Socio-economic Determinants of Farmland Management Practices in Ido Local Government Area Oyo State, Nigeria

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Abstract: **The study examined the socio-economic Determinants of Farmland Management Practices in Ido Local Government Area, Oyo State, Nigeria. Specific objectives of the study were to examine the socio-economic determinant of farmland management practices of the farmers, examine the distribution of the respondents according to agricultural practices and physical input, observed the distribution of the respondents based on farmland management practices used and to study the problem encountered with possible solutions. Purposive sampling technique was used to select sixty farmers for the study. Data collection was obtained from primary source with the aid of well-structured questionnaires and personal interview schedule were used in data collection. Data was analyzed using descriptive statistical tools such as frequency, distribution and percentage to describe the socio-economic characteristics of the farmers and presented in the form of table in the study. The result showed that 43% of the farmers were male: 20.7% were single: 44.3% were within age range of 50-59years: 34.4% had primary school education: 67.2% were native of Yoruba land: 73.8% belongs to Christianity religion: 41.0% had household size between 4-6: 52.5% does not belong to farmers association, while 70.5% does not have access to agricultural extension, 47.5% had between 1-5years of farming experience, 42.6% of the respondents earn ₦100000-₦300000, 41% had farm size of 1-4hectares, 45.9% had their farm at about 1-5km to their homestead, 42.2% used both tractor and simple farm tools for land preparation techniques, 48.3% practiced two cropping system, 21.3% planted different type of tuber crop: It also revealed that 16.7% of the respondents encountered the problem of land tenure. The study recommended the needs of environmental education, legislation and enforcement of farmland management laws. The Federal Government should as a matter of urgency allocate higher percentage of her annual budget to Agriculture in order to boast agricultural production.**

Keywords: **Socioeconomic, Farmlandmanagement, Determinants, Farmland Practices, Oyo, Nigeria.**

I. INTRODUCTION

In Africa, two-third of the population depends on agriculture for livelihood. Agriculture cannot be practiced except on land (Henao and Baanante, 2001). The African continent over the decades, witnessed increased population growth rate. This led to unprecedented population pressure on land, which resulted to agricultural expansion, intensification, and inappropriate farming practices by farmers (Fakoya, 2001; Madu, 2001). The inappropriate farming techniques triggered the problem of land degradation commonly evident on virtually all farming areas. In south-eastern Nigeria, land degradation constitutes a chronic problem where almost every community is threatened. Madu (2001) highlighted negative impacts of land degradation to include loss of soil fertility, low yield from farms, reduced cultivable and grazing lands, disruption of roads, loss of homes and farm crops, diversion of huge sums of money from other social needs, devastation of settlement which may render indigenes refugees in their home land. Research confirmed that farmers engage in practices which promote degradation of land resources, depletion of forest and aquatic resources. This has left diversity of biological resources (plants and animals) under serious threat. Against this backdrop, the development of improved agricultural practices and the emphasis that various local and international development agencies as well as government agencies put on irrigation system and smallholder agricultural development necessitates a holistic approach to revitalization of this important agricultural sector in the country. The adoption of improved technology seems to be influenced by many factors, ranging from environmental factors, farmer type and the methods used by extension agents (Ndove *et al*., 2006). Despite the potential benefits of improved technologies such as fertilizer and hybrid seed, farmers are reluctant to invest in them because of high purchase costs (Ndove *et al., 2006).

Agriculture plays an important role in economic growth, enhancing food security, poverty reduction and rural development. It is the main source of income for around 2.5 billion people in the developing world (FAO, 2003).Smallholder agriculture is identified as a vital development tool for achieving Millennium Development Goals, one of which is to halve the people suffering from extreme poverty and hunger by 2015 (World Bank, 2008).However majority of smallholder farmers relies on traditional methods of production and this has lowered the level of productivity. For instance Over 70% of the maize

production in the majority of developing countries is from smallholders who use traditional methods of production (Muzari *et al.*, 2012). This has triggered much of discussion on the need to increase productivity and sustainability in agriculture globally but much less information is available on specific means to achieve this aim. Increasing agricultural productivity is critical to meet expected rising demand and, as such, it is instructive to examine recent performance in cases of modern agricultural technologies (Challa, 2013). According to Loevinsohn *et al.*, (2013) the most common areas of technology development and promotion for crops include new varieties and management regimes; soil as well as soil fertility management; weed and pest management; irrigation and water management. By virtue of improved input/output relationships, new technology tends to raise output and reduces average cost of production which in turn results in substantial gains in farm income (Challa, 2013).

II. RESEARCH METHODOLOGY

2.1 The study area

This study was conducted in Ido local government area in Oyo state. It is an area of 986km^2 and a population of 103,261 based on 2006 census. Ido Local Government covers the area spanning Apata, Ijokodo, Omi-Adio, Akufo and Apete. Ido has the longitude of 134.161968 and latitude of 34.266249. It shares boundaries with Oluyole, Ibarapa East, Akinyele, Ibadan South-West and Ibadan North-West Local Governments in Oyo State and Odeda Local Government in Ogun State. The council formerly has six wards, which had been increased to ten (10). Among the major towns within the local Government Area are Ijokodo, Ido, Omi-Adio, Apata, Apete, Akufo and Bakatari as well as Ogunweide, Dada, Olowofela, Apooyin, Oderemi, Odetola, Erinwusi, Tade, Alagbaa, Iku- senla among others.

2.2 Sampling Procedure and Sample Size

Purposive sampling technique was used. However, four (4) villages were selected in Ido local government, namely: Akufo, Abadada, Omi-Adio, Odetola in which 18 questionnaires was administered in Akufo, 15 were administered in Abadada 17 was administered in Omi-Adio and 10 were administered in Odetola. Sixty (60) respondents in Ido local government was selected with well-structured questionnaires was administered to each of the farmers in selected villages. This is due to the concentration of farmers in this area.

2.3 Data Collection techniques

Primary data was used for the study. The primary data was obtained through interview guide and structured questionnaires to elicit information from farmers in the study. The data of this study was obtained from primary source with the aid of well- structured questionnaires and personal interview schedule were used in data collection. Therefore, four villages were selected in Ido local government. Sixty (60) copies of questionnaires will be administered to the farmers in

the selected villages in which18 questionnaire was administered in Akufo, 15 was administered in Aba-dada, 17 was administered in Omi-Adio and 10 was administered in Odetola.

2.4 Data Analysis

Data was analyzed using descriptive statistical tools such as frequency, distribution and percentage to describe the socio-demographic characteristics of the farmers and presented in the form of table in the study.

III. RESULTS AND DISCUSSION

3.1 Socio-economic characteristics of the respondents

The results of table 1 shows that (70.5%) of the respondents were male while (29.5%) of the respondents were female. This implies that majority of the respondents were male. The results of the analysis on their marital status showed that majority of the respondents were married (62.9%) while (20.7%) were single. (6.6%) and (4.9%) of the respondents were widowed and widower respectively. This implies that both married men and women were involved in farming activities than single. The table also indicated that (1.6%) of the respondents were within the age brackets of 20-29 years while the highest percentages were (44.3%) which was within the age range of 50-59 years with the mean age of 80. This is an indication that the passage of indigenous knowledge on farming is probably more from the elders to the younger ones as similarly reported by Adekunle and Sam –Wobo (2004). (21%) of the (respondents) farmers had primary education only while (19.7%) of the respondents had secondary education, (32.8%) of the respondents had tertiary education while (13.1%) had no formal education. This implies that education of farmers is therefore necessary for farmer's adoption of improved Farmland Management Practices and reaction to policy issues (Ebii, 2000). Majority of the respondents were Yoruba who are native of the land which had (67.2%) while (32.8%) were Igbo. This implies that Yoruba is more dominant in the area. The result also shows that most of the respondents belong to Christianity religion (73.8%) followed by Islamic (24.6%) and traditional (1.6%). This implies that the respondents are diverse set of religion. The table shows that (32.8%) of the respondents had between 1-3 household while (41.0%) of the respondents had 4-6 household, also (8%) of the respondents had 7-9 household and (8%) of the respondent had 10-12 household. This indicates that majority of the respondents have household size ranging between 4-6 household which implies that most of the respondents have moderate family size with the mean value of 80.The table revealed that (52.5%) of the respondents belong to farmers association while (47.5%) of the respondents do not belong to farmers association. This implies that some information is gotten from their leader of the association. Majority of the respondents (70.5%) has access to agricultural extension service while (29.5%) of the respondents do not have access to the agricultural extension service. This implies that the extension agent educate them on new innovation of an

improved method of planting and they are also a link between the farmers and the government whereby taking their problem to the government and bring back the feedback to the farmers. Majority of the respondent obtained their land through the government whereby they pay back little by little (59.0%) while (21.3%) of the respondents rented the land they were using for their farming, also (11.5%) of the respondents inherited their land through parents while few percentages (8.2%) of the respondents purchased their land. Thiss implies that those that obtained their land through leased/rented or family inheritance can be sent away as results of conflicts among the family members and the owners of the land. (58.0%) of the respondent used hired labour for their farm while (16.0%) of the respondents used both their family and hired labour, while (26.0%) of the respondents used family labour as a source of labour on their farm. The implication is that family labour will not be as effective like hiring labour.

3.2 Distribution of the respondents based on agricultural practices and physical input

On the investigation of the distribution of respondent based on farmers' information in table 2 it was revealed that (47.5%) of the respondents had 1-5 years of farming experience because they are still agile and full of energy while (32.8%) had 6-10 years of farming experience. Also (13.1%) shows that respondents had 11-15 years' farming experience while (4.9%) had 16-20 years of farming experience and 21-25 years farming experience were (1.6%) because they were too old and they are loosen strength gradually. It also revealed that (67.2%) of the respondents had 1-4 acres of land for their farming activities while (23.0%) had 5-8 acres of land. Also (8.2%) of the respondents had 9-12 acres of land for their planting and (1.6%) of the respondents 13-16 acres. Majority (45.9%) of the respondents had their farm at about 1-5km to their homestead while (18.0%) had their farm at about 6-10km to their homestead. Also (13.1%) and (13.1%) of the respondents had their farm at about 11-15 and 16-20km while (9.8%) of the respondents had their farm at about 21-25km to their homestead. (42.2%) of the respondents used both tractor and simple farm tools for land preparation techniques while (29.5%) of the respondents used only tractor for land preparation techniques. Also (21.3%) of the respondents make used of animal traction such as donkey and tractor for land preparation techniques. This study reveals that majority of the respondents used both simple farm tools such as cutlass, hoe, hand trowel and machineries such as tractor, plough, harrower etc, for land preparation techniques. The table described the type of cropping system used by the respondents. Only few of the respondents (9.8%) practiced sole cropping system, (47.5%) of the respondents practiced two cropping system while (42.6%) practiced multiple cropping system. (13.1%) of the respondents planted cucumber and water lemon while (8.2%), (8.2%), (8.2%) and (8.2%) of the respondents planted beans and soya beans, pepper and tomato, yam only and beans only respectively. Majority of the respondents (21.3%) planted different types of tuber crop. Only few of the

respondents (4.9%) planted yam and cassava while (16.4%) of the respondents planted vegetables only. The table also revealed the most planted crop among the respondents. (23.0%) of the respondents planted yam, cassava, sweet potato and water yam while (16.4%) of the respondents planted vegetables only. (11.5%) and (11.5%) of the respondents planted cassava only and watermelon and cucumber respectively. Only few of the respondents with (3%) planted cassava and yam. Also (8.2%) and (8.2%) of the respondents planted yam and beans only respectively.(42.6%) of the respondents earn ₦100000-₦300000 while (29.5%) of the respondents earn ₦400000-₦600000. Also, (21.3%) of the respondents earn ₦700000-₦900000 and (6.6%) of the respondents earn ₦1000000-₦1300000. This implies that to a large extent, farmer's income depends majorly on farm sizes and the output of the harvest. Thus, increase in income will lead to increase in the use of sustainable farmland management practices. That is the higher income will give to farmers, more money for possible adoption of farmland management practices.

3.3 Distribution of respondents based on farmland management practices used

Methods employed by the respondents which are consistent to improve the soil nutrients and soil fertility commonly adopted in the agricultural sector in some part of the world (Bradshaw *et.al*. 2004) This table 3 revealed that (6.7%) of the respondents practiced multiple cropping, (10.0 %)practiced bush fallowing, (6.7%) practiced mulching, (18.3%) practiced crop rotation to maintain the soil fertility and to boost the soil nutrients on their farm while (10.0%) of the respondents used agro forestry and (5.0%) used minimum tillage as well to increase the soil fertility on their farm. Also (5.0 %) of the respondents adopted the use of Bush burning, (8.3 %) practiced terracing and (10.0%) practiced Plant residue to improve the lost nutrients as well. It also revealed that (5.0%) of the respondents adopted the use of Organic manure while (8.3%) of the respondents make used of Fertilizer application. All these practices were used to improve the soil fertility and nutrients of the farm.

3.4 Distribution of the respondents based on the problem encountered by farmers

The table 4 revealed that (6.7%) of the respondents encountered challenges of high cost of farmland, (10.0%) encountered high cost of irrigation facilities and (6.7%) faced the problem of government policy while (8.3%) of the respondents encountered the problem of unfavorable weather condition. Also (16.7%) of the respondents faced problem of land tenure, (8.2%) of the respondents faced the problem of inherited system of ownership, (15.0%) of the respondents faced the problem of aging of the farmers while (15.0%) of the respondents encountered the problem of illiteracy of the farmer. Also, (8.3%) of the respondents faced the problem of lack of storage facilities and pests and diseases attacked while others farmers encountered the problem of transportation and

infestation of rodents, birds and trampling of animals on the farm.

3.5 Socio-economic determinants of Sustainable Land Management

Regression table 5 revealed that farmers level of education was significant at 1% and has a negative relation to the adoption of sustainable land management by the farmers, this implies that educational level of the farmers has a negative effect on the adoption of sustainable land management practices by farmers in the study, years of experience and household size were positively significant at 10% and 1% respectively. This implies that as the farmer's years of farming experience increases and household size increases, there will be an agreement in the level adoption of sustainable land management practices by the farmers, which will enhance food crop production in the study area. R^2 was 0.62 which implies that 64% level of variation in the variable could be capture by the model specified, while 36% could be employed by the error term. It was however concluded that educational level, years of farming experience, and household size were the major determinants of socio-economic variable of farmland management practices in the study area

IV. CONCLUSION AND RECOMMENDATION

Agriculture in Nigeria suffers set back in such a manner that farming is left in the hands of local farmers with their crude use of farm equipment which depends mostly on manual application as well resistance to using of improved seedlings that would have earn them abundant harvest. The government should also politically establish various agricultural research institutes across the country.

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Table 1: Socio-economic characteristics of the respondents

Distribution	Frequency	Percentage (%)
Gender		
Male	43	70.5
Female	18	29.5
Total	60	100.0
Marital status		
Single	11	20.7
Married	39	62.9
Divorced	3	4.9
Widow	4	6.6
Widower	3	4.9
Total Age	60	100.0
20-29	1	1.6
30-39	2	3.3
40-49	20	34.4
50-59	27	44.3
60-69	10	16.4
Total	60	100.0
Educational status		
No Formal Education	7	13.1
Primary Education	21	34.4
Secondary Education	12	19.7
Tertiary Education	20	32.8
Total	60	100.0
Tribe		
Yoruba	41	67.2
Igbo	19	32.8
Total	60	100.0
Religion		
Christianity	45	73.8
Islam	14	24.6
Traditional	1	1.6
Total	60	100.0
Household size		
1-3	20	32.8
4-6	25	41.0
7-9	8	13.1
10-12	7	13.1
Total	60	100.0
Do you belong to farmers association		
No	31	52.5
Yes	29	47.5
Total	60	100.0
Access to Agric. Ext		
Do not have access	43	70.5
Had access	17	29.5
Total	60	100.0
Sources of Farmland		
Inherited	7	11.5
Rented/leased	13	21.3
Purchased	5	8.2
Government	35	59.0
Total	60	100.0
Sources of Labour		
Family	10	16.0
Hired	35	58.0
Both	15	26.0
Total	60	100.0

Table 2: Distribution of the respondents based on agricultural practices and physical input

Farming experience	Frequency	Percentage (%)
1-5	29	47.5
6-10	20	32.8
11-15	8	13.1
16-20	2	4.9
21-25	1	1.6
Total	60	100.0
Farm sizes per hectare		
1-4	41	67.2
5-8	13	23.0
9-12	5	8.2
13-16	1	1.6
Total	60	100.0
Average distance to the farm (km)		
1-5	28	45.9
6-10	11	18.0
11-15	8	13.1
16-20	7	13.1
21-25	6	9.8
Total	60	100.0
Land preparation techniques		
Tractor	18	29.5
Hand and tractor	30	42.2
Animal traction and tractor	13	21.3
Total	60	100.0

Types of cropping system		
Single cropping	7	11.7
Two cropping	29	48.3
Three cropping	23	38.3
More than four cropping	1	1.7
Total	60	100.0
Type of crop planted		
Yam and cassava	3	4.9
Beans and soya beans	5	8.2
Pepper and tomato	5	8.2
Vegetables only	10	16.4
Yam only	11	8.2
Beans only	5	8.2
Cucumber and water melon	8	13.1
Yam, cassava, water yam, sweet potato	13	21.3
Total	60	100.0
Most planted crop		
Yam and Cassava	3	4.9
Beans and soya beans	5	8.2
Pepper and tomato	5	8.2
Vegetables only	10	16.4
Yam only	5	8.2
Beans only	5	8.2
Cassava only	7	11.5
Cucumber and water lemon	7	11.5
Sweet potato, yam water yam and cassava	13	23.0
Total	60	100.0
Income Level		
₦100000 - ₦300000	26	42.6
₦400000 - ₦600000	18	29.5
₦700000 - ₦900000	12	21.3
₦1000000 - ₦1300000	4	6.6
Total	60	100.0

Table 3: Distribution of respondents based on farmland management practices used

Practices	Frequency	Percentage (%)
Multiple cropping	4	6.7
Crop rotation	11	18.3
Mulching	4	6.7
Cover cropping	3	5.0
Agroforestry	6	10.0
Bush fallowing	6	10.0
Organic manuring	3	5.0
Minimum tillage	3	5.0
Terracing	5	8.3
Plant residue	6	10.0

Fertilizer application	5	8.3
Bush burning	4	5.0
Total	60	100.0

Table 4: Distribution of the respondents based on the problem encountered by farmers

Problem encounter by farmers	Frequency	Percentage (%)
High cost of farmland.	4	6.7
Government policy	4	6.7
High cost of irrigation facilities	6	10.0
Inherited system of land ownership.	5	8.3
Poor weather condition	8	8.3
Land tenure	9	16.7
Aging of farmers	7	15.0
Pests and diseases	5	8.3
Illiteracy of the farmers	7	15.0
Inadequate storage facilities	5	8.3

(Multiple responses)

REGRESSION ANALYSIS

Table 5: Socio-economic determinants of Sustainable Land Management

Variable	Beta	Std. Error	T value	Significant
Constant	51.748	4.741	10.916	.000
X_1 Edu level	-3.292	1.034	-3.184	.003
X_2 Acres	-.094	.500	-.188	.852
X_3 Yrs of exp	.416	.233	1.785	.083
X_4 Housesize	1.199	.435	2.757	.009
X_5 AgrExtSer	.187	1.632	.114	.910
R^2	0.62			