Socio-Economic And Cultural Factors Associated With Farmers' Use Of Sustainable Land Management Practices In Ondo State

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ABSTRACT

This study examined the socio-economic and cultural factors associated with farmers' use of sustainable land management practices in Ondo State, Nigeria. A multistage random sampling technique was used to select 320 crop farmers for the study. The results showed that majority (78.7%) of the sampled farmers were male while 67.5 % were married with children. Large proportion (81.8%) of the respondents fall within the ages of 35-49 years, and majority (82.5%) of them were Yoruba. The educational background showed that 75.3% had one form of education or the other and over half (55.4%) of the farmers belonged to one group or the other. The results showed that 91.6% of the respondents were aware of the sustainable land management practices while only (8.4%) were not aware of the sustainable land management practices. Inferential statistical results indicate that there was significant relationship between farmers' use of sustainable land management practices and their educational level (χ^2 = 15.31; p = 0.05) and government policies ($\chi^2$15.54; p<0.05). Also, age (r= -0.56 p <0.05); farmers' income (r= 0.19, p <0.05); farm size (r = 0.37; P <0.05) among other variables have significant relationship with the use of sustainable land management practices. The study concluded that in planning and formulating development programmes for sustainable land management practices, socio-economic and cultural framework within the programmes must be put into consideration.

Keywords: Cultural factors, Management practices, Socio-economic, Sustainability.

INTRODUCTION

Land degradation has become a threat to life and property in this country. Eboh, et.al, (1995), reported that environmental problems in rural areas are of varying nature and degree depending on the physical and vegetation characteristics of the area. Understanding the environment not only in its technical sense but also as well as on the socio-economic life of the people and cultural contexts will help in designing action oriented management of their environment (NEST, 1995, UNCED, 2000 and FAO, 1990).The rural people in Nigeria have developed over the years effective methods of managing the land sustainably. These include the setting aside of land for religious and other purposes (Osunde, 1998; Adekoya, 1997; Fakoya, 2000 and Stroup and Baden, 2001). Such land served as community forest estate protected by local laws and customs and serving the spiritual and material needs of the rural people. As a matter of fact, agriculture – the cultivation of land for food was the first occupation of the traditional man. Agricultural sacredness which accounts for approximate rites before farming (cultivation of land) took place in Yoruba cultural past and involves consulting the oracle before cultivating any land for agricultural purposes. The farmer would also be made to offer prescribed sacrifice for two main reasons; to ensure safe cultivation devoid of accident and untimely death and to guarantee success and bountiful yield (Opefeyitimi, 1998).

Osunde (1998) opined that, ethnic practices among Yoruba militate against sound environmental management. However, some aspects of these norms augur well for an improved environment and conservation of vegetation which promotes bio-diversity and while ensuring ecological balance. Traditional religious belief and practices have resulted in preserving sacred groves throughout Yoruba land especially in the savannah region. Ayeni (1995) opined that the sacred groves are protected, conserved and maintained through a combination of taboos, prohibitions, beliefs and restrictions. In

most cases, burning trees, cutting and fuel wood gathering are prohibited in groves. Sanctions are enforced against those who contravene the taboos, and in some instances the culprits must perform certain rituals. The groves symbolize the dimensions vegetation cover could assume when there is maximum protection possible.

Sacred groves are believed to be the abode of gods and ancestral spirits and to provide protection for special members of the communities (fetish priests) organize periodic rituals, ancestral worship sessions and other customary performances in or around groves which are reserved as shrines (Osunde, 1998). On a similar note, not all portions of the land can or should be cultivated in Yoruba land because the untouchable portion of land included in these categories are sacred groves (Igbo Igbale) reserved for masquerades roarer (Oro), the wisdom god (Ifa) and the god of Iron (Ogun). The belief is strong that the spirits of these divinities actually live in those groves. Hence elders go there to commune with them on special occasions. Opefeyitimi (1998) maintained that changes in agricultural practices can be adapted to tradition and history of lands. Osunde (1998) opined that because of the close relationship between culture and land, any campaign for land management must take a new cultural tune calling for new ways of life and new orientation. The protection of cultural and geographical ecosystems will go a long way in ensuring sustainability in agricultural land.

Therefore, land use and management systems have to be matched with social and economic considerations within environmentally acceptable guidelines. (Ayeni, 1995 and Okali, 1991). In planning and formulating development programmes, the social, cultural and economic framework within which programmes will be implemented need to be put into consideration to ensure long term productivity and sustainability.

This paper therefore focuses on:

1. Describing the socio-economic and cultural factors associated with the use of sustainable land management practices.
2. Determining the level of awareness of the farmers' toward the use of sustainable land management practices.
3. Determining the significance of some of the prominent socio-economic and cultural factors associated with the use of sustainable land management practices.

METHODOLOGY

This study was carried out in Ondo State, Nigeria. The average annual rainfall is between 900mm and 1600mm. The land tenure system in the zone is a combination of communal and individual ownership. In spite of the 1978 land use decree, which vested state government with authority over all lands, land is still the property of the extended family in the community. At the discretion of the family heads and other principal members, land can be leased out to other families or even to strangers but sales of farmland are traditionally prohibited. Recently however, commercialization of production resources has permeated every facet of human life in Nigeria and sales of land have consequently become common (Omotayo *et.al*, 1999; Fakoya, 2000).

Sampling procedure and sample size

Multistage sampling technique was used in drawing samples from the zones of Ondo State Agricultural Development Programme (ODSADEP). The first stage involved the selection of the two zones, Owo and Ondo that fell in the derived savannah. Owo zone comprises of eight (8) blocks while Ondo zone is made up of ten (10) blocks. Twenty percent of these were randomly selected, that is two (2) blocks in each zone. . The second stage involved random selection of 25 percent of the cells in each of the selected blocks. Each of the blocks is made up of 8 cells, which gave a total of 4 cells in Owo and Ondo zones. Ten percent of crop farmers in ODSADEP list were randomly selected to give a total of 320 respondents for the study. The information collected on socio-economic and cultural factors associated with use of sustainable land management practices is part of a larger survey by (Fakoya, 2000) on farmers' use of sustainable land management practices in the study area. A pre-tested interview guide probing into the various socio-economic and cultural factors affecting sustainable land management practise was administered on the respondents. Both the nominal and interval levels of measurement were adopted. A test-re-test reliability coefficient of r=0.84 was achieved when the of the instrument was tested for reliability. Carried out (r = 0.84) and in addition, cogent validity test to show the representativeness of the various items used and the measuring instrument was performed. Data collected were analysed using chi-square and correlation coefficient tests.

RESULTS AND DISCUSSION

Socio-economic and cultural characteristics

Table 1 indicates that 320 crop farmers interviewed for the study, 78.7% were males while 21.3% were females. Majority (81.8%) of the crop farmers were between 35-49 years of age. This shows that majority of the farmers were more involved and active in farming activities. This can be attributed to the fact that people are more energetic during this period. The table also indicated that a large proportion of the respondents (over 82 percent) were Yoruba. The sampled farmers were relatively socially homogenous. A very small proportion of farmers were representative of the Hausa, Igbo, Efik and Tiv ethnic groups. About (68%)were married. Among the married male crop farmers, it was observed that majority of them had two or more wives with an average of 8 children per family. The educational background shows that a high proportion of the farmers (76.0%) had completed one form of formal education while about one quarter (24.7%) of the respondents had no formal education. On a general note however, the level of education of the respondents could be described as moderately high. The findings showed that majority of the respondents are Christians (57.2%) while a little over one-third were Muslims. Majority of the farmers belonged to more than one group as 34.9 %, 15.3% and 5.2% responded that they were members of different groups. The significance of group membership for this study comes from the realization that groups are possible avenues for mobilizing the farmers for collective farming activities and land management practices.

Table 1: Distribution of respondents by their socio-economic and cultural characteristics (N=320)

Variables	Freq	Percent
Age (years)		
34 and below	25	7.8
35-39	94	29.4
40-44	122	38.1
45-49	46	14.3
50-54	21	6.6
55 and above	12	3.8
Sex		
Male	252	78.7
Female	68	21.3
Ethnic background		
Yoruba	265	82.8
Hausa	21	6.6
Fulani	7	2.2
Igbo	17	5.3
Marital status		
Married	216	67.5
Single	52	16.3
Divorced	33	10.3
Widowed	19	5.9
Educational level		
No formal education	79	24.7
Adult literacy	59	18.4
Primary education	69	21.6
Secondary education	76	23.7
Tertiary education	20	6.3
Religion		
Christian	183	57.2
Muslim	106	33.2
Traditional	31	9.6
Membership in social group		
Community/environment ass.	154	48.1
Saving and credit association	129	40.3
Community Development Association	119	37.2
Farm Cooperation	103	32.2
Land User Association	83	27.2
Work Exchange Groups	103	32.2

Awareness of land management practices

Table 2 indicates that the land management knowledge systems have contributed to sustainable agriculture. However, awareness remains limited even among the elite. There is a need to expand the level and scope of environmental management practices through formal and non-formal approaches. Environmentally, all literate people all over the country have been aware and are convinced that crop existence is being seriously threatened. This threat is recognised due to natural disasters and the process caused by human activities. As shown on the Table 2,A large proportion (91.6%) of the respondents were aware of the use of sustainable land management practices while only 8.4% were not aware of the use of sustainable land management practices. Eighteen sustainable land management practices in the study area were identified (Fakoya, 2000). The level of awareness of the respondents was determined. The result shows that half of the respondents (50.4%) were aware of 11-16 sustainable land management

practices such composing, bush burning, tree planting, bush fallow. crop rotation .mulching, green manuring, shifting cultivation, farmyard manuring, erosion control and drainage . About 17.0 % were aware of all the practices while 13.1% were aware of 6-10 practices and only 8.4 percent of the farmers were not aware of any sustainable land management practices. This implies that farmers that were aware and engaged in high use of the sustainable land management practices while farmers that were not aware believed strongly in using 'juju' (magical powers) for land management.

Table 2: Distribution of respondents by their awareness of land management practices

Awareness	Freq	Percent
Aware	293	91.6
Not aware	27	8.4
Total	320	100.0
Level of awareness		
All practices	57	17.8
Aware 11-16 practices	161	50.4
Aware 6-10 practices	42	13.1
Aware 1-5 practices	33	10.3
Not aware	27	8.4

Correlation analysis of socio-economic and cultural factors affecting the use of sustainable land management practices

In Table 3, it was assumed in the study that the data collected from the crop farmers is normally distributed. The socio-economic and cultural factors affecting sustainable land management practices were subjected to correlation analysis at 0.05 level of significance. Each coefficient generated represents the relative combination of its associated variables to that of farmers' use of sustainable land management practices. This implies that the higher the magnitude of the coefficient, the more important the corresponding variables. Table 3 shows that age of the farmers in relation to the use of sustainable land management practices has an inverse relationship ($r = -0.56$, $p<0.05$), indicating that as age increases, the use of sustainable land management practices decreases. There were significant relationships between farm size ($r = 0.37$, $p < 0.05$), farmers' income ($r = 0.19$, $p < 0.05$), household size ($r = 0.19$, $p < 0.05$), and use of sustainable land management practices.

Table 3: Correlation coefficient between selected socio-economic and cultural factors affecting the use of sustainable land management practices

Variables	r	P	Decision
Age	-0.56	0.017	S
Income	0.19	0.00	S
Household size	0.17	0.02	S
Farm size	0.37	0.04	S
Farming experience	0.71	0.13	NS

NS = Not significant at 0.05 level of significance

Chi-square analysis between selected socio economic and cultural factors associated with the use of sustainable land management practices

The Chi-square analysis in Table 4 reveals that there were significant relationship between farmers' use of sustainable land management practices and education level ($\chi^2 = 15.31$; $p <0.05$), attitude of farmers towards land management ($\chi^2 = 8.14$; $p <0.05$), government policies ($\chi^2 = 15.54$; $p <0.05$), among others. While religion ($\chi^2 = 5.45$; $p <0.05$), ethnicity ($\chi^2 = 5.45$; $p <0.05$), gender ($\chi^2 = 6.13$; $p <0.05$) among other variables had no significant relationship with the use of sustainable land management practices. The management of land involves a complexity of interaction of variables such as population growth, gender, rural urban migration, government policies, poverty, urbanization and cultural practices. The rapidly intensifying pressure of population increases demand for higher food production and more land for other social and economic activities. Poverty is also a major social factor in that the level of poverty in the country in rural and urban areas makes the populace have no choice but to opt for immediate benefit, which is often at the expense of long term sustainability of land resources. The relationship between land use pattern and income level is often direct all thing being equal.

Table 4: Chi-square analysis between selected socio economic and cultural factors associated with the use of sustainable land management practices

Variables	χ^2 cal	df	χ^2 tab	Contingency Coefficient	Decision
Level of education	15.31	2	8.14	0.53	S
Ethnicity	5.45	2	9.03	0.16	NS
Gender	6.13	2	7.84	0.34	NS
Migrant status	4.43	2	9.32	0.24	NS
Level of awareness of land problems	10.13	2	8.19	0.64	S
Attitude towards land management	8.14	4	5.83	0.71	S
Investment in land management	7.15	2	6.95	0.34	S
Membership in social groups	7.89	3	10.34	0.31	NS
Population pressure on land	6.81	2	6.14	0.67	S
Social norms	13.13	2	11.82	0.54	S
Values and beliefs	8.34	4	7.41	0.49	S
Constraints to land management resources use	6.61	6	5.17	0.71	S
Extension agent activities	7.84	4	13.28	0.24	NS
Government policies	15.54	3	12.14	0.45	S
Types of land degradation	8.43	2	7.35	0.64	S
Poverty level of the farmers	7.64	2	7.11	0.55	S
Religion adherence	5.45	4	8.39	0.19	NS
Urbanization	6.14	2	9.85	0.18	NS
Sources of information	5.32	6	6.99	0.21	NS

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, it is concluded that most respondents were males with majority of them between 35-49 years of age. The sampled farmers were relatively socially homogenous. The study clearly showed that fourteen out of twenty four socio-economic and cultural factors had significant relationship with sustainable land management practices. They are age, educational level, farmers' income, household size, government policies, migrant status, types of land degradation among others.

The complexity and diversity of socio-economic and cultural factors affecting land management in Nigeria are such that no single recommendation will fit all circumstances. It will therefore be pertinent to consider legal and institutional systems that are tailored to meet national and local needs. There are however, certain key issues that require attention.

These are:

- increased population pressure on land
- intensification of agriculture and need for increased population
- poverty level of people which enhance irrational use of land resources
- increasing monetary value of land and
- unequal access to land

These issues and others have been the major bane in the sustainable use of land resources in Nigeria. In view of this, the following recommendations are given to further alleviate land use problems and enhance sustainable land management for future generation. There is the need to establish land management information centres for proper dissemination of land management practices to extension workers so as to be in a better position to help farmers in the aspect of soil management. Due to the close relationship between culture and land use, any campaign for land management practices must take a new cultural tone calling for new ways of life and new orientation.

REFERENCES

Adekoya, A.E. (1997): An analysis of farmers' participation in Agro-forestry in Oyo State. Unpublished Ph.D Thesis of the Department of Agricultural Extension Services, University of Ibadan Pp 15-27.

Ayeni, J.S.O. (1995): Conservation of natural resources. The dynamics of vanishing species and their habits. In Nwoke (Ed) The Nigeria Environment Ecological limit of abuse, Proceedings of the Annual Conference and General Meeting of the Ecology Society of

Nigeria, Port Harcourt, River State University of Science and Technology Pp 34-38.

Eboh, H.N., Stark, M.H. and Jordan, C.F. (1995): Nutrient retention by root matter of an Amazon rain forest. Ecology Pp 434-439.

Ekekwe, N. (2002): The trading state of the oil rivers. A study of political development in Eastern Nigeria. International African Institute, London Oxford University Press Pp 30-31

Fakoya, E.O. (2000): Farmers' use of sustainable land management practices in Ondo State. Unpublished Ph.D Thesis of the Department of Agricultural Extension and Rural Development, University of Ibadan Pp. 104-112.

Food and Agricultural Organization (1990): Land degradation and food supply issues and agricultural organization of the United Nation. Rome

Nigeria Environment Study/Action Team (NEST) (1995): Perspectives in Environmental Management in Okali, D. Ologem, K.O. and U.M. Ignozurike (eds) Ibadan NEST pp 34-36.

Okali, D.U.U. (1991): Analysis of the utilization and impact of animal traction in Katsina State, Nigeria. Unpublished Ph.D Thesis Department of Agricultural Economics and Rural Sociology, Ahmadu Bellow University, Zaria Pp 57-63.

Omotayo, A.M. and M.W. Musa (1999): The role of indigenous land classification and management practices in sustaining land use system in the Semi Arid zone of Nigeria. Journal of sustainable Agriculture Vol. 14(1) Pp 49-58.

Ondo State Agricultural Development Project (ODSADEP) (1997): Extension Department. Revised blocks and cell structure Pp 1-2.

Opefeyitimi, A. (1998): Solving the problem of productivity and land use in semi arid tropics. In Badejo, M.A. and A.O. Togun (eds) Strategies and Tactics of Sustainable Agriculture in the Tropics. College Press Ltd, Ibadan Vol. 1 Pp 136-138.

Osunde, M.A. (1998): Soil suitability classification by farmers. *The Professional Geographer* Vol 40. No 2 Pp 103-106.

Stroup, R.L. and J.A. Baden (2001): National Resources: Bureaucratic Myths and Environmental Management. Pacific Institute for Public Policy Research, San Francisco California.

United Nations Conference on Environment and Development UNCED (2000) Report on the United National Conference on Environment and Development III United Nation Plaza, New York. Pp 10-16.