

**Full Length Research Paper**

Attitude of Women Farmers towards Land Management Practices in Land Degraded Areas in Orlu Agricultural Zone of Imo State Nigeria

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Abstract

The study investigated the Attitude of Women farmers towards Land Management Practices in Land Degraded Areas in Orlu Agricultural Zone in Imo State. The specific objectives were to describe the socio-economic characteristics of the respondents, identify agricultural land management practices, identify the causes of land degradation in the area, describe the effect of land degradation on agricultural productivity, determine attitude of women farmers towards land management practices and to identify constraints faced by women farmers. A random sample technique was adopted in selecting one hundred and ten (110) respondents. Data were collected with the aid of a well structured questionnaire given to one hundred and ten women farmers. Data were analyzed using simple descriptive statistical tools, such as frequency distribution, percentage and mean. The result reveals that heavy rainfall/erosion causes land degradation in the area, the topography of the land is also another factor. Others are population pressure, sand excavation among others. This leads to loss of crop, food insecurity among other things. Based on the findings, recommendations were made on women being given the right incentives by the government to intensify their participation in agricultural production, such incentives include provision of soft loans, tractor hiring services, facilitating land acquisition etc.

Key words: Land, management, agriculture, degradation, women,

Introduction

In the 21st century, agriculture continues to be a fundamental instrument for sustainable development and poverty alleviation. There out of every four poor people in developing countries live in rural areas and in Africa, the livelihoods of about 60% of the population are dependent on agriculture (UNEP 2002; Yila and Thapa, 2008). Therefore, promoting agricultural through the sustainable management of land and water resources is imperative for meeting the Millennium Development Goal (MDG) of halving poverty and hunger by 2015, and continuing to reduce them and nutrient depletion poses a serious threat to agricultural sustainability, occasioned both by natural occurrence and human activity.

Agriculture contributes about 42% of the Gross Domestic Product (GDP) of Nigeria and employs 67% of the labour force. Over 90% of agricultural output comes from small-scale (<5ha) farming, carried out by resource-poor farmers who have been the main source of national food supply for a long time (Adedipe et al., 2004). Increasing food production without degrading land through rapid soil erosion and nutrient depletion is a major challenge in the pursuit of sustainable development.

Land therefore is the pivot of man's absolute existence. Oyekale (2007) stressed this by asserting that through the past, in the present and through the foreseeable future, soil continues to be the foundation of our food supply chain, which is a vital recurrent and capital resource of any nation. He also observed that in many cases, because of the temporary high economic gains, man may not care about the effect of the use of which land is subjected. The need for putting land to optimum use through adequate and effective planning has never been greatly felt and urban expansion are making available agricultural land scarce (Akinbola, 2003).

Land use is the end to which land is allocated assuming a conscious decision to use it for a desire end (Readon, 1998). In rural areas, land use patterns are governed mainly by the requirements of the agricultural industry, which is important for the livelihood of the people (FAO, 2000). In Nigeria given the level of agricultural technology the capacity of available land had been exceeded by 40-50 million people who mine the soil nutrients to support themselves (FAO, 2000).

Nigeria lands are either productive or non-productive for agricultural purposes. Because, of the long fallow period, the traditional agricultural production system was stable and biologically conducive to soil nutrient replenishment (Scherr, 1999). Increasing demographic pressure has now compelled expansion of crop production is now a new form of environmental degradation as crop

yields drastically decreases (Oyekale, 2007). In Nigeria, the scope of land problem can well be conceptualized from the fact that, despite that the nation depends mainly on oil revenue since the 1970, land remains the most important long term resource for the direct and indirect support of plants and animals, which man uses (NEST, 1991, Oyekale, 2007). Since farming has been the economic main stay in the study area, farmers have been making effort to keep productivity stable through both indigenous and introduced land management practices. Cash income for household financial requirements is mainly generated from sale of livestock and crop productions. A limited number of households generate off-farm income. Still, major proportion of farmland is undergoing degradation (Alexander and Kidd, 2000).

Women make essential contributions to agriculture and rural economic activities in all developing country regions. Their roles vary considerably among and within regions and are changing rapidly in many parts of the world where economic and social, forces are transforming the agriculture sector. The emergence of contract farming and modern supply chains for high-value agricultural products, for example, present different opportunities and challenges for women than they do for men. These differences derive from the different roles and responsibilities of women and the constraints that they face. Rural women often manage complex households and pursue multiple livelihood strategies. Their activities typically include producing agricultural crops, tending for wages in agricultural or other rural enterprises, collecting fuel and water, engaging in trade and marketing, carrying for family members and maintaining their homes.

Women often face gender-specific challenges to full participation in the labour force, which may require policy interventions beyond those aimed at promoting economic growth and the efficiency of rural labour market. Policies can influence the economic incentives and social norms that determining whether women work, the type of work they perform and whether it is considered an economic activity, the stock of human capital they accumulate and the levels of pay they receive. Increasing female participation in the labour force has a positive impact on economic growth.

Women work in agriculture as farmers on their own account, as unpaid workers on family farms and as paid or unpaid labourers on other forms and agricultural enterprises. They are involved in both crop and livestock production at subsistence and commercial levels. They produce food and cash crops and manage mixed agricultural operations often involving crops, livestock and fish farming. All of these women are considered part of the agricultural labour force.

Women in sub-saharan Africa have relatively high overall labour force participation rates and the highest overage agricultural labour-force participation rates in the world. Cultural norms in the region have long encouraged women to be economically self-reliant and traditionally give women substantial responsibility for agricultural production in their own right.

Land degradation is one of the major causes of low and in many places declining agricultural productivity and continuing food insecurity and rural poverty in Nigeria, and many other developing nations. These nations face the dead tasks of increasing agricultural productivity and ensuring sustainability of the resources base on which agriculture fundamentally depends (Ersade, et al., 2003). The usual means to achieve these goals are through public investments with financial support from government agencies and non-governmental organizations (NGOs) often, these investment take the arguments being that growth in agricultural production should come from yield increases rather than area expansion (Ersade et al; 2003).

For most sub-Saharan African counties, adoption of more efficient farming practices and technologies that enhance agricultural productivity and improve environmental sustainability remains the most practical option for achieving economic growth, food security and poverty alleviation (Omite et al; 2000). In Nigeria, improvement in land productivity is vital to enhance and sustain the welfare of the largely agrarian population (World Bank, 1989). The traditional land use and land management practices that used to sustain the welfare of human population under low population pressure with little or no technical inputs is no longer able to support the growing population. Due to increasing population density and degradation of the natural resources base, declining per capita food production results in deteriorating human welfare conditions. Although there has been a great deal of effort to address land degradation problem in Nigeria, these have failed to reverse the downward spiral in much of the reason for lack of solution to the problem is the need for multiple approaches; one size fits all approaches won't solve the problem in the heterogeneous environment of the Nigerian land space. Therefore, there is a need to identify what works where (or what can potentially works, where), and provide farmers an away of potentially effective options as well as addressing constraints that inhibit adoption of potentially effective measures through appropriate policies and investment programmes.

The broad objective of this work is to assess the attitude of women farmers towards land management practices in land degraded areas in Orlu Agricultural Zone of Imo State. Specifically, the study seeks to;

- (i) describe the socio-economic characteristics of respondents.
- (ii) identify agricultural land management practices
- (iii) identify causes of land degradation in the study area
- (iv) describe the effects of land degradation on agricultural production
- (v) determines attitude of women towards land management practices

(vi) Identify constraints faced by women farmers in land management practices.

Methodology

The study was conducted in Orlu Agricultural Zone of Imo State. Imo State is in Southeast Nigeria. The State is made of three Agricultural Zones, namely Owerri, Orlu and Okigwe and twenty-seven (27) Local Government Areas. Orlu Agricultural Zone has the following Local Government Areas; Orlu, Ideato North, Ideato South, Isu, Njaba, Nkwere, Nwangele, Oguta, Orsu, Oru East and Oru West. Imo State lies within latitudes 4°45'N and 7°15'N and longitude 6°50'E and 7°25'E with an area of around 5, 100sqkm. It is bordered by Abia State on the West, by the River Niger and Delta State on the West, by Anambra State to Owerri (IMSG, 2001). The estimated population of Imo State as of 2014 is 4.8 million and the population density varies from 230-1,400 people per square kilometer (NPC, 2006). Orlu Agricultural Zone has 10 Extension blocks and 107 extension circles manned by extension agents. The estimated number of women farmers affected by land degradation from the 107 circles was 1100 which was obtained from the extension agent covering the zone. From the list containing one thousand one hundred women farmers, 10% of the total number was randomly selected for questioning. This gives a total of one hundred and ten women farmers (110). The study made use of both primary and secondary data. The primary data were collected by administering questionnaire to household heads. Secondary data sources were utilized to provide background information and other necessary to achieve some objectives of the study such secondary data includes text books, journal and proceeding.

Basically, descriptive statistics was used to achieve most of the objectives. Mean, frequency, tabulation and percentages were used to achieve objectives 1, 2, 3, 4, 5 and 6. A four (4) point Likert type scale of strongly Agreed, Agreed, Disagreed, strongly disagreed, assigned values of 4 to 1 was used to achieve objective 3, 4, and 5 which is mathematically represented as

$$\frac{4+3+2+1}{4} = \frac{10}{4} = 2.50.$$

Therefore a mean of 2.50 was adjudged okay and acceptable while any value below 2.50 was not accepted.

Results and Discussion

Socio-Economic Characteristics of Respondents

Table 1 shows that 45.5% of the respondents are within the age bracket of 41-50 years. They are followed by 22.7% who are between 51-60 years. Only 9.1% are within 21-30 and above 60 years. This reveals that the respondents are active farming individuals who have a good knowledge of the subject matter under investigation. The above table indicates that majority (75.5%) are married, they are followed by (9.1%) who are single and (9.1%) who are widows while 6.4% have separated. The table indicates that majority of the respondents (47.3%) had Secondary education, (16.4%) of respondents had no formal education, (15.5%) of the respondents had Adult education, only (7.3%) of the respondents had tertiary education. In general, the respondents are literate. Again, (79.1%) of the respondents of farmers had no extension visit, (20.9%) of them received extension visit while (1.8%) of them has none. This implies that majority of the respondents have not been visited by extension agents. Table 1 below indicates that 61.8% of respondents have a family size of 1-4 people. However, 13.6% have a family size of 5-8 members while the remaining 8.1% have more than 8 members. The highest percentage of the respondents (66.4%) have less than 1 hectare of land, while 24.5% and 9.1% have 1.5 – 3 hectares of land and more than 3.5 hectares. On farming experience, 49.1% have been in farming business for more than 30 years, and this explains why they are knowledgeable in matters of land degradation and sustainable land management practices. Again, 37.3% have put in between 15-30 years, while 13.6 have been farming the past 14 years.

Land Management Practices

Table 2 reveals land management practices of the respondents. It indicates that the majority of the respondents make use of organic farming. Others are mixed farming with (65.5%), crop rotation with (57.3%), mulching with (50.0%), Inter cropping with (43.6%), Ridging with (37.8%), Agro-forestry with (30.9%), Bush fallow with (30.0%) and water management with (22.7%). The above findings are in line with (Derpsch, 1991) that use of mulch and other crop residues contributes to adaptation in situations where precipitation is erratic and of higher intensity – as “the plant biomass absorbs the energy of falling raindrops allowing rainwater to gently flow to the soil surface where it infiltrates into soil that is porous and undisturbed”. In areas of erratic and low rain fall coupled with increasing temperatures, crop residues will protect the soil, reducing the soil temperature and hence, water loss due to evaporation, both important factors for optimum for plant growth. Retaining crop residues will residues the amount and speed of rainwater running off crop plants (from between plants during the growing season, also other harvest) reducing soil erosion and contributing to an improved hydrological regime.

Table 1: Socio-Economic Characteristics Of The Respondents

Characteristics	Frequency	Percentage
Age		
21-30	10	9.1
31-40	15	13.6
41-50	50	45.5
51-60	25	22.4
61 and above	10	9.1
Marital status		
Single	10	9.1
Married	83	75.8
Divorced	7	6.4
Widow	10	9.1
Household size		
1-4	86	61.8
5-8	15	13.1
9 and above	9	8.1
Educational level		
No formal education	18	16.4
Adult school	17	15.5
Primary	15	13.6
Secondary	52	47.3
Tertiary	8	7.3
Farm size		
Less than 1	73	66.4
1.5-3	27	24.5
3.5 & above	10	9.1
Farming experience		
1-14 years	15	13.6
15-30 year	41	37.3
31 and above	54	49.1
Extension visit		
Yes	23	20.9
No	87	79.1

Table 2: Distribute of respondents based on land management practices

Land management practices used	*Frequency	Percentage (%)
Mulching	55	50.0
Crop rotation	63	57.3
Mixed farming	72	65.5
Ridging	41	37.8
Inter cropping	48	54.6
Organic farming	78	70.9
Water management	25	22.7
Agro-forestry	34	30.9
Bush fallow	33	30.0

*Multiple responses were recorded

Causes of Land Degradation

Table 3 shows the causes of land degradation in the study area. The major causes of land degradation are: topography/ shape of the land with (\bar{x} = 3.44), soil structure (\bar{x} = 3.41), and population pressure with (\bar{x} = 3.41) respectively. Followed by uncontrolled urban expansion with (\bar{x} = 3.38), bad land cultivation practices with (\bar{x} = 3.36), and oil spillage with (\bar{x} = 3.36) respectively. Others are overgrazing with (\bar{x} = 3.34), sand excavation with (\bar{x} = 3.27), heavy rainfall/erosion with (\bar{x} = 3.21), soil texture with (\bar{x} = 3.02), deforestation with (\bar{x} = 3.00), and excessive use of fertilizer with (\bar{x} = 2.94).

Table 3: Cause of land degradation

Cause of land degradation	X (mean)
Excessive use of fertilizer	2.94
Deforestation	3.00
Overgrazing	3.34
Population pressure	3.41
Sand excavation	3.27
Uncontrolled urban expansion	3.38
Soil structure	3.41
Topography/shape of land	3.44
Heavy rainfall/erosion	3.21
Bad land cultivation practices	3.36
Soil texture	3.02
Soil spillage	3.36

Cut off Mark 2.5

Effect of Land Degradation on Respondents

Table 4 shows the effect of land degradation in the study area. The major effect of land degradation are reduction in productivity with ($\bar{x} = 4.18$), food insecurity with ($\bar{x} = 3.71$), destruction of soil nutrient with ($\bar{x} = 3.65$), reduction in soil fertility with ($\bar{x} = 3.64$), pests increase with ($\bar{x} = 3.56$), destroys soil structure ($\bar{x} = 3.45$), reduction in income with ($\bar{x} = 3.44$), increase in poverty level and reduces food sustainability with ($\bar{x} = 3.41$) respectively and leads to urban migration with ($\bar{x} = 3.22$).

Table 4: Effects of land degradation

Effects of land degradation	X (mean)
Reduces productivity	4.18
Cause food insecurity	3.71
Causes pests increase	3.56
Reduction in soil fertility	3.64
Destroys soil structure	3.35
Leads ort urban migration	3.22
Increase in poverty level	3.41
Reduction in come	3.44
Destroys soil nutrient	3.65
Reduces food sustainability	3.41

Cut off Mark 2.5

Attitude of Women Farmers towards Land Management Practices

Table 5 shows the attitude of women farmers towards land management practices. The women have a positive attitude towards land management as indicated by the high mean responses to the positive statements. The women agreed that mulching reduces evaporation with a mean responses of ($\bar{x} = 3.83$), manuring improve water conservation in the soil with ($\bar{x} = 3.78$), water loss due to runoff is prevented by mulching and land management is important for benefit of future generation with ($\bar{x} = 3.48$) respectively. Others are bush fallow maintains soil fertility with ($\bar{x} = 3.44$), drainage prevents water logging in the soil with ($\bar{x} = 3.29$), more weed is a problem with manuring with ($\bar{x} = 3.27$), industries are major destroyers of soil with ($\bar{x} = 3.25$), crop rotation improves soil textures with ($\bar{x} = 3.24$), prevents soil erosion with ($\bar{x} = 2.55$) and tree planting is good for proper land use with ($\bar{x} = 2.53$)

Table 5: attitude of respondents towards land management practices

S/No	Attitude statement	Mean
1	Planting of cassava improve soil fertility	2.40
2	Prevents soils erosion	2.55
3	Tree planting is good for proper land use	2.53
4	Tree should be in forest not on farm	1.40
5	Water loss due to run off is prevented by mulching	3.48
6	Mulching reduces evaporation	3.83
7	Manuring improve water manuring	3.78
8	More weed is a problem with manuring	3.27
9	I loose more money when I practice crop rotation	1.40
10	Crop rotation improves soil texture	3.24
11	Drainage prevent water logging in the soil	3.29
12	It is not necessary to use composting since farmers till use fertilizer to replenish the soil	1.50
13	land management is important for benefit of future generation	3.48
14	Industries are major destroyers of soil	3.25
15	Bush fallow maintain soil fertility	3.44

Cut off Mark 2.5

Constraints Faced by Women Farmers in Land Management Practices

Table 6 surveyed constraints faced by women farmers in land management practices based on the respondents. It indicates that lack of finance and lack of land which are recorded 79.1% and 79.1% respectively are constraints faced by women farmers and lack of infrastructure (30.9%). This is in line with UNDP (2007) who posited that insecurity of tenure. Despite women's role in household food production, in most developing countries they have limited ownership and control of land resources. For example in southeast Asia, women provide up to 90 percent of labour for rice cultivation, but fewer than 10 percent of women farmers in India, Nepal and Thailand own land. Secure tenurial rights enable landholders to make long-term decisions on the use of land resources and invest in management practices that promote sustained land productivity. Conversely, lack of secure tenure can lead to degradation of land resources by users who have no incentive or capacity to manage the land for long-term productivity.

Table 6: Constraints faced by women in managing land

Constraints	Frequency	Percentage (%)
Lack of education	45	49.1
Lack of finance	87	79.1
Lack of technical adviser	61	55.5
Lack of infrastructure	34	30.9
Government neglect	67	60.9
Lack of land	87	79.1
Land acquisition problem	59	53.6

* Multiple responses, Source: Field Survey Data, 2014

Conclusion

In this study we can see that, the major causes of land degradation are topography/shape of land, uncontrolled urban expansion, population pressure, bad land cultivation practices, oil spillage, soil structure, sand excavation, heavy rainfall/erosion, overgrazing, soil texture, deforestation and excessive use of fertilizer. The effects are food insecurity, reduction in soil fertility, causes pests increase, destroys soil structure, leads to urban migration, increase in poverty level, reduction in income, it destroys soil nutrient, reduction in productivity and reduces food sustainability. From the findings of this study, recommendations were made that government should provide environmental education campaign, particularly on land management for the women farmers. Also women should be assisted to have better access to the necessary input such as land, labour and infrastructure.

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