



Analysis of Women Farmers' Attitude towards Sustainable Farm land Management Practices in Ekiti State, Nigeria

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ARTICLE INFO

Article history:

Received: 2 April 2014;

Received in revised form:

19 June 2014;

Accepted: 9 July 2014;

Keywords

Sustainable,
Farm,
Farmers,
Land.

ABSTRACT

The knowledge of the women farmers on renewability potential of natural resources are critical determinants of the attitude and farmland conservation measures adopted to achieve a sustainable use. This study was carried out in Ekiti state, Nigeria to reveal the socio-economic characteristics of women farmers and their attitude towards sustainable farmland management practices in food crop production. Multistage sampling technique was adopted in selecting a total of 345 women farmers drawn from eight (8) Local Government Area of the state. Data were collected on socio-economic characteristics and attitude towards farm land management practices. The data were analyzed using both descriptive and inferential statistics. The results revealed that majority (92.8%) of women farmers fell between the age categories of 31 -55 years and most of the farmers (69.5%) were married. Majority of the farmers inherited their farmland and majorly practiced crop rotation system. The correlation analysis revealed that there was a strong positive correlation ($r=0.67$, $P < 0.05$) between the attitude score and farmland management practices adopted by the women farmers, there is neutral attitude towards sustainable farm land management practices among women farmers in the study area. This study therefore recommend increase in awareness campaigns on farmland fertility conservation through appropriate management practices and women farmers should be given opportunity to have access to land resources like male counterpart which could be possible through adequate policy formulation on agriculture.

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Introduction

Agricultural production and land productivity are influenced to a considerable extent by the natural soil fertility status of the land and also by the cultural practices adopted as the farmland management practices in land husbandry method (Fakoya, *et al.*, 2007). The most pressing challenge of Nigeria agriculture in this millennium is how the production can meet the food need of geometrical rate increase of population in the fact of the myriads of socio cultural and economic problems that discourage sustainable farmland management practices (Akinbile, 1997, Fakoya, *et al.*, 2007). The role of agriculture in an agrarian economy like Nigeria cannot be overemphasized. Over 70 percent of the economically active population is employed in agriculture and agro- allied industries. Agricultural sector provides over 90 percent of the food consumed locally and it is a major earner of foreign exchange after the petroleum sector (Adedipe, 2000).

The pivotal roles of women in Nigerian agriculture have been extensively studied. Women and gender issues are increasingly being stressed in the environmental management, this is however not unconnected to the pivotal roles of women in environmental resources harvesting and utilization, but also considering their mediatory roles in rural household decision making process (Fakoya *et al.*, 2002, 2007).

The evolving trend in contemporary farm management suggests a cursory look at the attitude of women towards sustainable farmland management practices as a pathfinder to understanding the sustainability of the system. The sustainable

management of environmental resources, such as land, requires emphatic consideration of women. This is due to the fact that in an agrarian economy, the land forms the critical link between the past and future successes or failures and women are more dependent upon and closer to the land (Olawoye, 1993, Aina, 2003). George, (1999) and Fakoya *et al.* (2007) stated that the relationship between women and the environment may be examined in terms of agricultural production and direct products exploitation like fuel wood gathering, and gathering of non-wood forest products. In most African communities where bush fallow method is practiced, after the first one to three years of intensive cultivation, the land is left to the women to crop and manage during fallow period (Agbonlahor, 2000 and Fakoya *et al.*, 2007). Ibrahim (2002) and Fakoya *et al.* (2007) observed that while men generate environmental problems the women deal with the consequences. Attempts to tackle the age long problem of land degradation should therefore take into consideration the pivotal role of women in land management. Fakoya *et al.* (2007) explained that the involvement of women in environmental management will not only ensure their active participation but would also aid the participation of men, as they exercise a lot of influence on the men. Conservation and management of the natural resources base (Land, water and Forest) must be promoted among women, who act as wives and mothers and as well play a crucial role in the preservation of resources and also establish a balance between population growth and resources constraints to sustain the environment (Fakoya, 2000).

Therefore sustainability is a concept frequently used in reference to economic performance of human activities and actions that affect not just the present but also the future generation, such as farming, logging, and mining in relationship to the environment. Agbonlahor (2000), Fakoya, *et al.* (2007) and Ayanwuyi (2008) reported that a sustainable system is one that consider the environment as a determinant of the long-term economic well-being of the society. They further reiterated that for a system to be sustainable it must meet the objectives of being economically viable and ecologically self dependent.

Adekoya (1997) stated that attitude of an individual is the predisposition to feel, thinking, or act in a particular way with some degree of consistency. The way people hold the environment and regard environmental resources and systems will in the long run, determine their attitude towards environmental changes and action. Nigerian Environmental Study Team (NEST, 1991) and Fakoya *et al.* (2007) argued that there is a strong relationship between beliefs, values and norms and men's attitude to environmental management practices. In Nigerian agriculture the quality factor of farm land stands out as a major determinant of land productivity this is due to the problems associated with sourcing artificial amendments that can improve the productivity of land especially by the women farmer that dominates the arable crop production in the study area. Thus objectives of this study are to describe socio-economic activities of women farmers, determine land management practices adopted in order to maintain soil structure and assess women farmers' attitude towards sustainable land management practices.

Methodology

The study was conducted in Ekiti states, that comprises of sixteen (16) Local Government Areas, these are; Oye, Moba, Illemeje, Ikole, Ido/Osi, Ijero, Ekiti East, Ado, Emure, Ise/Orun, Ikere, Ekiti South, Gbonyin, Irepodun/Ifelodun, Ekiti West and Efon –Alaaye Local Government Areas. The area lies between latitudes $6^{\circ} 20'$ and $8^{\circ} 10'$ North of the equator and between longitude $4^{\circ} 20'$ and $5^{\circ} 40'$ East of the Green wich meridian. It has a land area of approximately 12,986.74 square kilometer. Farming is the predominant means of livelihood of the people of Ekiti state. A multistage sampling technique was used to sample women farmers in the study area. Purposive sampling technique was used to select eight (8) local Government Areas out of sixteen (16) because of their rural based and there is scarcity of inorganic fertilizer. In each selected Local Government, three (3) communities was randomly selected making a total of twenty four (24) communities selected for the study. Also fifteen (15) respondents were randomly sampled from each of the selected communities from Ijero, Moba, Emure, Ikere, Gbonyin, Oye, Illemeje, Local Government Areas, except in Ise/Orun Local Government where ten (10) respondents were randomly selected due to low population of women farmers. In all, three hundred and forty five(345) respondents were selected for the study. The selected women farmers were interviewed with a set of structured interview scheduled.

The attitude of the women farmers towards sustainable farmland management practice was measured by five point likert scale namely Strongly Agree (SA) Agree (A) Undecided (U) Disagree (D) Strongly Disagree (SD) that was assigned scores of 5, 4, 3, 2, and 1 respectively. A score of one point for reliable statements was developed, while the scoring was reversed for unreliable statements. The respondents were asked to indicate the option that best describe their opinion with respect to the statement. A total of 24 statements were made for the attitude

analysis, the maximum score was 120 while minimum score was 24, for the description of responses to each statement, the scale was further trichotomized as reliable (81-120points) neutral (41-80points) and unreliable (1-40points). The data thus collected were analyzed by descriptive statistics using measures of dispersion, percentages and frequencies which were used to describe the socio –economic characteristics. The Pearson product moment correlation (PPMC) was used to determine if there is significant relationship between the farm land management practices and attitudinal score of the women farmers.

Results and discussion

Socio-economic characteristics

Analysis in Table 1 indicated that most of the women farmers (26.7%) were in age range of 41-45 years who were mostly (69.6%) married. This implies that majority (64.8%) of the farmers were in their middle age and are thus expected to still be active and agile on the farm. About 55.4% were literates. This implies that their literacy level will affect their level of adoption of farmland management practices. This result agrees with findings of Akinbile and Adekunle (2000) who reported that 61% of the farmers that adopted improved farming practices are literates. It is evident from the Table that majority (83.8%) of the women farmers inherited their farmland. This tenural arrangement provides a positive frame for the adoption of a long termed management plan and also presents invest ment opportunities in maintaining soil fertility for future benefit. However Olawoye (1993) and Fakoya *et al.* (2007) reported that there is a significant difference between personally owned and family land particularly for women as the final decisions on land investment is determined by the male household head.

The result also revealed that most of the respondents (67.8%) cultivated between 1-5 hectares of farm size. It was found-out that a high proportion of the women farmers (61.7%) had farming experience of between 10-12 years. This implies that they had considerable number of years of experience in farming for adoption of appropriate farmland management practices. Also it was further revealed that women farmers cultivated arable crops that include yam (62.9%), cassava (52.2%) vegetables (28.4), maize (24.4%) and Groundnut (16.5%).

Farmland Management Practices

Table 2 shows that women farmers sustain the productivity of farmland through the use of crop rotation (56.8%), multiple cropping (53.3%), mulching (48.4%), shifting cultivation (15.7%), Bush fallow (15.7%) respectively. This implies that these practices are adopted to cover the soil to ensure its protection from impacts of rain drop, thereby increasing infiltration capacity of the soil to reduce run off, improving the aggregate stability of the soil in order to maintain soil structure and retain water for use in the soil.

This result conform with the findings of Akinbile and Adekunle (2000) who found that 88.0% of the farmers use mulching, 84.0% use crop rotation, 52.0% use shifting cultivation and 73.0% use minimum tillage.

Attitude towards sustainable farm land management

Result in Table 3 shows the attitude scores range from 24 to 120 on farmland management practices in the study area. Most of the scores fell within the range of 41-80. The mean attitude score of 61.5 also support the fact that majority of the farmers fall into neutral attitude scores. This implies that majority of the women farmers were not sure of the effectiveness of farm land management practices in crop production.

Table 1: Distribution of respondents by their socio-economic characteristics

Variables	Frequency	Percentage
Age (years)		
Below 30	12	3.48
31-35	48	13.91
36-40	69	20.00
41-45	91	26.38
46-50	80	23.18
51-55	32	9.28
56 and above	13	3.77
Total	345	100
Marital status		
Single	42	12.17
Married	240	69.57
Divorced		11.30
Widowed	24	6.96
Total	345	100
Educational level		
No formal education	154	44.64
Primary education	96	27.83
Secondary education	47	13.62
Adult literacy	12	3.47
Quranic education	14	4.06
Tertiary education	22	6.38
Total	345	100
Source of farmland		
Rented/lease	23	6.7
Purchased	33	9.5
Inherited	289	83.8
Total	345	100
Size of farmland (hectares)		
1-5	234	67.8
6-10-	102	29.6
Above 15	09	2.6
Total	345	100
Years of farming experience		
1-3	14	4.1
4-6	21	6.1
7-9	54	15.7
10-12	213	61.7
Above 12	43	12.4
Total	345	100
Arable crops*		
Cassava	180	52.2
Yam	217	62.9
Maize	84	24.4
Groundnut	57	16.5
Vegetables ;pepper tomatoes	98	28.4
*multiple responses		

Source field survey 2013

Table 2: Distribution of respondents by farm land management practices

Farmland management practices*	Frequency	Percentage
Shifting cultivation	54	15.7
Bush fallow	54	15.7
Agro forestry	10	2.9
Mulching	167	48.4
Multiple cropping	184	53.3
Crop rotation	196	56.8
Planting of cover crops	67	19.4
Minimum tillage	79	22.9

Source field survey 2013

*Multiple responses

Table 3: Distribution of respondents by their attitude towards sustainable farmland management practices

Attitude statement	SA	A	U	D	SD	mean
- Legumes prevent soil erosion	74	168	67	35	3.62	3.62
- Legumes act as weed to disturb crop	84	129	66	46	3.75	3.75
- Planting of legumes improve soil fertility	85	142	58	48	3.54	3.54
Tree planting is good for proper land use	78	139	66	48	3.87	3.87
- Land Management can only be practiced by farmers	78	137	69	56	3.62	3.62
- Mulching reduces evaporation	74	156	54	59	3.34	3.34
- Water loss due to run off is prevented by mulching	76	148	71	50	3.42	3.42
- More weed is a problem with manuring	81	160	62	42	3.32	3.32
- Manuring improve water conservation in the soil	82	149	69	36	3.34	3.34
There is inadequate information on land management	90	153	65	32	3.39	3.39
- Only land owners can plant trees	102	98	79	52	3.28	3.28
- Crop rotation improves soil texture	114	120	68	43	3.40	3.40
- Lose more money when I practice crop rotation	98	136	82	29	3.66	3.66
- Farmers would engage in irrigation with more information	59	152	42	87	3.03	3.03
- It is not necessary to use composting since farmers still use fertilizers to replenish the soil	86	171	52	36	3.62	3.62
- Land management are importance for benefit of future generation	98	132	61	50	3.45	3.45
- Environmental problem may hinder productivity	76	141	68	48	3.44	3.44
- Without use of chemical agriculture is not possible	92	145	66	42	3.43	3.43
- Use of chemical accomplish by voluntary	78	132	64	62	3.39	3.39
- Bush fallow maintains soil fertility	74	138	62	68	3.31	3.31
- Bush fallow exposes soil to erosion	82	129	80	54	3.30	3.30
- Bush burning causes soil pollution	76	129	76	48	3.38	3.38
- Manual cultivation require more labour	121	88	32	122	2.23	2.23

Source; field survey 2013

SA=Strongly Agree

A=Agree

U=Undecided

D=Disagree

SD=Strongly Disagree

Table 4: summary of trichotomized attitudinal scores

Attitude score	Trichotomy	Frequency	Percentage
Reliable	81-120	76	22.0
Neutral	41-80	247	71.6
Unreliable	1-40	22	6.4
Total		345	100

Source field survey 2013

Table 4 shows the trichotomized attitudinal scores which reveal that majority (72%) of the respondents showed neutral attitude to sustainable farmland management practices. This implies that respondents attitude are indifference which could affect their farm land management practices such as rapid depletion of soil fertility in the area, considering the declining bush fallow period, shifting cultivation, agro forestry high rate of population growth and non adoption of technologies that easily compensate declining soil fertility. Pingali and Binswager (1984), Fakoya *et al.* (2007) and Ayanwuyi (2008) opined that the relative speed with which technology evolves compared with the rate of decline in farm land productivity and the increase in population growth determines the rate of change in agricultural productivity. There was high positive correlation ($r=0.67$ $P < 0.05$) between attitude scores and sustainable farm land management practices adopted by the women farmer. The high positive correlation implies that as attitude score increases, the practices of sustainable farmland management practices increases and vice versa amongst the women farmer in the study areas. The result also implies that as the attitudes scores increases reliable attitude towards the farmland management practices embarked upon also increased. Women farmers, in the

study area, that had reliable attitude to cultural farmland management practices were found to perform more farmland management practices than those with lower attitude (unreliable) score.

Conclusion

Agricultural production and productivity is directly linked to the land fertility status and farmland management practices involved in the production plan adopted. the needed increase in agricultural production cannot be achieved without the involvement of the women farmers that influence the type and quantities of produce, arising from their high involvement in agricultural production. The study reveals that there is neutral attitude towards sustainable farm land management practices among women farmers in Ekiti State.

The low to neutral attitude is also attributable to ignorance on the part of the farmers as majority of them are not aware of the beneficial or damaging effects of certain practices. The present levels of the farmers (financial ability and knowledge) cannot support the technicalities of certain practices towards ensuring sustainable farmland management practices. Based on these findings the study recommends an increase in environmental education campaign particularly on sustainable

farmland management, an improvement in the supply and access to production inputs such as fertilizer. Also government policy on agriculture must continue to be directed towards both improving the application of technology (education) and provision of production inputs and rural infrastructures.

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