



## Availability of rural infrastructural facilities and its effect on agricultural productivity of rural dwellers in Abeokuta North local government area of Ogun state

Adeoye, A. S. and Ojebiyi, W. G

Department of Agricultural Extension and Rural Development, Federal University of Agriculture, P. M. B. 2240, Abeokuta.

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### ABSTRACT

The bedrock of agricultural development in developing countries of sub-saharan Africa is rural development, without which all efforts at agricultural development will be futile. Agricultural development can only be attained if necessary rural infrastructural facilities are adequately provided in rural areas. This study assessed the availability of rural infrastructural facilities and its effect on agricultural productivity of rural dwellers in Abeokuta North local government area of Ogun state. Interview schedule was used to elicit information from 120 rural dwellers from six rural communities. Information obtained was subjected to descriptive and inferential statistics. Availability of seven rural infrastructural facilities was assessed. The results showed that roads were available to all the respondents while electricity (70.83%) and schools (83.33%) were available to majority of the respondents. Majority of the rural dwellers reported the proper functioning of roads (66.67%) and schools (82%) while partial functioning was recorded for electricity (60%), portable water (50%) and storage facilities (66.67%). The study concludes that sustainable rural development is a function of the availability and accessibility of rural infrastructural facilities to rural dwellers who are mainly small scale farmers. It was recommended that government should make provision for infrastructural facilities in rural areas of the local government.

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### Introduction

Rural areas are generally associated with poverty and underdevelopment. Nigerian rural farmers are small scale operators, tenants or landless, characterized by low income and high nutritional deficiency. Despite the poor condition of the rural dwellers, they still serve as an important foundation on which the nation's economy revolves. Ekong (2000) defined rural infrastructures as those basic physical, social and institutional forms of capital, which enhance rural dweller's production, distribution and consumption activities and ultimately the quality of life. Abiona and Bello (2013) observed that many states and local governments are deficient in technological infrastructure: electricity supply has degenerated, pipe-borne water supply is non-existent, and schools are ill-equipped while other social services have drastically degenerated with many of the hospitals now death centers rather than medical centers while many of the roads are now in deplorable condition. Ekong included transportation, storage facilities, power supply, communication facilities, water supply, health facilities and other community services. Okunneye (2000) also summarized the poor state of rural infrastructures as including: lack of appropriate on-farm and off-farm storage facilities; lack of electricity; lack of functional health centres in rural areas; poor irrigation facilities; poor feeder roads and inadequate road networks between the rural area where agricultural production takes place and the urban areas; and existence of very few schools (primary and secondary) in rural areas leading to the migration of youth to urban areas.

From the explanations of the above cited scholars, improved rural lives can only be enhanced if these facilities are available

and also made accessible to those who are in need of them at the right timing. Since agricultural productivity in developing countries like Nigeria depends on the extent to which rural areas are developed, the agricultural production system is characterized by large majority of the farmers operating at the subsistence, smallholder level, with intensive agriculture being uncommon and limited access to modern improved technologies (Ogunlela and Mukhtar, 2009). A characteristic feature of the agricultural production system, according to CTA (2000), in developing countries is that a disproportionately large fraction of the agricultural output is in the hands of smallholder farmers whose average holding is between 1 and 3 hectares.

An important element in ensuring food security in any nation is sustainable production of food (Odurukwe, et.al, 2006). For food production to be sustainable there is the need to focus attention on providing adequate and appropriate rural infrastructural facilities that will enhance the social, economic and political spheres of the rural areas. Hence, rural development, food security and poverty reduction will not be achieved without rapid agricultural growth. This conforms to the point raised by Ogunlela and Mukhtar (2009) when they posited that the bedrock of agriculture and agricultural development in developing countries of sub-saharan Africa is rural development, without which all efforts at agricultural development will be futile. Adedayo (1985) has also suggested that rural development policies should concentrate on farming, which is the primary occupation of the poor, who lack access to credit, farm input and implements and are unable to save or own production infrastructures (Olawepo, 2010).

Tele:

E-mail addresses: [oluwagbemiga2013@gmail.com](mailto:oluwagbemiga2013@gmail.com)

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Availability and accessibility of rural infrastructural facilities is an essential element in the performance of rural dwellers (primarily small scale farmers). This is because, they require constant electric power supply to preserve and process some of their produce that is highly perishable in nature. Aside from this, small scale farmers require good road networks to ensure the completion of production process by making sure that the goods produced in the remote rural areas get to the end users in the urban cities.

It is important to note that relentless efforts have been made by the state and federal government at ensuring rural development in the past. Some of the attempts made at improving the living condition of rural dwellers include the establishment of Directorate of Food, Roads and Rural Infrastructure (DFFRI), River Basin Development Authority, Agricultural Development Programme (ADP), Rural Banking schemes, Nigeria Agricultural and Co-operative Bank, People's Bank, Community Banks, National Economic Reconstruction Fund (NERFUND), National Directorate of Employment (NDE), Better Life for Rural Homes as well as the financial Economic Advancement Programme (FEAP). These programmes/projects failed to achieve their set objectives not only because they were not well planned, managed or financed but because they lack sustainability.

Sustainable development means the development that meets the needs and aspirations of the current generations without compromising the ability to meet those of the future generation (Abdul-Raheed, 1994 as cited in Owolabi, 2012). In clearer terms, sustainable development means improving the quality of human life while living within the carrying capacity of supporting the ecosystems (Owolabi, 2012). This is an indication that sustainable development focuses attention on the long-run aspect of any development projects. Hence, rural development can only be made sustainable if attention is concentrated on enhancing productivity. A means to easily achieve this is by providing needed infrastructural facilities in rural areas of the country where more than 70 percent of the nation's population reside.

This study assessed the availability of rural infrastructural facilities and its effect on agricultural productivity in Abeokuta North local government area of Ogun state. Abeokuta north was chosen because it is one of the few local government areas in the state that still house most areas which are typically rural with small scale farmers. Also, rural infrastructural facilities in the local government area were also noted to be rapidly deteriorating. Specifically, the study described the socio-economic characteristics of rural dwellers; assessed the availability of selected rural infrastructural facilities to rural dwellers; assessed the effectiveness of infrastructural facilities to rural dwellers; identified the factors limiting the effective use of infrastructural facilities by rural dwellers; and examined the perceived effects of poor rural infrastructural facilities on agricultural productivity of rural dwellers. The set hypothesis of the study assumed that there is no significant association between the rural dwellers' socioeconomic characteristics and the availability of rural infrastructures to them.

#### **Methodology**

This study was conducted in Abeokuta North local government area of Ogun state. It has an area of 808km<sup>2</sup>. The local Government first came into existence in 1981 before it re-emerged on 27th September, 1991 when the federal Government created some new local Government. The local Government shares common boundaries with Odeda local Government in the North, Ewekoro Local Government in the South, and Abeokuta

South and Yewa North Local Government in the East and West Respectively. It has a projected population of 229,249 persons. The people are predominantly farmers most of whom engage in cultivation of arable crops while some engages in livestock and fishing. The local Government is made up of people from Oke-Ona, Gbagura, Owu and Oke-Ogun.

A total of 120 rural dwellers were sampled with the use of interview schedule as follows:

Stage1: this involved the purposive selection of two political wards in the local government based on the concentration of small scale farmers in the selected wards;

Stage 2: this entailed the random selection of 40 percent of the communities in the two political wards. This gives a total of 6 communities which are Idiemi, Imala, Kesan, Ibara-Orile, Olorunda and Ilemo-Orile.

Stage 3: This involved the sampling of 120 residents across the 6 sampled communities in stage 2.

Information obtained through the interview schedule was analyzed with the use of descriptive statistics such as frequency, percentage and mean while the results were presented in frequency distribution tables. The hypothesis was tested with the use of Chi-square analytical technique at 5% level of significance.

#### **Results and Discussion**

##### **Socioeconomic characteristics of rural farmers**

Table 1 reveals that three out of every five (60%) of the rural farmers were females. The mean age of the rural dwellers was found to be 42.5 years with almost half (47.50%) of them being within 31-40 years.

Table 1 further proves that almost all the rural dwellers were within the economically active age category. More than three-fifth (61.67%) of the rural dwellers were married while 28.33% were never married. This implies that marriage is an important institution in the study area. As also shown in Table 1, about 94.17 percent of the rural dwellers had at least primary education with higher proportions (46.67 and 33.33 percents) having secondary and tertiary education respectively. This implies that most rural dwellers are literates and is not in line with the general assumption which characterized rural areas with illiteracy. The high literacy rate reported by this study implies that rural dwellers will have positive orientation towards their family needs and community development. This supports the stance of Keng (2004) that parents who are educated themselves have more enlightened attitudes towards education and provide their children with a more stimulating environment for education than those with less education. Almost all (97.5%) of the rural dwellers are involved in agricultural related activities with higher proportion (40.83%) of them involved in mixed farming while 16.67% and 37.50% engaged in only crop farming and animal husbandry respectively. Just 2.50% of the rural dwellers were traders as presented in Table 1. The mean farming experience of the rural dwellers is 15.67 years with the highest proportion (43.33%) of the rural dwellers having 11-20 years of farming experience while 31.67% and 19.17% had farming experience of 1-10 and 21-30 years respectively.

##### **Availability of infrastructural facilities to rural dwellers**

Entries in Table 2 indicates that road is available to all the sampled rural dwellers (100%) implying that distribution of agricultural produce from point of production to point of sale is not likely to be a problem in the study area. Schools and electricity supply were also pointed out to be available to 83.33% and 70.83% of the rural dwellers respectively. The non-availability of schools to few rural dwellers is attributable to the distance of their residence to schools.

**Table 1: Distribution of rural dwellers by their socioeconomic characteristics (n=120)**

Characteristics	Frequency	Percentage %
Sex		
Male	72	60.00
Female	48	40.00
Age(years)		
≤ 30	25	20.83
31-40	57	47.50
41-50	30	25.00
51-60	6	5.00
61-70	1	0.83
Marital status		
Single	34	28.33
Married	74	61.67
Widowed	7	5.83
Separated	5	4.17
Educational background		
No formal	7	5.83
Primary	17	14.17
Secondary	56	46.67
Tertiary	40	33.33
Religion		
Christian	60	50.00
Islam	46	38.33
Traditional	14	11.67
Farming experience		
1-10years	38	31.67
11-20	52	43.33
21-30	23	19.17
31-40	4	3.33
41-50	3	2.50
Major occupation		
Crop farming	20	16.67
Animal husband	45	37.50
Mixed farming	49	40.83
Trading	3	2.50

Source: field survey, 2011

**Table 2: Availability of infrastructural facilities to rural dwellers (n=120)**

S/N	Infrastructures	Frequency	%
1	Road	120	100
2	Storage facilities	6	5.00
3	Electricity	85	70.83
4	Banking services	6	5.00
5	Health centres	56	46.67
6	School	100	83.33
7	Portable water	18	15.00

Source: field survey, 2011

**Table 3: Effectiveness of rural infrastructural facilities**

S/N	Infrastructures	Functioning		Partially functioning		Not functioning		mean
		Freq.	%	Freq.	%	Freq.	%	
1	Road	80	66.67	25	20.83	15	12.50	1.54
2	Portable water	6	33.33	9	50.00	3	16.67	1.17
3	Storage facilities	-	-	4	66.67	2	33.33	0.67
4	Electricity	26	30.59	51	60.00	8	9.41	1.21
5	School	82	82.00	6	6.00	12	12.00	1.70
6	Banking services	1	16.67	3	50.00	2	33.33	0.83
7	Health centres	1	20.00	2	40.00	2	40.00	0.60

Source: field survey, 2011

**Table 4: Factors Limiting the effective use of rural infrastructural facilities (n=120)**

S/N	Statements	Frequency	percentage
1	Lack of technical know-how of the facilities	87	72.50
2	Negligence of appropriate government agencies to render services to rural dwellers	110	91.67
3	Non-availability of needed infrastructural facilities	98	81.67
4	Long distance of infrastructural facilities to most rural dwellers	111	92.50
5	Inability of rural dwellers to pay for rendered services	110	91.67
6	Non-availability of qualified and experienced professionals in rural areas	117	97.50
7	Negligence of government agencies to maintain rural infrastructural facilities	111	92.50
8	Lack of maintenance culture among our people	81	67.50
9	Problem of vandalisation of public facilities by the people	68	56.67

Source: field survey, 2011

**Table 5: Distribution of rural dwellers on the effect of poor infrastructural facilities on agricultural productivity (n=120)**

S	Effects of poor infrastructural facilities	Freq	%
1	Reduced output as a result of poor health	104	86.67
2	Spoilage of perishable products as a result of poor access to road	111	97.50
3	Reduced labour as a result of youth migration to urban cities	98	81.67
4	Lack of access to inputs	43	35.83
5	Inability to maintain existing facilities provided	111	97.50

Source: field survey, 2011

**Table 6: Association between rural dwellers' socio-economic characteristics and availability of rural infrastructural facilities**

Variables	$\chi^2$	Df	p-value	Decision
Occupation	44.20	8	0.62	Not Significant
Religion	10.36	2	0.58	Not Significant
Marital status	20.29	3	0.04	Significant
Sex	3.87	1	0.03	Significant

Source: field survey, 2011

Health centres were also reported to be available to close to half (46.67%) of the rural dwellers. This coupled with the risks associated with farming operations is likely to hamper rural dwellers' lives. Storage facilities (5%), banking (5%) and portable water (15%) were reported to be non-available to majority of the rural dwellers. With the non-availability of storage facilities to rural farmers, a great deal of agricultural produce can easily be lost due to their perishability nature. Also, since banking services are not rendered to rural dwellers, credit facilities are not likely to be available to rural farmers and this will limit agricultural productivity in the study area. Water-borne diseases can even be easily spread as a result of non-availability of portable water to most rural dwellers. This can further result in serious complications and even death of infants and mothers, thus, hindering sustainable development of rural areas.

#### **Effectiveness of available rural infrastructural facilities to rural dwellers**

Table 3 reveals that not all the rural infrastructural facilities available in the study area are effective (able to function as they ought to). As further displayed in Table 3, the highest proportions (66.67% and 82%) of the rural dwellers adjudged road and schools as functioning respectively while portable water (50%), storage facilities (66.67%), electricity supply (60%), banking services (50%) and health centres (40%) were rated as partially functioning in the study area as opined by the majority of the rural dwellers. The partial functioning of most of the sensitive rural infrastructural facilities will prevent the transformation of rural areas into a better and enabling environment for increased agricultural production. Educational facilities (school) ranked first followed by road and electricity in terms of the effectiveness of the facilities.

#### **Factors limiting the effective use of rural infrastructural facilities**

All the items provided for in Table 4 were reported by majority (at least 56.67%) of the rural dwellers as the limiting factors in the effective use of rural infrastructural facilities in Abeokuta north local government area of Ogun state. The limitations of these factors in the effective utilization of the facilities vary with absence of experienced professionals in rural areas (97.50%) posing as the most serious limiting factor. This was followed by long distance of infrastructural facilities to rural dwellers (92.50%) and negligence of government agencies to maintain available facilities (92.50%). The least limiting factor to the effective use of infrastructures in rural areas is the problem of vandalisation of public facilities.

#### **Perceived effects of poor rural infrastructural facilities on agricultural productivity**

Table 5 shows that Reduced output (86.67%), spoilage of perishable agricultural produce (97.50%), reduced labour (81.67%) and inability to maintain existing facilities (97.50%) were the effects of poor infrastructural facilities in the study area. Poor health of rural dwellers due to non-availability of health personnel as well as lack of well-equipped health centres in the study area will lead to fatigue, drowsiness and loss of man-hour. All of these ultimately result in reduced output of agricultural crops and animals. Also, lack of proper storage facilities will lead to loss of produce due to spoilage of perishable agricultural goods. Due to the unconducive living environment in rural areas as a result of epileptic electric power supply and absence of health centres, rural youths tend to move to urban cities in search of "greener pasture". This ultimately have effect on the availability of young persons to serve as labour for agricultural activities in rural areas. The resultant effect of all these is reduced agricultural productivity and income as well as failure to develop the rural areas.

**Hypothesis testing: There is no significant association between rural dwellers' socio-economic characteristics and availability of infrastructural facilities to them**

Table 6 shows that significant associations exist between the marital status [ $\chi^2 = 20.29$   $p < 0.05$ ], sex [ $\chi^2 = 3.874$   $p < 0.05$ ] and availability of infrastructures. This implies that the availability of rural infrastructural facilities to a rural dweller is a function of both his/her sex and marital status. From this study, more men than women had most of the rural infrastructural facilities being available to them. The same thing goes for more married persons than single persons.

**Conclusion and Recommendation**

Findings from this study revealed that rural dwellers were predominantly men with mean age of 42.5 years. They also had at least primary education with as high as one-third having post-secondary education. They were predominantly farmers who engaged in mixed farming. Roads were reported to be available to all the rural dwellers in Abeokuta north while electricity and schools were available to high proportions of the rural dwellers. Other rural facilities such as portable water, banking services and health centres were not available to most rural dwellers. Roads and schools were also the only rural infrastructural facilities reported to be adequately functioning in the rural areas while portable water, electricity and banking services were not functioning effectively. Reduced output, spoilage of agricultural produce, reduced labour caused by rural-urban migration and inability of rural dwellers to maintain existing available infrastructural facilities are the effects of poor facilities on agricultural productivity.

This study recommends that efforts should be made towards the provision of portable water, proper storage facilities, establishment of microfinance banks and community banks and health centres and facilities in rural areas of Abeokuta north

local government. The general populace should also take the facilities as their own and therefore should cultivate good maintenance culture towards these facilities in order to ensure continuous use and thus, sustainable rural development via agricultural growth and development.

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