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Determinants of Farmsize among Rural and Urban Smallholder Farmers in Ogun State

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Abstract

The rapid population growth coupled with the need to expand farm output due to the increasing demand for food has put a lot of pressure on the available cultivate arable land. This pressure is even more felt in the urban farming areas where the rate of population growth is higher than in the rural areas.

This study therefore seeks to find out the determinants of farm size in the urban and rural farming areas of Ogun State, so as to ascertain any differences in the two areas. The study analysed data from 100 urban-based and 100 rural-based farms in Ogun State.

Results reveal that farming expenditure is the main determinant of farm size common to both the urban and rural farming areas. Mode of acquisition (allocation from family land) is the other determinant of farm size in the urban farming area, while years of farming experience and the mode of acquisition (customary tenancy) are the other determinants in the rural farming areas.

Introduction

Apart from labour, land is the single most important productive resource extensively used in farming (Fabiyi, 1979). The use of capital in form of equipment and farm machinery embodied in current inputs is limited in Nigerian agriculture. Thus agricultural production in relation to production in other sectors of the economy is seriously constrained by land. This is particularly so because of the customary land tenure system which constrain access to land.

Nigeria has a total land area of 98.321 million hectares. About 75.30 percent (74.036 million hectares) may be regarded as arable land while 10 percent is under forest reserves and the remaining 14.70 percent is pastures, built-upon areas and uncultivable wastes (Olayide 1980). The population on the other hand has been growing at a rate of 3 percent while the land area has remained fixed.

The rapid increase in population has resulted in smaller size of farmland being available to the farmers on a per capita basis, since the available agricultural land is fixed in the short-run.

The effect of this is that cultivation is intensified as the periods of fallow gets progressively shorter. As cultivation becomes intensive, land becomes progressively less fertile.

Over 95 percent of Nigerian farmers are small-scale farmers cultivating less than 2 hectares (Idachaba, 1991). The problem of producing adequate food to feed the ever-increasing population of the country, can be compounded by the decreasing size of farms due to increasing population pressure. This turn can lead to overgrazing, overcropping, erosion and depletion of natural soil nutrients. The relative

size of farm resulting from increasing population is shown in Table 1. Thus quantitatively and qualitatively, Nigeria is running short of land resources to satisfy man's basic needs. This may be more serious in urban farming areas where the rate of population increase is high as against the declining quality of land.

The rapid increase in population without a corresponding increase in land area has led to scarcity of agricultural land (Olayide, 1980). Other factors that have led to scarcity of agricultural land according to Famoriyo (1979) are, the need for farmers to increase their areas of cultivation at every planting season, due to the need for expansion of output and the increasing market orientation of the farmers.

TABLE 1: NIGERIA; POPULATION; AREA OF LAND PER FARMER

Year	Total Population (Millions) (1)	Farmer's Population (Millions) (2)	Arable Land Per Farmer (Hectares) (3)
1970	64.479	12.114	6.10
1975	74.693	13.374	5.54
1980	84.732	14.056	5.27
1985	96.262	14.773	5.01
1990	109.281	15.146	4.89
1991	112.090	15.222	4.86
1992	114.973	15.298	4.84
1993	117.930	15.378	4.82
1994	120.964	15.451	4.79
1995	124.077	15.528	4.76

Source 1 and 2: Olayide S. O. (1979) *Food Production in Nigeria*. University of Ibadan, Nigeria.

Assumed are of growth of farmer population are:

(i) 2% from 1970 - 75
(ii) 1% from 1976 - 85
(iii) 1/2% from 1986 - 95.

(3) The estimation is based on arable land of 74.036 million hectares.

It is interesting to note that as small as average size of farms seems to be, farmer's holding often consists of three to four plots. Sometimes these plots are

TABLE 2: OGUN STATE POPULATION DENSITY BY LOCAL GOVERNMENTS

Local Government Area (Km^2)	Local Government headquaters	Land Area (Km^2)	Estimated Population 1979	Population Density	Estimated Population (Km^2)	Population Density 1991
		1	2	3	4	5
Abeokuta*	Abeokuta	781	472,292	605	622,799	797
Egbado North	Aiyetoro	3,755	192,815	51	272,353	73
Egbado South	Ilaro	1,637	334,158	204	448,987	274
Ifo/Ota	Ota	1,528	236,699	155	315,943	207
Ijebu East	Ogbere	2,846	171,576	60	231,701	81
Ijebu North	Ijebu-Igbo	969	200,583	207	280,383	289
Ijebu-Ode*	Ijebu-Ode	902	329,861	365	443,982	492
Ijebu-Remo*	Sagamu	973	267,051	274	388,119	399
Obafemi/Owode	Owode	1,431	202,856	142	269,975	187
Odeda	Odeda	1,547	171,769	111	233,343	151
Total		16,369	2,665,840	163	5,507,585	337

Source: 1 - 3: Rural Infrastures in Nigeria: Basic needs of the majority, Vol. 2, 1981
4 - Projections from Population Census of Nigera, Extract for Ogun State (1988)

* These Local Government areas have been split into two each after the study.

scattered and non-contiguous. Furthermore, each plot may carry a mixture of crops or to be put to different crops in different cropping season in a system of land rotation. This makes it difficult to carry out mechanisation and modernisation of agricultural production. The principal economic effect of fragmentation of holdings is that it reduces the effectiveness of labour (Adegboye, 1976).

The demand for food therefore, will continue to increase with increasing population; however domestic food production may not be able to meet the demand except in the event that sufficiently large numbers of new farmers move into agriculture and average size of farms increases substantially. It has been asserted that increase in food production in Nigeria depends almost entirely on increased crop area (Olayemi, 1980). Hindi (1963) also noted that agricultural development, particularly the increase in production is affected by the size of farms.

The generally held notion that land is plentiful, has led to the neglect of land as a factor of production (Famoriyo, 1987). This belief has adversely influenced some aspects of Nigerian rural development strategy, and it is a factor in the "we should not worry" official approach to the problems posed by the rapid population growth in this country.

From the above, the need to examine the effect of the rate of population growth on agricultural practices and techniques to raise agricultural productivity is overdue. Hence the main objective of this study is to ascertain the determinants of farm size among the smallholder farmers in rural and urban farming areas of Ogun State with a view to making a comparative analysis and drawing inferences that would enhance the productivity of agriculture in the study area.

Methodology:

Ogun State served as the sampling frame for this study. The state is one of those witnessing a rapid rate of urbanisation in the country as a result of the industrialization programme of the government. The population density of the state was estimated to be 163 in 1979 and it was 337 per square kilometer in 1991. Table 2 shows the estimated population density of the state by local government areas.

A multi-stage sampling procedure was adopted to select the sample for this study. The first stratification was on the local government basis. Based on the intensity of agricultural production, population density and the limits of the resources available, Ijebu-Ode and Remo Local Government Areas were selected for the study.

Secondly, these local government areas were classified into urban and rural localities based on the following criteria. An urban area is defined as any settlement having a minimum population of 20,000* and at least ten of the following charac-

* This definition was derived from the work of Chuta, E. and C. Liedholm: "Progress Report on Research on Rural small-scale Industries in Sierra Leone." African Rural Employment Working Paper No. 4. MSU East Lansing Michigan (1974).

teristics:

(i) Industrial Establishment (both small scale and large scale);
(ii) Tarred roads within the locality;
(iii) Telephone;
(iv) Banking services;
(v) Treated pipe borne water;
(vi) Commercial centres (supermarkets, etc.);
(vii) Electricity;
(viii) Post-primary institutions;
(ix) Private or public hospitals or maternity centre(s) or health centre(s)
(x) Post Offices;
(xi) Publicly and/or privately owned intra-town transport services;
(xii) Court of magisterial status and above;
(xiii) Recreational facilities (stadia, parks, clubs, museums, etc);
(xiv) Police stations;
(xv) Administrative headquarters of any government.

Furthermore, not more than 40 percent of the settlement's population should be engaged mainly in agriculture.*

Consequently, the underlisted localities (Table 3) have been classified as urban in the listed government areas of the State.

TABLE 3: URBAN LOCALITIES IN OGUN STATE

Local Government Area	Urban Locality
Abeokuta*	Abeokuta only
Egbado-North	Aiyetoro only
Egbado-South	Ilaro only
Ijebu-North	Ago-Iwoye and Ijebu-Igbo
Ijebu-Ode*	Ijebu-Ode only
Ijebu-Remo*	Sagamu, Iperu and Isara

Source: Population Census of Nigeria, Extract for Ogun State 1988.

* These local government areas have been split into two each after the study.

Based on this classification, Ijebu-Ode and Sagamu were selected as urban areas while Ayede in Ijebu-Ode local government and Ilara in Ijebu-Remo local government were chosen as rural area.

Thirdly, random sampling procedure was employed to select 50 respondents from each of both the rural and urban areas giving a total of two-hundred farmers interviewed. The interview was conducted using pre-tested questionnaires, and with the assistance of the village extension agents of the Ogun State Agricultural Development Project (OSADEP).

The data collected were analysed using simple frequency counts and ordinary least squares regression technique to ascertain the major determinants of the size of farm land in the study area. Since, it was hypothesized in the study that both the mode of acquisition of farmland and the cropping system adopted would tend to influence the size of farmland, dummy variables were constructed to reflect their influence on farm size.

The regression models specified are as expressed in equations 1 and 2.

Linear form:

$$Y_1 = a_o + a_1X_1 + a_2X_2 + a_3X_3 + a_{4.1} + a_{4.2}D_1 + a_{4.3}D_2 + a_{4.4}D_3 + a_{4.5}D_4 + a_{5.1} + a_{5.2}F + U_1 \quad \ldots\ldots\ldots\ldots (1)$$

Logarithmic form:

$$\text{Log } Y_2 = b_o + b_1\log X_1 + b_2\log X_2 + b_3\log X_3 + b_{4.1} + b_{4.2}D_1 + b_{4.3}D_2 + b_{4.4}D_3 + b_{4.5}D_4 + b_{5.1} + b_{5.2}F + e_1 \quad \ldots\ldots\ldots\ldots (2)$$

Where:

Y_1 = Farm size in hectares;
X_1 = Family size;
X_2 = Expenditure on farming activities (naira);
X_3 = Years of farming experience;
D_{1-4}** = Dummy variables representing modes of acquisition of farmland;
F*** = Dummy variable representing cropping system;

** To construct the dummy variable for the mode of acquisition of farmland, four dummy variables were used to estimate the five modes of acquisition identified thus:

D_1 1 = if inheritance
0 = otherwise

D_2 1 = customary tenancy
0 = otherwise

D_3 1 = purchase
0 = otherwise

D_4 1 = allocation from family land
0 = otherwise.

TABLE 4: SUMMARY OF SOCIO-ECONOMIC CHARACTERISTICS OF THE RESPONDENTS

Characteristics	Urban (Percentage)	Mean	Rural (Percentage)	Mean
Age (Years)				
21 - 30	04		01	
31 - 40	17		14	
41 - 50	30		28	
51 - 60	23		35	
61 - 70	26	51	22	52
Family size				
0 - 3	12		07	
4 - 7	56		44	
8 - 11	25		37	
12 - 15	07		10	
16 - 18	-	07	02	08
Number of wives				
0	22		24	
1	46		37	
2	23		29	
3	07		00	
4 and above	02	01	01	01
Number of children				
none	06		03	
1 - 5	56		50	
6 - 10	33		42	
11 - 15	05		04	
16 - 18	-	05	01	06
Years of schooling				
none	31		38	
0 - 6	17		21	
7 - 12	38		35	
13 - 15	07		06	
> 15	07	5.9		4.6

Table 4 Cont.

Characteristics	Urban (Percentage)	Mean	Rural (Percentage)	Mean
Place of origin				
Indigene	75		83	
Non-indigene	25		17	
Cultivated land (ha)				
< 1	12		10	
1.1 - 3. 0	69		65	
3.1 - 5.0	17		24	
5.1 - 7.0	02	2.4	0.1	2.5
Total farm size (ha)				
< 1	13		08	
1.1 - 3. 0	56		55	
3.1 - 5.0	18		19	
5.1 - 7.0	08		11	
7.0	05	3.2	01	3.3
Years of farming experience				
1 - 10	38		22	
11 - 20	24		18	
21 - 30	17		27	
31 - 40	06		28	
40	15	18	08	23
Awareness of Land Use Act				
Aware	82		79	
Not aware	18		21	

Source: Field Survey, 19

*** dummy variable representing cropping system made use of the following.

F = 1 = monocropping
0 = intercropping

a_o; b_o = Intercept terms

a_i, b = Coefficient of estimated independent variables

U_i = Disturbance term.

The regression analyses were carried out for each of the four areas (Ijebu-Ode, Shagamu, Ilara and Ayepe); the two rural areas combined (rural); the two urban areas combined (urban), and for all the four areas combined. The best fit to the models on the basis of the direction of the coefficient of the variable, the overall significance of the variables, and the degree of explanation of the variability of the dependent variable explained by the independent variables were selected for discussion and inferences.

Results and Discussion:

Table 4 shows the results of the socio-economic characteristics of the respondents.

While about 51 percent of the urban respondents are below 50 years of age, about 43 percent of the rural respondents are in the age group. The mean age of the respondents in the urban and rural farming areas is 51 and 52 years respectively.

The most important unit in the traditional agriculture is the family, as it constitutes an important source of labour to the farm. Thus there is justification for a large size of family both in terms of children and wives, moreso since labour cost constitute about 55 percent of the total production costs (Idachaba, 1991). Most (56 percent in urban and 44 percent in the rural areas) of the respondents have a family size of between 4 and 7 while only 2 percent of the rural farmers have a family size of between 16 and 18. The mean family size in the urban and rural farming areas is 7 and 8 respectively. Closely linked with the family size is the number of wives and children. The table reveals that the average number of wives for both the rural and urban respondents is 1, while the average number of children for the urban was 5 and that for the rural is 6.

The significance of education in agriculture is in the overall efficiency of resource utilization and production in general, the choice of enterprise, as well as in the adoption of innovation. It can be seen from the table that the average number of years spent in school for the urban and rural respondents was 5.9 and 4.6 years respectively. There are more illiterates among the rural respondents (38 compared with 31 percent).

As expected, the proportion of indigene in farming is higher (83 percent) in the rural areas than in the urban areas (75 percent). Both the total size of farmland and the amount cultivated reveal the fact that lower size of land is cultivated in the urban

TABLE 5: PATTERN OF LAND ACQUISITION BY RESPONDENTS

Mode of acquistion	Urban (Percentage)	Rural (Percentage)
Inheritance	41	62
Customary tenancy	50	22
Outright purchase	04	—
Gift	01	01
Pledge	02	03
Allocation from community land	—	08
Allocation from family land	02	04

Source: Field Survey, 1991.

TABLE 6: CROPPING SYSTEM ADOPTED

Cropping System	Urban (Percentage)	Rural (Percentage)
Monocropping	15	18
Intercropping (2 crops)	52	42
Intercropping (More than 2 crops)	33	40

Source: Field Survey, 1991

farming areas. The mean size of farm is also lower though marginally.

The years of experience in farming reveals that rural farmers are more experienced (23 years) than the urban farmers (18 years). This is expected since the urban farmers are made up more of non-indigene migrants.

Land acquisition and use:

Table 5 reveals that most (62 percent) rural respondents acquired their farmland by inheritance, while most (50 percent) urban farmers got their farmland by customary tenancy. However, inheritance is also common (41 percent) among the urban farmers.

The respondents (85 percent urban and 82 percent rural) generally practice intercropping (Table 6). However, most (60 percent rural and 50 percent urban) respondents did not favour the Land Use Decree of which they were generally (82 percent urban and 79 percent rural) aware. Results reveal that the respondents generally (78 percent urban and 90 percent rural) make use of informal sources of credit to finance their farming operations. This has far reaching implications in the area of formal credit institutions mobilization of savings for rural credit market.

Regression results:

Tables 7 through 10 shows the results of the regression analysis. As can be seen from the tables, the logarithmic function gave the best fit as judged by the listed criteria. Hence the logarithmic function has been chosen as the lead equation in each case. Tables 7 through 10 show that the estimated functions for Ijebu-Ode, Ayepe, the two rural areas combined (rural), the two urban areas combined (urban) and the four areas combined are significant at 5 percent level, though with low R^{-2} values of between 12.0 percent in the four areas combined and 41.6 percent in Ijebu-Ode.

Table 7 shows that in Ijebu-Ode, the coefficients of the variables representing family size (X_1), farming expenditure (X_2), mode of acquisition (allocation from family land D_4), and cropping systems (monocropping (F) and (intercropping $B_{5.1}$) are significant at 5 percent level.

The positive relationship between family size and farm size is expected, since it might imply that the farmers make more use of family labour in their farming activities may be due to the high cost of hired labour in the study area. The positive relationship of farming expenditure with farm size is also indicative of the fact that financial expenditures to the farm increased with farm size may be due to the high cost of inputs. The negative relationship between mode of acquisition (allocation from family land) and farm size may be due to the fact that, the allocable size of land decreases as the number of qualified family members increases.

While the positive relationship of the cropping system (monocropping F) with farm size can be linked with the impact of the extension services of the Ogun State Agricultural Development Programme in the study area, the positive relationship of

TABLE 7: DETERMINANTS OF SIZE OF FARMLAND (URBAN)

	Equation Type	Dependent Variable	Constant term	Independent Variable												
				X_1	X_2	X_3	$B_{4,0}$	D_1	D_2	D_3	D_4	$F_{5,1}$	$B_{5,1}$	R^{-2}	MSR	F
SAGAMU	Linear	Y_1	4.82996	-0.01615	0.00011	-0.01051	-2.20111	-2.49520	-3.75999	-3.03880	-3.51336	-	-	0.04692	2.55824	0.72552
				(0.8916)	(0.00016)	(0.02422)	(1.68366)	(0.66210)	(2.29170)	(1.99450)	(1.99398)	-	-			
	Log	Y_1	1.22372	-0.16212	0.09623	-0.01872	-0.67358	-0.86443	-1.56733	-0.98597	-1.68430	-0.15894	-0.21934	0.02243	0.49773	0.89290
				(0.19099)	(0.17041)	(0.16024)	(0.75126)	(0.74186)	(1.06337)	(0.88958)	(0.89588)	(0.30104)	(0.3225051			
IJEBU ODE	Linear	Y_1	-2.40478	— 0.38224	— 0.00047	-0.02142	—	—	—	—	-6.40522	3.21628	1.91614	0.24163	12.09082	3.23029
				(0.14979)	(0.00015)	(0.04173)	—	—	—					(3.74120)	(1.62095)	(1.70104)
	Log	Y_3	-4.14760	* 0.55492	* 0.48871	-0.13468	—	-0.06768	-0.33509		* -1.37500	0.80192	* 0.72227	0.41608	0.42530	* 4.87946
				(0.21659)	(0.12007)	(0.13665)	—	(0.20735)	(071454)		(0.69778)	(0.30982)	(0.32574)			

Source: Field Survey, 1991
*Significant at 5%

TABLE 8: DETERMINANTS OF SIZE OF FARMLAND (RURAL)

	Equation Type	Dependent Variable	Constant term	Independent Variable												
				X_1	X_2	X_3	$B_{4,1}$	D_1	D_2	D_3	D_4	F_1	$B_{5,1}$	R^2	MSR	F
ILARA	Linear	Y_1	0.24476 2.74075	0.00055 (0.14623)	0.08324 (0.00037)	0.85650* (0.03861)	-0.36537 (1.94075)	1.19154 (2.2441)	-3.60707 (2.74593)	2.67131 (3.38548)	-1.70564 (3.39322)	0.67320 (1.32689)	 (1.20127)	0.15803	6.67114	1.91969
	Log	Y_2	-0.40168	0.53335* (0.28344)	0.22134 (0.16258)	0.31150 (0.17094)	-0.23713 (0.54194	-0.13071 (0.64174)	-0.42769 (0.76226)	-1.39252 (1.03495)	-1.04874 (0.96646)	-0.41051 (0.37445)	-0.27425 (0.34141)	0.07792	0.51564	1.41408
AYEPE	Linear	Y_1	0.25354	0.12086 (0.08651)	0.00014 (0.00012)	0.00894 (0.02498)	0.36660 1.542499	-064292 (1.54238)	1.22695 (2.38409)		1.24901* (1.58036)	1.23536 (0.80513)	2.02534* (0.85591)	0.09165	3.66401	1.76451
	Log	Y_2	-2.81823	0.21722 (0.19690)	0.32552* (0.10982)	0.17971* (0.136623)	— —	-0.51494 0.21789	-0.17373 0.73451		-0.28628 0.27565	0.52592* (0.24893)	0.67493* (0.27510)	0.24777	0.39602	3.01942

Source: Field Survey, 1991
*Significant at 5%

intercropping ($B_{5.1}$) also with farm size presents an interesting result. This significant result may be indicative of the fact that the landowners who have larger farm sizes practise monocropping while tanants who have smaller farm sizes practise intercropping.

Table 8 shows that in Ayepe, it is only farming expenditure (X_2), mode of acquisition (customary tenancy D_2) and cropping system (monocropping and intercropping) that are significant at 5 percent level. The negative relationship of mode of acquisition (customary tenancy D_2) with farm size may be due to the high rent farmers pay in order to acquire additional land.

When the two urban areas were combined (urban) as shown in Table 10, the only significant explanatory variables are farming expenditure and mode of acquisition (allocation from family land). The negative relationship between allocation from family land and farm size may be indicative of a declining size of land as the family size increases. A stepwise result reveals that both farming expenditure and allocation from family land explained about 20.1 percent of the variation in farm size.

The result for the two rural areas combined (rural) in Table 10 shows that farming expenditure, mode of acquisition (customary tenancy) and farming experience (X_3) are the only significant explanatory variables of farm size. The positive relationship of farming experience with farm size appears plausible since more experienced farmers are expected to be able to manage larger size of farmland. The experience of farmers would also come in, in areas such as the timeliness of operations, insect and pest control and other cultural operations which would enable them to explore more risky ventures and thereby earn higher returns on their operations. The three explanatory variables explained 16.2 percent of the variation in farm size.

When all the four areas were combined, the results (Table 14) show that the only significant explanatory variables are farming expenditure and cropping system (monocropping) which explained only 12.0 percent of the variation in farm size.

The results of this study have shown the following conclusions as regards the determination of farm size of smallholder farmers. The prevailing mode of acquisition in the urban area is customary tenancy while it is inheritance in the rural areas. It is noteworthy that none of the respondents acquired land through the Land Allocation Committee as specified by the Land Use Decree (1978). This finding is in line with that of Akinbode (1973) who found out that customary tenancy was common among the rural farmers. Omueza (1981) also came out with the finding that the tenure status of rural farmers was positively significant in determining their farm size.

Intercropping is widely practised by both rural and urban based farmers; in fact none of the tenant cultivators practise monocropping. This emphasises the importance of the intercropping system in the farming system of smallholder farmers in the study area. This might be due to either economic or psychological reasons.

Both the total size of land cultivable by the farmers and the average cultivated

TABLE 9: DETERMINANTS OF SIZE OF FARMLAND (ALL THE FOUR AREAS)

Equation Type	Dependent Variable	Constant term	Independent Variable										R^{-2}	MSR	F
			X_1	X_2	X_3	$B_{4,1}$	D_1	D_2	D_3	D_4	F_1	$B_{5,1}$			
				*							*	*			*
ALL THE FOUR AREA COMBINED	Linear	Y_1	0.30041	0.8313	0.00035	0.01730	0.31202	0.36133	-0.18676	-1.38517	0.27704	1.28911	1.22791	0.10934	6.96624	3.22081
				(0.5985)	(0.00008)	(0.01630)	(1.22958)	(1.23676)	(1.68389)	(1.95526)	(0.43291)	(0.53284)	(0.56110)			
					*							*				*
	Log	Y_1	-1.73723	0.06976	0.30833	0.04204	-0.06638	-0.28915	-0.14809	-0.52158	-0.04286	0.26906	0.26363	0.120010	0.51724	3.46937
				(0.10130)	(0.06116)	(0.06964)	(0.33397)	(0.33670)	(0.45980)	(0.53139)	(0.309014)	(0.14481)	(0.15292)			

Survey, 1991

*Significant at 5%

The figure in parenthesis are the standard error of estimates.

TABLE 10: DETERMINANTS OF SIZE OF FARMLAND (URBAN & RURAL)

	Equation Type	Dependent Variable	Constant term	Independent Variable												
				X_1	X_2	X_3	$B_{4:1}$	D_1	D_2	D_3	D_4	F_1	$B_{5:1}$	-2	MSR	F
URBAN	Linear	Y_1	1.63264	0.24862	0.00043	-0.02179	-0.05160	-2.22091	-2.31785	-3.08600	-5.0536	1.64871*	0.74853	0.16639	8.09455	2.79638*
				(0.09561)	(0.00011)	(0.02567)	(2.93137)	(2.91655)	(3.53759)	(3.52296)	(3.36684)	(0.84924)	(0.92518)			
	Log	Y_1	-1.93446	0.17507	0.41005*	-0.13632	-0.50451	-0.56561	0,55866	-0.88493	-1.59352*	0.36273	0.21317	0.17883	0.51822	2.98997
				(0.14034)	(0.09244)	(0.09907)	(0.74215)	(0.74071)	(0.89972)	(0.89540)	(0.84404)	(0.21647)	(0.23382)			
RURAL	Linear	Y_2	1.17953	-0.04507	0.00022	0.05488	-0.27072	-0.42169		-2.29410	-1.47439	0.36414	1.13382	5.30860	2.44766	*
				(0.07564)	(0.00011)	(0.02120)	(0.97268)			(2.63177) (1.20194)	(0.66412)	(0.66780)				
	Log	Y_2	-1.82336	—	0.28183*	0.20091*		0.319628*		-0.57916	0.44392	0.12779	0.24783	0.17296		3.95773
				—		(0.07941)	(0.08974)	(0.16976)		(0.68714)	(0.25657)	(0.18507)	(0.18835)		0.45252	

Survey, 1991

*Significant at 5% error of estimates.

The figure in parenthesis are the standard error of estimates.

size of farm are small with a mean of 2.5 and 2.4 hectares in both the rural and urban farming areas of the study area. Akinbode (1973) found a mean farm size of 2.3 acres among the smallholder rural farmers in Ekiti Central Division of Ondo State. This seems to indicate the apparent ineffectiveness of the Land Use Decree (1978) since the mean size of farm is yet to increase significantly. Idachaba (1991) also asserts the fact that Nigerian farmers are predominantly (95 percent) smallholders cultivating less than 2 hectares.

As regards the determinants of farm size, farming expenditure is positively significant in both rural and urban farming areas. The implication of this is that the cost of inputs increases with farm size thereby reducing the overall profitability of the business. Akinbode (1973) also found that labour, capital and transport costs increases with increased farm size.

In the urban farming area, allocation of farm from family land is the other determinant of farm size found during the study. However, in the rural area, the other determinants of farm size are years of farming experience and mode of acquisition (customary tenancy).

Recommendations

Based on the results of this study, it is recommended that, efforts should be directed to reduce the costs of farm inputs as a way of reducing farming expenditure. A major input on the farm is labour, and a way of reducing the cost of labour is to provide more modern implements, tools, and other inputs to reduce the drudgery associated with farm work. It will also attract more youths to agriculture, increase labour supply on the farm and discourage the rural-urban migration. The efforts of the National Directorate of Employment, the Directorate of Food, Road and Rural Infrastructures and the Better Life Programme in this direction needs to be coordinated to ensure adequate availability of labour at reasonable costs to the farmers.

There is the need to make operative the Land Use Decree at the farmers level so as to enable farmers who are willing to increase their farm size. The need is also there to introduce some vocational farm training for youths who are interested in agriculture to enhance their level of production. This will have the added advantage of increasing the obtainable output per farm worker and per hectare.

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