THE GLOBAL ECONOMIC CRISIS AND SUSTAINABLE RENEWABLE NATURAL RESOURCES MANAGEMENT

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DETERMINANTS OF MASS PARTICIPATION IN COMMUNITY-BASED FOREST MANAGEMENT IN SOUTH-WESTERN NIGERIA

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Abstract

In Nigeria, forest management is faced with increasingly complex challenges of reconciling the demands of various stakeholders. The new designated global role of the forests (conservation, biodiversity, producer of wood, carbon sequestration and aesthetics) is also posing fundamental conflicts between the state forestry services and the local communities. This paper analyses the views of various stakeholders against their demographic and socio-economic background with the view of determining mass participation in the management of community forests in south-western Nigeria. Purposive and random sampling techniques were used to select Lagos, Osun, Ondo and Ogun states for the study. The target population for the study comprised the local inhabitants and other categories of people such as artisans, civil servant, teacher traders, living in enclaves and settlements around the forest reserves in the study area. Data was collected using 3 different sets of questionnaire with test-retest reliability value of 0.85. Focus Group Discussions (FGDs), was also used to elicit information on perceptions about income, household size, various management issues, indigenous knowledge, cultural values and views about other forestry stakeholders. Data generated were analyzed using descriptive and Logit Regression statistics. The study revealed that determinant of mass participation in community forests (CF) or community based forest management (CBFM) are resource oriented, user or community dependent, forestry agency specific, programme related, and environment/ forestry system specific. It was also found that communities around and within the forest reserves were heterogeneous in nature. The heterogeneity of caste, class, ethnicity, assets, household size, and income in the communities sampled were important determinant of stakeholders' level of participation in forest management. Logistic Regression Analyses revealed that ethnicity, level of income, awareness of CF benefits will significantly determine the willingness of the local people to participate in CF or CBFM in South-western Nigeria. An improvement of respondents' awareness of CF, joint determination of benefits from CF and inclusion of forest user groups (FUG) views in forest management content will go a long way at positively impacting forest management in the study area.

Introduction

Forests constitute the richest reservoir of biodiversity, play an important role in global ecological cycles, provide habitat for wildlife and conserve soil and water. They have also emerged a priority issue on the international agenda and their management a major concern

due to their role in global climate change. In Nigeria, forest management is faced with increasingly complex challenges of reconciling the demands of various stakeholders. While the government is striving to mobilize the economic and employment potentials of the forest resources, the private entrepreneurs maximize the profit derivable from the exploitation of the resources, the local people see the forests as meeting their basic needs of fuel, construction materials, food, fodder, medicine and income. Apart from this, the new designated role of the forests (conservation, biodiversity, producer of wood, carbon sequestration and aesthetics) is putting the forests under pressure to fulfill the various and sometimes conflicting demands of stakeholders. However a drive is needed to meet these goals in line with commitments of the World Agenda 21 of the Earth Summit in Rio de Janeiro in 1992 (FAO, 1992) which stressed the proper management of the forests and options for combating the degradation of soil, air, water as well as the need to eradicate poverty in order to achieve sustainable development within the framework of Millennium Development Goal (MDG). But, the forest estates of Southwestern Nigeria which constituted a significant proportion of her forest reserve base have presently degenerated to a deplorable situation. Bada and Popcola (2005) reported the plundering of immature stands of Teak without commensurate returns to the treasury or availability of silvicultural plan for the second rotation crop as far back as 1994.

The current status of Nigeria's forest estate as revealed by Land Use and Vegetation Survey of Nigeria conducted in 1996 and the Forest Resources Study completed in 1998 by FORMECU indicated that agricultural practices had increased between 1976/78 and 1993/95 by about 8,200 Km^2 whilst the natural forest is being depleted at an alarming negative rate of 83,000 square kilometers (Papka, 2005). Osemeobo (2002) reposed this finding when he observed that over 4,534.83 km^2 (about 4.86%) of the forest reserves in Nigeria were de-reserved for agricultural production. Adeyoju (2001) observed that forest cover in Nigeria decreased by 20% between 1978 and 1996 and the total forest estate, which was 10% of the country's land area in 1976, is now less than 6% while Adeofun and Akinsanmi (1997) observed an extensive depletion of forest land in areas close to settlements and that the forest land in the Southwest of Nigeria is decreasing at an average annual rate of 3.5%. In Osun State about 10.54% of the gazetted forest reserves had been de-reserved for agriculture and other urban development purposes (Fayenuwo, 2000). De- reservation for agricultural production and urban development was reported by Kuchelmeister (2000) to reduce water permeable areas, upset natural damage pattern and cause serious flooding. Apart from this, the forest resources in southwestern Nigeria are centrally managed by the States. This poses fundamental conflicts between the state forestry services and the local communities resulting in the problems of: integrating the customary norms and practices with modern policies and laws; sharing of revenues derived

from the exploitation of natural resources; allocating roles and responsibilities among stakeholders in the management of forest resources; as well as faulty and conflicting relations among stakeholders in the forests (Dubois, 1998). It was against the backdrop of deforestation and forest resources degradation that the world now clamours for a change from the present sole governmental forestry management to 'Community Based Forest Management' where the management in terms of the responsibilities and benefits of the forests would be shared by the government and the local communities who actually own or live in or adjacent to the forest estates. This paper analyses the view of various stakeholders about community based forest management against their demographic and socio-economic background with the view of determining mass participation in the management of community forest in south-western Nigeria.

Methodology

The Study Area

The study was carried out in the South West geopolitical zone of Nigeria comprising Lagos, Ogun, Oyo, Osun, Ondo, and Ekiti (Fig. 1). The area lies between Latitude 6° 20' North to 8° 37' North and Longitude 2° 30' to 6° 00' East (Agboola, 1997) with a total land area of 77,818 km², projected population of 17.6 Million people as at 1998 and population density of 226.168 people per Km² (FDF, 1998) The study area is bounded by the Republic of Benin in the West, Kwara and Kogi states in the north, Edo and Delta states in the east and the Bight of Benin (Gulf of Guinea) in the south. The Southwestern Nigeria has 80 constituted Forest Reserves with a total forest area cover of 793,266 ha while the Free Area cover is 1,005,871 hectares (FDF, 1998).

Table 1: Information on the Six States of Southwestern Nigeria

State	Total Land. Area (Km²)	Population 000,000	Population Density (N/Km²)	No. of Forest Reserve	Area of Forest Reserve (Ha)	No.of LGAs
Osun	9,491	3.45	232	11	92,242	30
Ondo/ Ekiti	20,454	3.44	191	16 18	307,616 24,296	18 16
Ogun	16,086	2.3	145	15	195,790	20
Oyo	27,848	5.59	124	18	169,173	33
Lagos	3,939	5.7	1444	02	6873	20
Total	**77,818**	**19.48**	**250.33/Km²**	**80**	**793,266**	**121**

Source: Forest Resources Study and Forest Management Plans of Oyo, Ogun, Lagos, Ondo and Osun States (FDF, 1998)

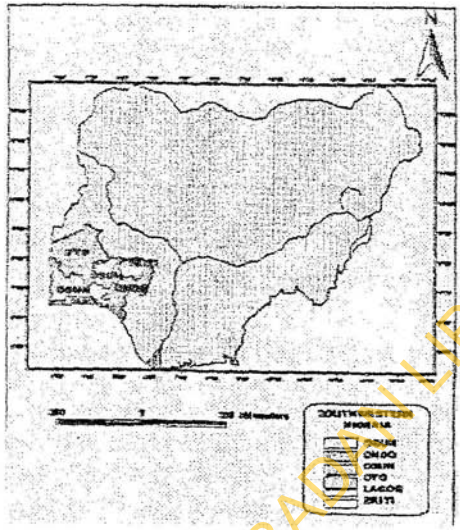

Fig. 1: Southwestern Nigeria showing the States within.

Survey Procedure (Study Site)

The study sites were selected using a combination of purposive and random sampling techniques from the six states making up the Southwestern Nigeria. Lagos State, being a rallying point for others was purposively selected because of its megalopolitan nature. All the remaining five states were assigned numbers and based on random sampling technique; three (3) of them were selected. The selected states were Osun, Ondo, Ogun and Lagos.

The Local Governments Areas (LGAs) of the selected states were identified. Twenty percent (20%) of the Local Government Areas were randomly selected for the study. In all, Six (Ife South, Ejigbo, Ila, Atakumosa, Oriade, Ayedade/ Irewole) LGAs in Osun and four each (Ondo west, Ose, Owo, Akure North), (Ijebu East, Ijebu North, Odeda and Yewa), (Badagry, Ikorodu, Ikeja and Epe) in Ondo, Ogun and Lagos states respectively were sampled. The target population for the study comprised the local inhabitants and other categories of people such as artisans, civil servant, teacher traders, living in enclaves and settlements around the forest reserves in the study area. A test-retest reliability value of 0.85 confirmed the reliability of the questionnaire.

Other information sources include Focus Group Discussions (FGDs), which was used to elicit information on perceptions about income, household size, various management issues,

indigenous knowledge, cultural values and views about other forestry stakeholders, which the respondents would not want to respond to in the questionnaire. Group of people of the same sex were gathered through the village heads for the exercise in the four study states. Notes, were taken, pictures and voices were recorded. The participants spoke freely about the status of the forest resources and reserves, status of community forestry /community based forest management, their perceptions on land issues and benefit sharing if participatory management is introduced as presented in the topic guide questions. Secondary data were also obtained from State Forestry Departments and archives on available maps, gazettes, staff strength, revenue generation, afforestation programme, budgetary allocation and releases where available and other available reports.

Analytical Technique

Descriptive statistics employed include Frequency and Percentage Distribution, Tables, Bar charts, and Pie Charts while Logit Regression Analysis inferential statistics were used in explaining relationship between some identified variables.

Results and Discussion

To ease the understanding of this paper, three groups of respondents were identified viz the rural dwellers tagged the forest users group (FUG), timber contractors and sawmillers (TCS) and the forestry personnel.

Demographic Background of Respondents

Distribution of respondents by sex (Table 2) reveals a male preponderance FUG in the study area with an average of 80.5% male and 19.5% female. Male gender is more involved in forestry business than their female counterpart. Also, ethnic background distribution reveals that Southwestern Nigeria is ethnically heterogeneous. Although, on the average, the percentage of Yoruba ethnic group is the highest (92.8%) other identified ethnic groups are up to 7.2%. This is to be expected since Southwestern Nigeria is a predominantly Yoruba speaking area. However, the cosmopolitan nature of Lagos State deviate its ethnic distribution from others: Yoruba ethnic in the state is about 63.0% (Table 2). On marital status, a total of 87.4% of the FUG respondents are married with the highest cases recorded in Ogun (93.1%) and Osun (91.4%) states. Modal average family size (56.1%) was between 1 and 5 while FUG respondents with family size of 16-20 are the lowest (0.2 %) in the study area (Table 2). On education, 73.3% of the respondents have formal education. Those with no formal education are 26.7%. Osun State has the highest percentage of FUG respondents (32.2%) with no formal education.

Table 2: Demographic Data of Public Respondents

Demographic Variable	Osun		Ondo		Ogun		Lagos		Total		Mode
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Sex											
Male	172	74.1	97	83.6	81	93.1	33	80.5	383	80.5	Male
Female	60	25.9	19	16.4	6	6.9	6	19.5	93	19.5	
Sub Total	232	100	116	100	87	100	41	100	476	100	
Marital Status											
Single	18	7.8	27	23.3	6	6.9	3	7.3	54	11.3	
Married	212	9.14	89	76.7	81	93.1	34	82.9	416	87.5	
Divorced	-	-	-	-	-	-	2	4.9	2	0.4	Married
Widowed	2	-	-	-	-	-	2	4.9	4	0.8	
Sub Total	232	100	116	100	87	100	41	100	476	100	
Educational background											
Illiterate	75	32.2	20	17.2	21	24.1	11	26.8	172	26.7	
Primary	54	23.3	18	15.5	9	10.3	14	34.1	95	20.0	
Secondary	68	29.3	21	18.1	27	31.0	9	22.0	125	26.3	Illiterate
Tertiary	33	14.2	44	37.9	30	34.5	6	14.6	113	23.7	
Postgraduate	2	0.9	13	11.2	-		1	2.4	16	3.3	
Sub Total	232	100	116	100	87	100	41	100	476	100	
Household size											
1 - 5	132	56.9	64	55.2	54	62.1	17	41.5	267	56.1	
6 - 10	81	34.9	31	26.7	15	17.2	11	26.8	138	29	
11 - 15	8	3.4	3	2.6	-	-	8	19.5	19	4	
16 - 20	1	0.4	-	-	-	-	-	-	1	0.2	1 - 5
>20	3	1.3	-	-	-	-	2	4.9	5	1.1	
No Response	7	3.0	18	15.5	18	20.7	3	7.3	46	9.7	
Sub Total	232	100	116	100	87	100	41	100	476	100	
Ethnic Background											
Yoruba	221	95.3	111	95.7	84	96.6	26	63.4	442	92.9	
Hausa/Fulani	5	2.2	2	1.8	-	-	3	7.1	10	2.1	
Igbo	5	2.2	3	2.6	3	3.4	6	14.6	17	3.6	Yoruba
Others	1	0.4	-	0.9	-	-	6	14.6	7	1.4	
Sub Total	232	100	116	100	87	100	41	100	476	100	

Timber Contractors and Sawmillers (TCS):

TCS are predominantly male; however female timber contractors/sawmillers are now in the business. The percentage of women in this group of respondents is highest in Osun state with 23% and lowest in Ogun state with 10.2% (Table 3). Modal age range among TCS is between 31 (45.5%) and 50 (25.5%) years. This appears to be the prime and

active age. Young people between the age of 20-30 years (9.1%) and old people of over 60 years (8.1%) have the lowest percentages (Table 4). This may be as a result of the nature of the job, being capital intensive, tedious and hazardous. This group of forest stakeholder is more of married people. Married cases were highest in Lagos State (97.1%) and lowest in Osun State (95.9%). All the timber contractors and sawmillers sampled in Osun, Ondo and Ogun states are purely *Yoruba* but in Lagos state other ethnic groups are involved. An average of 96.6% of the sawmillers/contractors interviewed was married (Table 3). The study also revealed that only an average of 7.7% of TCS have no formal education while 12.0% has primary education, 41.6% secondary, 30.6% tertiary and 8.1% has postgraduate educational background. This may be as a result of lack of employment for school leavers at all levels.

Table 3: Demographic Characteristics of Timber Contractors and Sawmiller

Demographic Variables	Osun		Ondo		Ogun		Lagos		Total		Mode
Sex	Freq	.%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Male	57	77.0	46	88.5	42	85.7	29	85.3	174	83.3	
Female	17	23.0	6	11.5	5	10.2	5	14.7	33	15.8	Male
Missing	-	-	-	-	2	4.1	-	-	2	0.9	
Sub Total	74	100.	52	100	49	100	34	100	209	100	
Marital Status											
Single	2	2.7	2	3.8	1	2.0	1	2.9	6	2.9	
Married	71	95.9	50	96.2	48	96.0	33	97.1	202	96.6	Married
Divorced	-	-	-	-	-	-	-	-	-	-	
Widowed	1	1.4	-	-	-	-	-	-	1	0.5	
Sub Total	74	100	52	100	49	100	34	100	209	100	
Educational background											
Illiterate	8	10.8	3	5.8	3	6.1	2	5.9	16	7.7	
Primary	13	17.6	6	11.5	3	6.1	3	8.8	25	12.0	
Secondary	31	41.9	15	28.8	21	42.9	20	58.8	87	41.6	Secondary
Tertiary	18	24.4	22	42.3	17	34.7	7	20.6	64	30.6	
Postgraduate	4	5.4	6	11.5	5	10.2	2	5.9	17	8.1	
Sub Total	74	100	52	100	49	100	34	100	209	100	
Age											
20-30	10	13.5	3	5.8	3	6.1	3	8.8	19	9.1	
31-40	32	43.2	16	30.8	25	51.0	22	64.7	95	45.5	
41-50	19	25.7	18	34.6	11	22.4	6	17.6	54	25.8	31 - 40
51-60	9	12.2	8	15.4	5	10.2	2	5.9	24	11.5	
>60	4	5.4	7	13.5	5	10.2	1	2.9	17	8.1	
Total	74	100	52	100	49	100	34	100	209	100	

Ethnic Background											
Yoruba	74	100	52	100	49	100	28	82.4	203	97.1	
Hausa/Fulani	-	-	-	-	-	-	1	2.9	1	0.5	
Igbo	-	-	-	-	-	-	5	14.7	5	2.4	Yoruba
Others	-	-	-	-	-	-	-	-	-	-	
Total	74	100	52	100	49	100	34	100	209	100	

Table 3: Demographic Characteristics of Timber Contractors and Sawmiller
Source: Field survey

Forestry Personnel (FP): In the forestry profession in the study area, the study identified more male than female staff (Table 4). In Osun and Lagos states there are no female foresters while in Ondo and Ogun states there are female foresters in a relatively negligible percentage as revealed from interviews and secondary data. The average of 99.3% was male while female FP were only 0.7%. Age distribution among FP reveal a modal (80.0%) age range of between 31 (80.0%) and 60: 19% within age range of 31 and 40 years, 36.6% in age range of 41 and 50 years while 32.4% are within the ages of 51 and 60 years. The age of 11.3% of FP falls below 30 years. This is a pointer to the fact that the work force in forestry in all the sample states is growing old. There is need for employment of new and young officers who will take over from the old retiring ones. All the forestry officials in the study states are from the same ethnic background, *Yoruba*. An average of 89.4% of the sampled FP was married while 51.4% had tertiary education with 24.6% having postgraduate qualifications.

Table 4: Demographic Characteristics of Forestry Officials

Demographic Variables	Osun		Ondo		Ogun		Lagos		Total		Mode
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Sex											
Male	50	100	41	97.6	37	100	13	100	141	99.3	
Female	-	-	1	2.4	-	-	-	-	1	0.7	Male
Sub Total	50	100	42	100.0	37	100	13	100	142	100	
Marital Status											
Single	3	6.0	4	9.5	5	13.5	-	-	12	8.5	
Married	46	92.0	4	90.5	30	81.1	13	100	127	89.4	Married
Divorced	1	2.0	-	-	2	5.4			3	2.1	
Sub Total	50	100	42	100.0	37	100	13	100	142	100	
Educational Background											
Illiterate	-	-	-	-	-	-	-	-	-	-	
Primary	3	6	5	11.9	4	10.8	3	23.1	15	10.6	
Secondary	4	8	6	14.3	6	16.2	3	23.1	19	13.4	Tertiary
Tertiary	32	64	17	40.4	18	48.6	6	46.2	73	51.4	
Postgraduate	11	22	14	33.3	9	24.3	1	7.7	35	24.6	
Sub Total	50	100	42	100	37	100	13	100	142	100	

Age											
20-30 years	5	10.0	5	11.9	6	16.2	-	-	16	11.3	
31-40 years	5	10.0	11	26.2	9	24.3	2	15.4	27	19.0	41 - 50
41-50 years	18	36.0	15	35.7	12	32.4	7	53.8	52	36.6	
51-60 years	22	44.0	11	26.2	9	24.3	4	30.8	46	32.4	
No Response	-	-	-	-	1	2.7	-	-	1	0.7	
Sub Total	50	100	42	100	37	100	13	100	142	100	
Ethnic Background											
Yoruba	50	100	42	100	37	100	13	100	142	100	Yoruba
Hausa/Fulani	-	-	-	-	-	-	-	-	-		
Igbo	-	-	-	-	-	-	-	-	-		
Others	-	-	-	-	-	-	-	-	-		
Sub Total	50	100	42	100	37	100	13	100	142	100	

Source: Field survey

Socio-economic Background of Respondents

Forest Users Group (FUG): Occupation distribution among the FUG (Table 5) vary; the modal being farming (47.7%) and the lowest being the artisans (3.4%). The modal frequency of farmers (60.8%) was recorded in Osun State although from Focus Group Discussion (FGD) almost all the FUG practise agriculture either as primary or secondary occupation. The percentage of respondents that practice farming as primary occupation was found to be 47.7 % while those who took agriculture as secondary occupation was 16.9%. Income distribution (Table 5) among FUG revealed that 23.3 % of them make less than ₦5000 monthly while 10.7% realize or earn over ₦20, 000 a month. In Osun State the highest proportion of the FUG (41.8%) earn between ten and fifteen Thousand Naira a month. But in Ondo and Lagos State, the highest proportion make between five and ten Thousand Naira (Table 5).

Examining existing groups/Associations in the study area (Table 5) the study identified various forms of participatory groups within the communities sampled. The prominent group is the Cooperative Society with an average of 45.0% while Non-Governmental Organizations occurred more in Lagos State probably as a result of the megalopolis nature of the state. Probing the importance of forests on the quality of life among FUG (Table 5) it was found that an average of 70.8% affirmed that forest reserves are critical to their survival. This was in line with Ruiz-Perez and Arnold (1996) submission that forests and forest products are important to the quality of life and survival of very large numbers of rural poor in tropical developing countries. Thus, consent of FUG to the use of forest resources was averagely very high (84.5%) in the study area with the modal distribution (90.1%) in Osun State and lowest in Ondo State (78.4%).

Table 5: Socio-economic Background of Public Respondents

Socio-Economic Variables	Osun		Ondo		Ogun		Lagos		Total		Mode
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Occupation											
Farming	141	60.8	37	31.9	39	44.8	11	26.8	228	47.9	
Civil Service	28	12.1	58	50.0	21	24.1	5	12.2	112	23.5	Farming
Artisan	9	3.9	2	1.7	3	3.4	2	4.9	16	3.4	
Trading	46	19.8	9	7.8	3	3.4	5	12.2	63	13.2	
Wood business	8	3.4	10	8.6	21	24.1	18	43.9	57	11.9	
Total	232	100	116	100	87	100	41	100	476	100	
Monthly Income											
<₦5000	34	14.7	34	29.3	36	36	7	17.1	111	23.3	
₦5000-10000	54	23.3	27	23.3	18	18	12	29.3	111	23.3	
₦10000-15000	97	41.8	10	8.6	12	12	11	26.8	130	27.3	₦10000-15000
₦15000-20000	26	11.2	22	19.0	12	12	6	14.6	66	13.9	
>₦20000	20	8.6	21	18.1	9	9	1	2.4	51	10.7	
No response	1	0.4	2	1.7	-	-	4	9.8	7	1.5	
Total	232	100	116	100	87	100	41	100	476	100	
Groups											
Elders'Forum	20	8.6	26	22.4	9	10.3	7	17.1	62	13.0	
NGO	-	-	8	6.9	3	3.4	3	7.3	14	3.0	
CBO	4	1.7	13	11.2	18	20.7	9	22.0	44	9.2	Cooperative
Cooperative	157	67.7	28	24.1	18	20.7	11	26.8	214	45.0	
No response	51	22.0	41	35.3	39	44.8	11	26.8	142	29.8	
Total	232	100	116	100	87	100	41	100	476	100	
Depends on forest resources?											
Yes	194	83.6	63	54.3	51	58.6	29	70.7	337	70.8	
No	37	15.9	50	43.1	36	41.4	10	24.4	133	27.9	Yes
No Response	1	0.4	3	2.6	-	-	2	4.9	6	1.3	
Total	232	100	116	100	87	100	41	100	476	100	
Utilize forest Resources?											
Yes	209	90.1	91	78.4	69	79.3	33	80.5	402	84.5	
No	23	9.9	22	19.0	18	20.7	6	14.6	69	14.5	Yes
NoResponse	-	-	3	2.6	-	-	2	4.9	5	1.0	
Total	232	100	116	100	87	100	41	100	476	100	

Timber Contractors and Sawmillers (TCS): The source of income of most (71.8%) TCS is from timber contracting while another 25.4% have an established sawmilling industry. From Focus Group Discussions all sawmillers are timber contractors but not all timber contractors are saw millers (Table 6). The perceived average monthly income of the TCS ranges from an amount lower than Five Thousand to Twenty Thousand Naira and above (Table 6) monthly. More than half of these respondents make more than ₦15000/month while 13.9% make less than ₦5000. Incomes of respondents are noticed to be from

various sources: from forest and or agricultural products to other sources. Worthy of note though is that 39.2% earn all their income from forest, while 31.1% earn between 61 and 99%; 22.0% earn between 31.0 and 60.0%; and 4.3% earn between 1.0 and 30.0% of their incomes from the forest. Thus, an average of 80.4% of the sampled timber contractors and sawmillers engage in private forestry activities in the form of raising of seedlings and establishment of tree plantation (Table 6). This may be as a result of their exposure, level of education and awareness of the benefits of planting trees. Also, an average of 26.3% of them earns 1-30% of their income from agricultural produce. Another 17.7% owe 31-60% of their income to agricultural production and only 0.5% earns 61-99% of their income from agricultural produce.

Table 7: Socio-economic Background of Timber Contractors and Sawmiller

Socio-Economic Variables	Osun		Ondo		Ogun		Lagos		Total		Mode
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	
Occupation											
T. contracting	51	68.9	35	67.3	34	69.4	30	88.2	150	71.8	Timber Contracting
Sawmilling	17	23.0	17	32.7	15	30.6	4	11.8	53	25.4	
Others	6	8.2	-	-	-	-	-	-	6	2.8	
Sub Total	74	100	52	100	49	100	34	100	209	100	
Income											
<₦5000>	12	16.2	7	13.5	7	14.3	3	8.8	29	13.9	
₦5000 - 10000	14	18.9	9	17.3	7	14.3	3	8.8	33	15.8	
>₦10000 - 15000	14	18.9	8	15.4	5	10.2	8	23.5	35	16.7	>₦20000
>₦15000 - 20000	16	21.6	17	32.7	10	20.4	8	23.5	51	24.4	
>₦20000	18	24.3	11	21.2	11	22.4	12	35.3	52	24.9	
No response	-	-	-	-	9	18.4	-	-	9	4.3	
Sub Total	74	100	52	100	49	100	34	100	209	100	
% Income from Forestry											
1-30	3	4.1	3	5.8	3	6.11	-	-	9	4.3	
31-60	15	20.3	12	23.1	9	8.42	10	29.4	46	22	
61-99	31	41.9	15	28.8	13	6.54	6	17.6	65	31.1	100%
100	23	31.1	20	38.5	21	2.9	18	52.9	82	39.2	
No response	2	2.7	2	3.8	3	6.1	-	-	7	3.3	
Sub Total	74	100	52	100	49	100	34	100	209	100	
% Income from Agriculture											
1-30	25	33.8	13	25.0	9	18.4	8	23.5	55	26.3	
31-60	10	13.5	9	17.3	10	20.4	8	23.5	37	17.7	1-30%
61-99	-	-	1	1.9	-	-	-	-	1	0.5	
100	-	-	-	-	-	-	-	-	-	-	
No response	39	52.7	29	55.8	30	61.2	18	53.0	116	55.5	
Sub Total	74	100	52	100	49	100	34	100	209	100	

Carry out Private Activities in Forest Reserves?

No	9	12.2	20	38.5	11	22.4	1	2.9	41	19.6	
Yes	65	87.8	32	61.5	38	77.6	33	97.1	168	80.4	Yes
Sub Total	74	100	52	100	49	100	34	100	209	100	

Dependent on Forest Reserve?

No	37	50.0	22	42.3	16	32.7	6	17.6	81	38.8	
Yes	37	50.0	30	57.7	33	67.3	28	82.4	128	61.2	Yes
Sub Total	74	100	52	100	49	100	34	100	209	100	

Source: Field Survey

Determinants of Participation

Data analyses from questionnaire survey and Focus Group Discussion (FGD) revealed that determinant of mass participation in CF or CBFM in Southwestern Nigeria among identified stakeholders could be grouped into factors that are:

(1) Resource oriented;

(2) User or community dependent;

(3) Forestry agency specific;

(4) Related to the Programme itself; and

(5) Environment/ Forestry System specific.

Resource Oriented Factors

Centrality of Resources: Centrality of the resources measures the critical levels of the resources to the survival of the local dwellers, the timber contractors and saw millers in the study area. About 70.0% (Table 6) of the local people indicated that forest resources are critical to their survival and this will determine their participation in forestry programmes. The forest resource beneficiaries will be interested in participating in any programme that will perpetuate their source of livelihoods.

Scarcity of Resources: Scarcity of resources was found out to be a determinant of participation of respondent in CF or CBFM. Forest resources are economic resources because they are scarce. The quantity of resources in relation to demand has significant effect on how resources will be used. The study reveals that forest resources are depleted; they are getting farther from users and are being competed for as a result of over exploitation, forest degradation and deforestation. The increasing scarcity of forest resources has resulted in the realization and perception that their usage was presently not subjected to any sustainable regulation and coordination. Thus, the need to regulate and coordinate the use

of forest resources on a sustainable basis in the study area cannot be overemphasized. This can only be effectively carried out with the active participation of the local institution.

Uncertainty and waiting period (Long Gestation of Forestry Business): The study also revealed that the waiting periods as well as the uncertainty involved in the final products and benefits of forest resources are strong determinants of people's participation in forestry business. The longer the waiting time, the greater the degree of uncertainty, and the lower the motivation or interest of the local people to participate. This assertion is corroborated by the non-cooperation of the local people with forestry departments in regeneration and protection of forests. This explains why only 5.3% of timber contractors/Sawmillers are involved in plantation development.

Exclusive right to benefits: Exclusive right to benefits from forest resources, presently enjoyed by the forestry department is another determinant of participation in forest management. The study reveals that people would not participate in collective management unless they are assured of their exclusive right to benefits from forest management. The FGDs revealed that the local dwellers would be willing to participate if the benefits could be shared at the ratio of 40: 60, 50:50, 30:70 as the case may be. It could therefore be suggested, that the local people who wish to benefit without willingness to contribute their money, labor and time to CF or CBFM should be excluded as not to discourage the willing ones.

Location of forest resources: Location of forest resources may affect people's participation in CF or CBFM. The study shows that 84.2% of the local dwellers perceived forest resources as getting farther away from them on a daily basis. This reduces their ease of access to the resources and invariably their participation in their management and may be responsible for the poor management of the forest reserves and resources there in. People that are close to the resource base are better placed for the protection of the resources if empowered. Loss of resources through illegality is as a result of poor protection mechanism by the state forestry departments.

The Users/Community Dependent Factors

Awareness: Awareness of the importance of management strategies could be responsible for the willingness of the stakeholders to participate in CF or CBFM as revealed in Logit Analysis (Table 134) that there is a significant relationship between willingness to participate and awareness of community forestry ($Pr<0.05$). It could also be inferred that lack of awareness on the part of the government (Policy makers) about the seriousness of forest degradation and that the forestry department alone cannot manage the forest reserves on a sustainable basis could be responsible for the non-involvement of other stakeholders in the management of forest reserves in Southwestern Nigeria.

Indigenous values and Beliefs: More than one family and community, with different values and benefits originally own each forest reserve in the study area. Focus Group Discussions (FGDs) reveal that every family and every community has individual set of values and beliefs that are rooted in their culture, tradition and history. These values and beliefs inform their attitudes and behaviours to other beings. The study (Figure 14) observed a hostile relationship among of FUG and the timber contractors/sawmillers and forestry officials. This hostility arose from the feelings that the local people were forced out of the forest reserves and their possession taken away without any benefits. Values, beliefs and awareness are strong determinants of peoples' participation and this could be overcome through mass mobilization using media mix (Azeez, 2002) and strong appeal to their religious and cultural feelings.

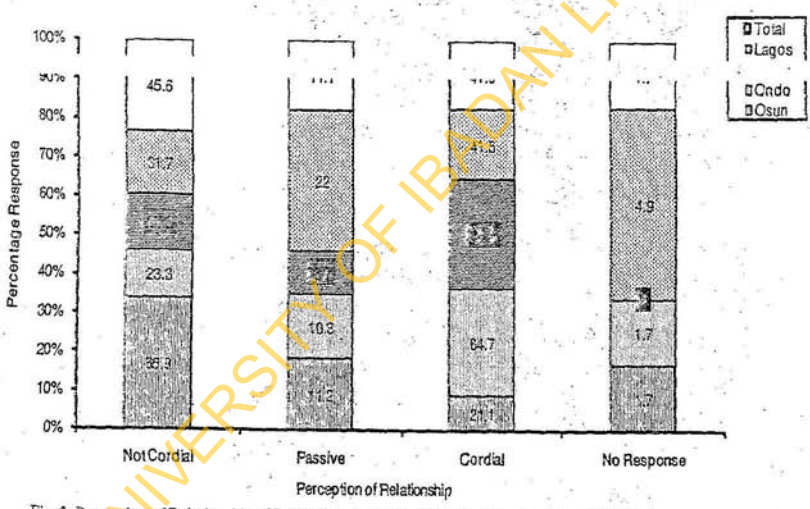

Fig. 2: Perception of Relationship of Public Respondents with Timber Contractors and Forestry Personnel

Socio-economic/Cultural Issues: The study reveals that socio economic variables are strong determinants of peoples' participation. The heterogeneity of caste, class, ethnicity, assets, household size, and income in the communities sampled are important indices determining stakeholders' level of participation in forest management. Logistic Regression

Analyses (Table 8) revealed that ethnicity, level of income, awareness of CF benefits will significantly determine the willingness of the local people to participate in CF or CBFM in South-western Nigeria. The communities around and within the forest reserves were found to be heterogeneous in nature. The heterogeneous nature of the local dwellers in terms of caste, ethnicity and class among others affect their land inheritance and also determine their willingness to release land outside forest reserve for community forestry initiative. The heterogeneity of the communities (in terms of native/non native, land owners/landless) in and around the forest reserves in the study area is a reflection of the cultural attachment to land possession and modes of land ownership in South-western Nigeria. The strong attachment to land which depends on its use vary from state to state and explains why CF for timber production may not thrive in Lagos state due to strong attachment to land for urban development both in the gazetted forest reserves and outside forest reserves. However urban forestry could thrive.

Table 8: Logistic Regression Analysis of the Impact of Some Variables on FUG Willingness to Participate in CBFM

VARIABLE/ in the equation	B	S.E	Wald	df	p. Value	R Exp(B)	Significance
YORUBA	1.776	.910	3.805	1	.050	5.903	S
< ₦10000	-1.868	1.128	2.742	1	.098	.154	NS
< ₦ 15000	-3.617	1.217	8.839	1	.003	.027	S
<₦ 20000	-3.185	1.503	4.491	1	.034	.041	S
>₦ 20000	7.717	85.769	.008	1	.928	2246.398	NS
AOCFB	3.659	1.148	10.167	1	.001	38.840	S
AOCF	-2.075	.935	4.924	1	.026	.126	S
Constant	14.025	143.105	.010	1	.922	1232767.621	

Variable(s) entered on step 1: Awareness of Community Forestry Benefits (AOCFB) and Awareness of Community Forestry (AOCF).

Leadership (Groups and Leadership): Formal and informal organizations are perceived to be factors of participation in collective management. The study reveals that there are various forms of participatory groups within the communities sampled and majority (93.9%) of FUG show willingness to work with outside group. In Yoruba culture, communities are headed by *baales* (Heads of community) who are the arrow head for FGD during the

study. Findings reveal that leadership qualities in various *baales* determine the number of participants at the FGDs and subsequent amount of information collected. It was discovered that good local leadership could be instrumental to the organization of the local people into groups, mobilization of available resources for various community projects and good relationship between various stakeholders for a successful take-of and sustainability of CF.

conomic Status of the local people: The income level and its distribution among the people may affect people's participation. The Logit Analysis (Table 8) reveals that low level of income show significant relationship to willingness to participate in CF among the local people, while among TCS both low level income and high level income shows significant influence on willingness to participate. The local people may not be able to spend their time, money and energy on participatory collective management if the benefits from such initiative are low and uncertain. Thus, inequality in income level may affect mass participation. People of low-income level may not be willing to work along with people of high-level income. These findings corroborate the findings of (Singh, 1991) that poverty level of the local people is an obstacle to their participation in collective management. The local poor depend on forest resources for their survival, and that they may not participate in programme of forest regeneration and protection, unless alternative arrangements are made to meet their basic needs of fuel wood, food and economic needs

Discrimination against Women: The cultural situation in the study area shows prejudice against women with regards to their involvement in most management issues. Though women are very close to the forest resources most especially in the collection of fuel wood and NTFPs, their participation in forestry and rural development have been negligible. This factor as a determinant of participation is gradually being mitigated by NGOs that are deliberately promoting women's participation.

Forestry Agency Related factors

In South-western Nigeria, all forestry departments are designed for centralized governance and control and are so staffed. This may be responsible for their structure, systems and personnel attitude being inimical to meaningful participation by other stakeholders in forest management. Among the factors that are agency related is the existing decision making process. The study reveals that the local people and other stakeholders are neither involved in decision making on forest resources management most especially concerning policy formulation and implementation

The locus of decision- making: The locus of decision- making is one of the determinants of participation as perceived by the local people. In general, total devolution of power is

not recommended but decision in those areas in which the local dwellers know more than the bureaucratic technocrat should be devolved in consultation with them while the specialized technical knowledge is made centrally.

Lack of empowerment on financial and administrative power is also one of the agency dependent factors that will determine participation. Since participation is a function of redistribution of power, most especially from government departments to local institutions, empowerment of people could lead to increased people's participation.

Forestry Personnel: The attitudes, values and skills of forestry personnel may influence and enlist mass participation in the participatory strategy of forest management. The forestry personnel see the involvement of the local people and other stakeholder as threat to their jobs, which may create obstacle to participation.

The policy on personnel movement, incentives and motivation may be obstacles to people's participation in CF or CBFM if introduced. To enlist and sustain forestry personnel efficient participation in CF or CBFM, they will need to endure sufficiently longer time in their beats, which depends on their perseverance and commitment to the ideology of participatory development, adequate incentives, motivation and empowerment through training for their new role as co-manager.

Programme Design – Related Factors

The design of forestry programme in the study area with regards to objectives, instrument used and measurement of the objective achievement do not enlist people's participation.

Programme Objective:

The programme objective of forestry development in the study area does not include people's participation. The programme instruments like education, training facilities, provision of technical knowledge, rules and regulations for coordinating and controlling of forest resources, pricing of forest resources and protective mechanism exclude the other stakeholders. All these are perceived factors likely to influence mass participation in forest management.

Programme Benefits and benefit distribution: Programme Benefits and benefit distribution are also perceived to strongly enlist mass participation of stakeholders in CF or CBFM. Economic benefits from forest resources do not usually get to the local people and when they do, not in commensurable quantity. FGDs revealed that the agreement among all stakeholders on certain percentages for sharing financial benefits from forest resources would determine their involvement in CF or CBFM strategy

The Environment /System Dependent Factors

Policy, Legislation and Political Will: Policy, legislation and political will were found to

be the environment specific factors that may determine mass participation in CF or CBFM. There is no legal basis in the study area for the implementation of CF or CBFM. The forestry laws in use in all the four sampled states took cue from the obsolete colonial laws that are yet to be reviewed. The laws have no provision for the practice of CF or CBFM. Enlisting the participation of all stakeholders requires a solid legal foundation. The survival of the strategy and the involvement of the groups may be guaranteed if the groups involved have clear-cut rules that would be enforced by both the FUGs and the officials. Equally, internally adaptive institutional arrangement, ability to work with external groups and associations/organizations. rules and regulations guiding various activities clearly stated would enlist participation.

The newly approved National Forestry Policy has provision for community participation; however, the scope and extent of the policy in encouraging community participation for forest management are not clear. It leaves room for each state to develop its own practices, which may result in a very disharmonious approach to private sector involvement. This policy on participatory strategy may only be on paper, if there is no political will to implement it. Participation is basically a process of redistribution of power. The policy statement must clearly indicate who, why and how the participation approval will be executed otherwise the policy statement will only be on paper and would remain a mere rhetoric.

For effective application of the National Policy on forestry matters it has to be backed up by an act. However, 78.2% of the forest officials (Table 9) observed that politics and bureaucratic indiscretion will interfere in participatory approach and are found to be strong determinant of mass participation in CF or CBFM. Social and political structures have strong hold on decentralisation and sustainable management of the forest. There is no way to separate politics and social structure from forestry issues. They dictate the effectiveness and success of decentralization and sustainable forest management.

Table 9: Perception of Forestry Personnel on Community Forestry

	Osun		Ondo		Ogun		Lagos		Total	
Reaction to CF	Freq	%	Freq	%	Freq	%	Freq	%	Freq.	%
Positive	43	86.0	31	73.8	28	75.7	13	100.0	115	81.0
Negative	-	-	-	-	1	2.7	-	-	1	0.7
Indifferent	7	14.0	11	26.2	8	21.	-	-	26	8.3
Total	50	100.0	42	100.0	37	100.0	13	100.0	142	100.0
Decision Making										
No	46	92.0	37	88.1	34	91.9	13	100.0	130	91.5
Yes	4	8.0	1	2.4	3	8.1	-	-	8	5.6
Indifferent	-	-	4	9.5	-	-	-	-	4	2.8
Total	50	100.0	42	100.0	37	100.0	13	100.0	142	100.0

Forest Management is Government Sole Responsibility?										
No	44	88.0	32	88.1	29	78.4	10	76.9	115	81.0
Yes	4	8.0	5	2.4	3	8.1	3	23.1	15	10.6
Indifferent	2	4.0	5	9.5	5	13.5	-	-	12	8.4
Total	50	100.0	42	100.0	37	100.0	13	100.0	142	100.0
Political Influence Impacts Forest Management?										
No	11	22.0	6	14.3	6	16.2	-		23	16.2
Yes	38	76.0	31	73.8	29	78.4	13	100.0	111	78.2
Indifferent	1	2.0	5	11.9	2	5.4	-		8	5.6
Total	50	100.0	42	100.0	37	100.0	13	100.0	142	100.0

It was observed from the study that all the government setups in South-western Nigeria are bureaucratically constructed, which limits the process of social and political development of communities. The setups do not even allow for participation talk less of empowerment. Decentralization is based on a public logic of inclusion and should be allowed to thrive in the South-western Nigeria Forestry System where the local people should be allowed to make decision about themselves on a regular basis with or without central authority.

As observed by Muherazza (2003) and Pacheco (2003), involvement of people in forest management will reduce cost of management and protection and will increase forest department revenue. In their own views, Wittman (2002), Contreras (2003) and Sarin *et al* (2003) submitted that decentralization and involvement of local and other FUG, in participatory approach could also serve as a way to increase state control over forest management.

References

Adeofun C.O and Akinsanmi, F.A (1997). Assessment of deforestation in a lowland Area of South West Nigeria using Remote Sensing Techniques. *The Nigeria Journal of Forestry,* Vol. 27, No. 1, 1997. Pp. 34-39.

Adeyoju, S.K. (2001) Forestry for National Development: A Critique of the Nigerian Situation. Proceedings of the 27th Annual Conference of the Forestry Association of Nigeria, September 2001;Abuja. pp 55- 68

Agboola, S.A (1979). *An Agricultural Atlas of Nigeria.* Oxford Univeersity Press Nigeria 248 pp

Azeez, I. O. (2002): Evaluation of Media Mix for Disseminating Forest Conservation Information in Southwestern Nigeria, Unpublished PhD Thesis, Faculty of Agric & Forestry, University of Ibadan, Nigeria 230 pp.

Bada, S. O. and Popoola, L. (2005) Sustainable Forest Resources Development in Nigeria Proceedings of the 30th Annual Conference of the Forestry Association of Nigeria held in Kaduna, Kaduna State, Nigeria. 7-11 November, 2005 pp 38-48.

Contreras-Hermosilla. A (2000): The Underlying Causes of Forest Decline. CIFOR OccasionaiPaper,No.30.CIFOR, Bogor, Indonesia. www.cifor.cigar.org/publication

Dubois, O. (1998) Capacity to Manage Role Changes in Forestry: Introducing the 4Rs framework. *Forest Participation Series* No.11, IIED, London pp28

FAO (1992): Forestry Principles and Agenda 21, Chapter 21 June 1992, Brazil 33pp

Fayenuwo, G. A. (2000): Perceptions of the Local people in the Management of Shasha Forest Reserve,Osun State, Nigeria. MSc. Thesis, University of Ibadan. Unpublished pp. 167.

FDF (1997). Country Report Nigeria. Report prepared for Eleventh World Forestry Congress held in Antalya, Turkey 13th-22nd Oct. 1997. pp56

FORMECU (1998): Assessment of Vegetation and Land Use changes in Nigeria between 1976/78 and 1993/95.Unpublished report prepared by Geomatics Int.,Inc., Beak Int Inc and Unilag. Consult pp 156

Kuchelmeister, G. (2000): Trees for the Urban Millennium: Urban Forestry Update. *Unasylva*. 50: 49-55.

Osemeobo, G.J. (2002) Challenges of orienting the Forest Service for Stakeholders' Participation. An invited paper presented at a workshop organized by the Government of Edo State Ministry of Agriculture and Natural Resources, Department of Forestry in collaboration with FAN-CONSULT, Forestry Association of Nigeria and other stakeholders on: Forest, People and Environment. Benin City, 5-6 September 2002, 64-74pp

Papka, P.M. (2005): Sustainable Forest Management: Opportunities and Challenges for Nigeria. In L. Popoola *(ed.) Sustainable Forest Management in Nigeria: Lessons and Prospects.* Proceedings of the 30th Annual Conference of the Forestry Association of Nigeria held in Kaduna, Kaduna State. 7th November – 11th November, 2005. pp 1-17

Singh, K (1991) Managing Common Pool Resources: Principles and Case Studies. Institute of Rural Management. Anand. Pp45-59

Ruiz-Perez, M. and Arnold, J.E.M.(eds) (1996) *Current Issues in Non-timber Forest Products Research.* CIFOR-ODA, Bogor, Indonesia. In *The International Forestry Review Vol 5(2)* June 2003 pp128-137.