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Acquisition and Management of Land Resources for Agricultural Production in Benue State, Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Author JNN designed the study, wrote the protocol and wrote the first draft of the manuscript. Author WOI supervised the collection of data and performed the statistical analysis. Author HS reviewed the data collection instrument, managed the literature searches and edited the first draft of the manuscript. She also responded to reviewers comments. All authors read and approved the final manuscript.

Original Research Article

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ABSTRACT

Aims: This study seeks to describe the socio-economic characteristic of the respondents in the study area, describe the land tenure systems operational in the study area, determine the trend in farm size change in the study area over a period of five years, determine the trend in Land supply to the market in the last five years and determine the land tenure system that is dynamic in land supply to agricultural production.
Study Design: Cross-sectional study.
Place and Duration of Study: Department of Agricultural Economics and Extension Technology, Federal University of Technology, Minna, Nigeria, between January and July, 2012.
Methodology: The study investigated the manner and strategies adopted in acquisition and management of land resources for agricultural production in Benue State, Nigeria. A sample of 80 respondents was selected for the study through simple random sampling technique and data were collected from them using a structured questionnaire.

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Results: It was found that a greater per cent (48.75%) of the respondent acquired land through inheritance indicating that no change has taken place in method of land acquisition over the years. This also underscores the near absence of land markets in most states of Nigeria. The size of holding continues to be small (≤5.58ha) which has not accentuated the commercialization of agriculture in Nigeria. The sale and purchase of land is done in a mix of market situation like exchange of farm produce, cash and other socio-cultural methods.
Conclusion: The study recommends that policies and agricultural programmes in Nigeria should take into cognizance the existing land tenure systems and the problems that emanate from them. In addition, problems associated with small sized farms and dispersal of holdings can be resolved through a method of land reform in which the fragments are accumulated together and the land is shared among owners so that each person's holding is in one location.

Keywords: Agriculture; land supply; farm size; land tenure; land transactions.

1. INTRODUCTION

Land is one of the most critical resources for the rural poor dependent on farming for their livelihoods. Inappropriate land management, particularly in areas with high population density and growth rates, further increases loss of productivity [1]. The problem of land tenure could be interpreted based on the duplicity of ownership of land with consequent excessive transaction costs, fragmentation of land into uneconomic sized tracts. Most of the land purchases are done by wealthy non-farmers who held the land idle, waiting to capitalize on an appropriate market situation, while food production is on the decline [2]. Ukaejiofo [3] showed that traditional tenure system placed major constraints upon the achievement of efficient agricultural production and physical development, which led to the promulgation of Land Use Act by the Nigeria government in1978. However, the Act failed to take into sufficient consideration the modifications that have taken place in the traditional tenure system by treating land as a free good. Most elements of the Act are disregarded by the majority of the land owners. The inequitable distribution of land has contributed to the declining state of resources thereby creating the conditions that leads to food insecurity [4]. According to Nmadu et at. [5], Daramola [6] and World Bank [1], the average farm size per farmers in Nigeria is between 1 and 5 hectares while the average Age farmer is between 50-60 years but Nigeria has a total land area of 92.4 million hectares and ninety one million of this is adjudged suitable for cultivation and only about forty-five million hectares of potential agricultural land is however put into use for our industrial crops and staple crops. The other important factor affecting land management in Nigeria is inappropriate land policies which constitute a serious constraint on economic and social development. Insecure land tenure and dysfunctional land institutions discourage private investment and overall economic growth. In Nigeria, the typical villager recognizes land as his entity and share it with the entire biotic complex and any policy on land ownership and use must recognize that the very existence of some people rests on their having access to a piece of land and any attempt to squeeze this from them would be strongly resisted. Fadahunsi [7] identified different classes of land holding to include Community lands, Chieftaincy lands, Kola tenancy, Pledge, Leasehold tenure, State land etc. He further identified other forms of land tenure to include contracted and individual tenure. Land tenure system in Nigeria varies with tribe, clans, state or community villages, families etc. they can be broadly classified into Communal land tenure system, Tenure based on individual inheritance of free-hold land ownership, Lease-

hold tenure or landlord- tenant agreement, State or government ownership. The mode of transactions in land that take place in Africa can best be described as involving both market and non-market transfers [8,9]. This means that non-market transactions have increased the flexibility of customary systems to cope with population pressure, commercialization of agriculture and other driving forces [9].

Land availability is changing because of urbanization and other land-use purposes, and thus the land productivity is also changing because of environmental conditions. One of the most important environmental factors affecting land productivity is 'land degradation'. Land degradation is an aggregate definition indicating loss of land quality due to several reasons. Proper rights to resources such as land, water and trees have been found to play a fundamental role at the nexus of poverty reduction, resource management and environmental management. The property rights held by poor people represent key household and community assets that may provide income opportunities, ensure access to essential household subsistence needs and insure against livelihood risk. Poorer groups tend to rely more heavily on customary or informal rights. It is unlikely that sustainable land management can be achieved in the absence of explicit attention to property rights [10]. The problem of land tenure which implies property use rights of soil, water, fauna and flora resources based on national systematic and lawful land registration program has inspired a variety of land reforms with a general trend toward market-oriented access to and privatization of land through private entitlement on the premise that individualized tenure offers the best certainty in land rights, which provides incentive and facilitates access to credit for investment in agriculture and natural resources and thereby contributes to increasing agricultural productivity and improving natural-resource stewardship.

Observation of vegetation in Benue state revealed that land is under pressure from the increased human population for housing, infrastructure, settlement development and other industrial and development-propelled development rather than for increased food production [11]. Land tenure and struggles over land have been growing in the last decade in a context of growing poverty, landlessness, homelessness and distress in Africa. The last few years have witnessed the increased organization of politics around land and the literal physical assertion of attempts to gain land rights by some communities. So it is important to know the accessibility of available land for agricultural expansion in Benue State, since Benue State with enormous potential is known for agricultural production. In this study, acquisition and management of land resources for agricultural production in Benue State, Nigeria was investigated. This study seeks to describe the socio-economic characteristic of the respondents in the study area, describe the land tenure systems operational in the study area, determine the trend in farm size change in the study area over a period of five years, determine the trend in Land supply to the market in the last five years and determine the land tenure system that is dynamic in land supply to agricultural production.

2. METHODOLOGY

This study was carried out in Benue State of Nigeria. Makurdi Local Government Area was purposively selected for the study being the state capital with a diverse population of farmers, businessmen, merchants, civil and public servants which helped to ensure that the stated objectives of the study are achieved. Makurdi local government was created in 1970 out of the defunct Tiv Native Authority. The L.G headquarters also serves as the state capital. Makurdi lies between longitude 8º 20º East, latitude of 7º 20º North and 8º North. Makurdi have a population of 300,377 people [12]. Makurdi covers a landmass of 80kilometer square. A very important feature of the Local Government Area is the presence

of River Benue. The River enters Nigeria from the Cameroon Republic, flowing South-West. It has an extensive flood plain for a distance of 187km.The climate is characterized by uniformly high temperature which fluctuates between 23ºC – 30ºC and the rainy season lasts from April to October with annual rainfall in the range 1500-1800mm. This adequate rainfall coupled with the vital fertile soil makes Makurdi the leading agricultural State capital, which earned Benue State the name "Food Basket of the Nation". The major ethnic groups are Tiv, Idoma, Igede, Jukun, Etulo. The major occupations are Civil service, farming, livestock production and fisheries. The tributaries of River Benue that drain through the Local Government Area provide good source for irrigation and fishing. The Local Government Area is made up of eleven (11) council wards namely: North Bank I, North Bank II, Mbalagh ward, Bar ward, Fiidi council ward, Madikpo ward, Clerk ward/Central mission, Ankpa/Wadata ward, Modern market ward, Walomayo ward and Agan ward. Agriculture forms the backbone of the State economy, engaging more than 70% of the population. Food and cash crop produced in the state are yam, cassava, sweet potatoes, sorghum, maize, millet, groundnut, ginger, sugar cane, soybeans, beniseed, rice, sweet orange, mangoes and cashew. A lot of vegetable crops- leafy, okra, tomatoes, garden eggs and many others are produced under irrigation.

The data for this study were obtained from both primary and secondary sources. Five wards were randomly selected from the eleven wards. Then one village each was randomly selected from the five wards above and 16 farmers were randomly selected from each of the villages, giving a total 80 respondents for the study. The data was collected between January and July 2012.

Quantitative (econometric) and descriptive techniques were employed to analyze the data collected. Descriptive statistics such as mean, frequency distribution, percentage (%) and ranking were used to analyze the socio-economic characteristics of the respondents, the land tenure system operational in the area and the trend in land supply to the market in the last five years.

The land tenure system that is dynamic in land supply to agricultural production was measured using a five (5) point likert scale. The five point likert scale was graded as highly effective=5, effective=4, Not highly effective=3 Not effective=2, Not sure=1. Based on this grading the level of effectiveness of land tenure system on agricultural production was ranked using weighted mean. The average weighted mean score of the correspondent based on 5 point likert was 5+4+3+2+1=15 and 15/5= 3 (cut off point). Using the internal scale of 0.05 i.e. 5% probability level, the upper limit cut off point was 3+0.05=3.05 and lower limit cut off will be 3-0.05=2.95. The mean score above 3.05 was ranked highly effective while any mean score between 3.04 and 2.99 was ranked as effective and mean score between to 3.0 and 2.94 was ranked not sure, mean score of 2.95 was ranked as not highly effective and below 2.95 was ranked as not effective.

3. RESULTS AND DISCUSSION

The description of the socio-economic characteristics of the respondents are presented on Table 1 showing that majority of the respondents are male around 48 years of age and with moderate formal educational status. Majority of the respondents are married and possess average farm lands of 5.58ha and has about 26 years of farming experience. Table 2 shows the distribution of respondents based on their main and other occupations showing that majority of the respondents are farmers, although the respondents also engage in some other non-farm vocations. The farm and nonfarm income per annum is presented on Table 3

showing that farm income is higher than non-farm income although there is wider disparity in the distribution of non-farm income. Table 4 shows the distribution of respondents based on the method of land acquisition and sources of farm labour while Table 5 shows the distribution of respondent based on rating and perception of land tenure system showing that majority of the respondents acquired their land through inheritance and the most effective tenure system in the study area is inheritance. Tables 6, 7, 8, 9, 10 and 11 give the trend analysis of land stock and the management skills used in either purchasing or selling land. The data also shows the motivation for sale of land and the constraints against successful land purchase.

In the various farm operations including managing of land resources. However, their long stay on the farm seems to be at the expense of acquiring adequate formal The results in Table 1 show that the mean farm size and age are quite higher than what has been reported in many similar studies in Nigeria e.g. [13-18]. The mean age is around the life expectancy of Nigeria which means the respondents are past the productive stage when they could supply labour to carry out the various farm operations since Nigerian agriculture is still very much of low and crude technology. Hence there could be low productivity as a result of low labour or untimely supply which further dampens the prospect of self-sufficiency in food production. The result also reveal that the farmers in this area have spent more than half of their lifetime in farming, thus they must have acquired a lot of experience education, as most of them only acquired secondary education, typical of most Nigerian farming communities. The findings on Table 2 and 3 also show a similar trend in most Nigerian communities where people engage in more than one vocation earning income from a variety of sources. This is normally done to utilise off-farm season labour or to ensure steady supply of income to meet up ever-increasing family obligations. However, it could be observed that most of the respondents earn less than NGN500,000 per annum or about USD8 per day or USD0.78 per day per capital. This is grossly inadequate.

The results on Table 4 and 5 shows that inheritance is the predominant tenure system and the method of acquiring land in this study area. It therefore indicates that the Act has not made much impact on land economy in Nigeria. And that has hampered farm expansion as this system only encourages fragmentation. It has also made mechanisation difficult as well as commercialisation of agriculture in Nigeria as production system is family-based and is attached to a lot of socio-cultural obligations. This is further confirmed by the number of the respondents that utilise family labour for agricultural production in the study area. This is quite different in Tanzania where there are only two main ways in which one can own or acquire land. The first one is through “a granted right of occupancy” while the other is through “customary right of occupancy”. However, both of these two ways are legally restricted to Tanzania citizens unless where investment is involved [19]. Land in the study areas is sold very cheap; the prevailing market price of land does not benefit land owners.

The results on Tables 6-11 shows the dynamics of land supply and demand and the trend between 2007 and 2012. The results show that there is no uniform method of selling or purchasing land in the study area. Hence there is total absence of land markets. This is so because there is no standard measure and the lands are sold and bought without any defined pricing system. Hence land is sold by barter, exchanged with farm produce or rented at whatever the seller demands. The results also show that the reasons why people decide to put land in the market are far less than economic reasons. However, the constraint militating against purchase seems to be economic, making the transaction hectic. It was also observed that the dynamics seems to be increasing from almost zero transaction in 2007 as more transactions are recorded from 2009 to 2012, indicating the likely improvement in

economic status of the respondents. The situation of land economy in the study area and by extension Nigeria has slowed down economic development as many developmental projects are land-dependent and that has made the Nigerian government to set up the Presidential Committee on Land Reforms. In addition, there have been a lot of calls for the amendment of the Act so that the land markets would be liberalised and policies re-aligned to make land administration and transactions much more open and transparent. In view of this, the current move to amend the Act must take cognisance of the peculiarities associated with the cultural and family ties to land. The finding also reveals that although majority of the respondents are farmers, the transactions involving land in the study area is not for agricultural reasons, again making the dream of poverty reduction and self-sufficiency in food production a myth.

Table 1. Socio-economic characteristics of respondents

Variables	Frequency	Percentage	Rank
Gender			
Female	7	8.8	2nd
Male	73	91.3	1st
Age group			
31-40	16	20.0	3rd
41-50	33	41.3	1st
51-60	27	33.8	2nd
>60	4	5.0	4th
Mean		48±8	
Marital Status			
Married	64	80.0	1st
Separated	6	7.5	3rd
Divorced	2	2.5	4th
Widowed	8	10.0	2nd
Household Size			
1-5	2	2.5	4th
6-10	38	47.5	1st
11-15	33	41.3	2nd
>15	7	8.8	3rd
Mean		11±3	
Highest educational status			
Primary education	20	25	1st
Secondary education	20	25	1st
Polytechnic	7	8.75	3rd
College of education	6	7.5	4th
College of technology	2	2.5	7th
College of Health technology	2	2.5	7th
College of Agriculture	4	5	6th
Adult Education	0	0	
No formal education	19	23.75	2nd
Total	80	100	
Years spent in school			
1-5	19	23.8	3rd
6-10	31	38.8	1st
11-15	22	27.5	2nd
>15	8	10.0	4th
Mean		8.24±5.76	

Table 1 Continued .....

Number of plots owned			
1-2	9	11.3	3rd
3-4	46	57.5	1st
5-6	22	27.5	2nd
7-8	3	3.8	4th
Mean		4±1	
Farm size			
<4	15	18.8	3rd
4-5	25	31.3	2nd
6-7	26	32.5	1st
8-9	14	17.5	4th
Mean		5.58±1.94	
Mean per plot		1.4±0.38	
Farming experience			
1-10	4	5.0	5th
11-20	27	33.8	1st
21-30	20	25.0	3rd
31-40	24	30.0	2nd
41-50	5	6.3	4th
Mean		25.56±10.16	

Source: Field Survey, 2012

Table 2. Distribution of respondents based on their main and other occupations

	Main occupation	**Other occupations**
Farmer	50	31
Civil servant	8	1
Medical doctor	4	0
Health worker	2	1
Private sector worker	6	2
Businessman	0	3
Housewife	0	0
Student	1	2
Carpenter	1	3
Builder	3	1
Mechanic	1	1
Plumber	1	1
Electrician	3	14
Others (please specify)	0	0
	80	60

Table 3. Distribution of respondent based on level of annual income

Amount	Frequency	Percentage
Farm income		
< 100,000	1	1.25
100,000-150,000	2	2.5
150,000-200,000	7	8.75
200,000-250,000	17	21.25
250,000-300,000	13	16.25
300,000-350,000	16	20.0
350,000-400,000	6	7.5
400,000-450,000	9	11.25
450,000-500,000	5	6.25
>500,000	4	5.0
Mean	302,708.75±108,821.02	
Non-farm income		
0-100000	27	33.75
100001-200000	22	27.5
200001-300000	13	16.25
300001-400000	7	8.75
400001-500000	5	6.25
500001-600000	2	2.5
600001-700000		0
700001-800000	3	3.75
800001-960000	1	1.25
Mean	199,650.00±219,633.94	

Source: Field Survey, 2012.

Table 4. Distribution of respondents based on the method of land acquisition and sources of farm labour

Variables	Frequency	Percentage	Rank
Land acquisition			
Inheritance	39	48.75	1st
Gift	6	7.5	4th
Purchase	2	2.5	5th
Owned	12	15.0	3rd
Rent	21	26.25	2nd
Labour			
Hired	5	6.25	3rd
Family	45	56.25	1st
Communal	3	3.75	4th
Hired and Family	27	33.75	2nd

Source: Field survey, 2012.

Table 5. Distribution of respondent based on rating and perception of land tenure system

Tenure system	Highly effective	Effective	Not sure	Not effective	Not highly effective	Weighted mean	Ranking
Communal	0	4	29	33	14	1.913	5th
Inheritance	47	30	0	0	2	4.55	1st
Individual	43	13	3	7	14	4.075	2nd
Leasehold	4	31	7	9	29	3.2	4th
State/L.G.A	0	0	23	47	10	1.838	6th
Rent	14	47	2	3	13	3.813	3rd

Source: Field survey, 2012

Table 6. Respondents' intentions to either increase or decrease their land stock

	Yes	No	No intention
have you been able to increase your farm size	12	54	14
have you intended to decrease your farm size	14	54	12
have you intended to buy land before	29	51	
if yes did you get it	3	26	

Source: Field survey, 2012.

Table 7. Distribution of respondent based on trend of land holdings (2007-2012)

Supply	2007	2008	2009	2010	2011	2012	Total	Percent
Increase	0	0	1	2	8	3	14	17.5
Decrease	0	0	0	5	8	1	14	17.5
None	0	0	0	0	0	0	52	65
TOTAL	0	0	1	7	16	4	80	100

Source: Field survey, 2012.

Table 8. Management skills on acquisition and disposal of land (average responses)

	2007	2008	2009	2010	2011	2012
how many hectares were added	0	0	0.025	0.15	0.5125	0.175
if purchase, how much did you pay	0	0	0	0	0	0
if kind, how many quantity of commodity was exchanged in kg	0	0	0	0.05	0.1375	0.175
if rent, how much did you pay in naira	0	0	500	900	2100.025	150
and how long are you expected to use the land in years	0	0	0.05	0.0375	0.2125	0.0625
how many hectares was the decrease	0	0	0	0.125	0.2375	0.125
if, rent how much did you receive	0	0	0	825	2275	525
how many years was it rented out	0	0	0	0.075	0.1875	0.05
was the decrease through sale	0	0	0	0.0375	0.05	0.0125
if sale, how much was it sold for in naira	0	0	0	9125	18250	6875

Table 9. Method of land disposal used by the respondents

	2007	2008	2009	2010	2011	2012
Decrease through sale				3	4	1
Amount Sold				290,000	340,000	550,000
					320,000	470,000
					760,000	450,000
						220,000
Hectares				1	1	1
					1	1
	1				2	1
						1
Other forms Rent					2	4
Amount Paid					54,000	24,000
					24,000	24,000
						24,000
						24,000
Years of rent					3	2
					2	2
						2
						2

Source: Field survey, 2012

Table 10. Method of land purchase used by the respondents

	2007	2008	2009	2010	2011	2012
Forms of increase						
Rent		1	2	4		2
Exchange	-		-	4		1
Items for Exchange						
Cash		1	2	4		2
Kind						4
Cash and Kind						1
Amount (Naira)						
14,000				1		1
24,000			1			
28,000				1		1
36,000			1			
42,000				1		
52,000	1					
54,000			1			
Commodity						
1 bag of Rice					1	
2 bags of Rice			3			
1 bag of Benniseed		1				
Size in Hectares						
2	1		1	7		3
3			1	1		
Number of Years						
1				2		2
2			1	6		1
3			1			
4	1					

Source: Field survey, 2012

Table 11. Motivation for sale and constraints to purchase of land

Factors responsible for sale of your land		Factors responsible for inability to buy land	
to generate more money	2	Refusal to sale by the owner	5
to pay children school fees	5	high cost	21
distance from home	1	government interest	0
high cost of labour	1	high tax rate	0
low productivity	3		
others	0		

4. CONCLUSION

This study which examine the acquisition and management of land resources in Benue State. Descriptive analytical tool and five point Likert-type scale were used to analyze the data. The result of the analysis shows that a greater per cent (48.75) of the respondent acquired land through inheritance indicating that no change has taken place in land acquisition over the years. This also underscores the near absence of land markets in most states of Nigeria. The size of holding continues to small (5.58ha) which has not accentuated the commercialization of agriculture in Nigeria. The sale and purchase of land is done in a mix of market situation like exchange of farm produce, cash and other socio-cultural methods. The study recommends that policies and agricultural programmes in Nigeria should take into cognizance the existing land tenure systems and the problems that emanate from them. Particularly, part of the amendment to the Act should be to provide a viable land market through the setting up of a regulatory agency that will ensure fair pricing of land and secure transactions. In addition, problems associated with small sized farms and dispersal of holdings can be resolved through the provision of infrastructural facilities in the rural areas.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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