who observed that formal education has a positive influence on one's life. Also, in line with the work of Nneka (2000), who observed that 21st-century women, in addition to their role as mothers, are equipped educationally, professionally and otherwise to cope with social, political, environmental and economic responsibilities that may be imposed on them as a result of the changing pattern of society. This may not be far-fetched from the better life for rural women, the family support and family economic advancement programme of the past government to awaken the consciousness of the rural and the urban women.

Figure 2  
 Respondents Years of Experience

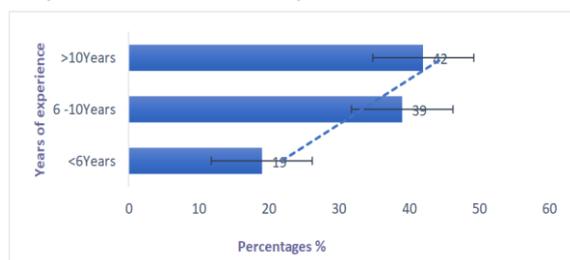


Figure 2 reveals that the majority of the respondents has >10years of experience, at 42%. Closely followed by less than 6-10 years with 39%. This implies that the majority of the women have more than 10 years of experience working with foresters in establishing and managing community forestry in the study area. Perhaps this might be as a result of poverty or trying to get something doing to assist the family, which in turn increases their wealth of experience in the field. The least years of experience, < 6 years, with 19%. This is a set of women who are still young and naïve about community forestry. This result is in agreement with the work of Adu *et al.* (2003), who observed that experience is the best teacher in whatever one does. Also, in accordance with the work of Ozo-Esan (2002), that experience and expertise gathered by a group of women over a long period of time in community forestry management and establishment usually gave them an edge over their mates and can never be forgotten, especially in field demonstrations.

Figure 3  
 Respondents' Monthly income from Community Forestry

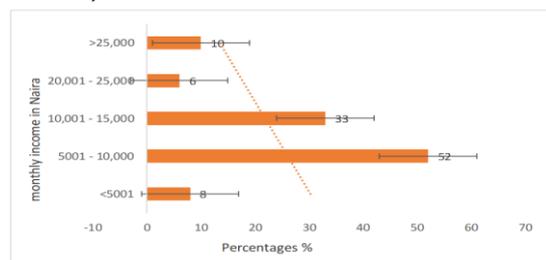


Figure 3 shows that majority (52%) of respondents earns 5001-10,000 monthly, closely followed by 10,0001-15000 with 33%. This implies that the women earn at least 5001 and at most 15,000 in a month as income which they can use to improve and support their standard of

living after selling what they derived from the community forestry. Sodimu *et al.*, (2008a) observed that income generated from community forestry from various benefit derived from it serves as a motivating factor for their involvement in community forestry activities. This is also, in line with the work of Valdes (1990) who observes that ways earning mothers raise the standard of living of their family

Table 4  
 Respondents Awareness of Community Forestry.

Awareness	Respondents	Percentage (%)
YES	98	98.0
NO	2	2.0
TOTAL	100	100

98% of the respondents show that either way, they are aware of community forestry as presented in Table 4 above. Therefore, make it convenient and easier for them to find a place where they can fit in and also play a role in community forestry, especially those with low levels of education and housewives.

### 3.2 Women Involvements in Community Forestry Processes

Based on the fact that women in Africa make up more than one third (1/3) of the workforce (Sodimu *et al.*, 2008a) and 80% of work done in community forestry is carried out by women through their various involvements to make the plantation a success. The below table displays the key areas of women's involvement in community forestry.

Table 5  
 Respondents Distribution Based on Involvement in Community Nursery, Field and Preparation Process

Roles	Respondents	Percentage (%)
*Nursery operations, broadcasting and planting)	Men = 28 Women = 72 Total = 100	28.0 72.0 100
*Preparation process (Harvesting, winnowing and cleaning and so on)	Men = 14 Women = 86 Total = 100	14.0 86.0 100
*Field planting	Men = 28 Women = 72 Total = 100	28.0 72.0 100

Table 5 shows that women carried out the majority of the work done in community forestry. From nursery (72%), preparation process (86%)

and field planting (72%). This indicates that women's involvement and participation in community forestry establishment are more than that of their male counterparts. Adekanye (1997) stated that Nigerian women perform multiple roles for the survival of their homes and the nation as a whole; they constitute a substantial proportion of the nation's farmers and provide much of the rural labour output. Thus, they have a more indispensable role to play in transferring environmental consciousness from one generation to another. The above result is similar to the work of Njoku and Akubue (2008), who observed that women play various roles towards the improvement of their economic status; such roles include food processing, working as hired labourers in the field for harvesting, cleaning, etc. Also, in line with that of Sodimu et al. (2008a), which states that 42% of women aged 15 years are in the labour force.

Table 6  
*Respondents Distribution Based on the Benefits Derived from Community Forest*

Benefits derived	Respondents	Percentage (%)
Food, fodder and fuelwood	40	40.0
Medicines, dyes, cosmetics	35	35.0
Utensils and handcrafts	16	16.0
Others.	9	9.0
TOTAL	100	100

Table 6 shows that 40% derived food, fodder and fuelwood. Iwalesin *et al.* (2011) stated that apart from the collection and selling of these forest benefits, a large percentage of them are used by the respondents to satisfy their household needs. 35% derived medicines, dyes, and cosmetics. Sodimu *et al.* (2008b) reported that rural women also take orthodox drugs aside from forest herbs, though they still take herbs more because they are readily available and cheaper. 16% derived utensils and handcrafts and 9% for others. The above result implies that there is a high dependence on forest benefits derived from community forestry in the study area. Also, the benefits are important to the rural community because they help to improve their standard of living and also sustain their livelihood. The above result is contrary to the view of Sodimu *et al.* (2008b), who observed that medicine, dyes and

cosmetics are the major benefits women derived from community forestry.

Table 7  
*Respondents Engagement in Community Forestry Activities*

Reason for engagement in community forestry	Respondents	Percentage (%)
Unemployment	22	22.0
Interest	20	20.0
Culture	20	20.0
Profit	38	38.0
TOTAL	100	100

Table 7 shows that the major (38%) reason why the respondents engaged in community forestry activities in the study area is because of the profit derived from the community forest after selling some of the benefits (fruit gathering, food, forage, medicine, fuelwood, fibres, oil, spices, wildlife, etc.). Followed by unemployment (22%), Iwalesin *et al.* (2011) reported that the forestry sub-sector can make an important contribution to the solution of rural unemployment, backwardness and poverty in the country, especially among rural women, while culture and interest have 20% each. This reveals that the majority of women are engaged in community forestry activities in order to earn money to provide for and support their family and improve their standard of living, while others have an interest, and perhaps their culture may demand their engagement in community forestry participation, which is contrary to the view of Sodimu *et al.* (2008b) that interest and unemployment in women create a scenario for their involvement and interest in forestry as a profession. Forests and the benefits they provide in the form of food, income and watershed protection have an important and often critical role to play in securing a stable livelihood and adequate food security for the rural people.

Table 8  
*Factors Inhibiting Respondents Participation in Community Forestry*

Factors Inhabiting	Respondents	Percentage (%)
*Social factors (marital status, Religion)	35	35.0
*Economic factors (cost of implement, inaccessibility to loans)	15	15.0
*Educational factors (Accessibility to training)	34	34.0
*Cultural factors (Nature of the job) individual belief	16	16.0
TOTAL	100	100

Table 8 reveals that majority (35%) of the respondents are hindered from participating in community forestry as a result of Social factors such as marital status, Religion etc. Perhaps, can be as a result of the fact that most of them are Muslims and northerners and their husbands might not permit them to participate in such activities and will prefer them to remain at home as fulltime house wife. Others include educational factors (34%) Closely followed by cultural factors (16%) while economic factors (15%) is having the least. This might be because most of them do not have enough capital and also access to loans from banks to support their business from whatever benefits the derived from forestry the above result is similar to the view of Sodimu, *et. al.*, (2008a) who also, observed that social factors is the major factors hindering women participation in community forestry

**Testing of Hypothesis**

$H_0^1$ : There is no significant relationship between selected demographic characteristics of the respondents and the role of women in community forestry.

Table 9  
*Chi-Square ( $\chi^2$ ) Results; Demographic characteristics VS Involvement of women in community forestry.*

S/N	Variables	Df	$\chi^2$ calculated	$\chi^2$ tabulated	Remark
1.	Gender	1	0.92	0.00	Significant
2	Age	4	0.83	0.71	Significant
3	Marital status	3	1.30	0.35	Significant
4	Education	4	0.83	0.71	Significant
5	occupatio n	4	0.83	0.71	Significant

Table 9 reveals that all the independent variables gave significant relationship with the role of women in community forestry in Tudun Sariki village at (P>0.05) Probability level. Therefore, the null ( $H_0^1$ ) is rejected. They all therefore positively affect the role of women in community forestry in the study area. The older the respondents, the more responsible they are and the more their chances of getting married, the greater will be their involvement in community forestry and benefits derived from such forestry in the community. Similar result was observed by

Adida (2010) as all the above variables tested positively affected the contributions of community forestry in a rural area

**4.0 Conclusion and Recommendation**

*4.1 Conclusion*

The study showed that women are important in community forestry development in the study area. They play paramount roles in community forestry development, such as nursery operations, preparation processes and field planting. They benefit directly in community forestry for income-generating activities like the collection and selling of community forest resource products (wild fruits, fodder, medicine, dyes, cosmetics, utensils, handcrafts, fuelwood, etc.). Though hindered by numerous obstacles. Nigerian women are the most significant agents of rural life and community forest development, but they are yet to participate fully at any level of the decision and policy-making processes of the management, conservation, sustainability and rehabilitation of our natural resources and the environment. Women bring unique perspectives, knowledge and skills to the table, enhancing the overall effectiveness of community forestry initiatives. However, if rural women are given the right accolade, their significant contributions to community forestry development cannot be unwavering.

*4.2 Recommendation*

Based on the above, it is recommended that there should be improvement in the status of women, i.e., women should be empowered by organisations involved in forestry management through education and training. This includes building their knowledge about sustainable forestry practices, resource management and leadership skills. Women should not be discriminated against, as their role in moving community forestry forward cannot be overemphasised; it must be ensured that women have equal representation in decision-making bodies related to community forestry. The government should implement strategies to promote the income-generating activities of rural women and also recognise and value the traditional knowledge and practices that women often bring to forestry management. This can

help in integrating traditional wisdom with modern sustainable practices and, lastly, conduct awareness campaigns and education programmes to highlight the vital role of women in community forestry and gather support from the wider community.

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