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SEASONALITY IN POVERTY LEVEL OF RURAL FARMING HOUSEHOLDS IN OYO STATE NIGERIA

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ABSTRACT

The study examined poverty level among farmers in rural areas of Oyo State, Nigeria. A multi-stage sampling technique was used in collecting data from 180 farming households during the rainy and dry season. The analysis shows that the incidence of poverty is 32.7% and 40.6% during the rainy and dry seasons, respectively. Poverty rate is higher among older farmers with low level of education who are subsistence farmers with large members and who had no access to food preparation and modern faming technology. Poverty indices are higher during dry season than rainy season. To reduce poverty among farmers, farming households should be targeted with education, birth-control programmes, time saving technology and cash transfer programs to bridge the dry season consumption deficit.

Keywords: poverty, rural farming households, seasonality, Oyo State, Nigeria.

INTRODUCTION

The population of the developing world is still more rural than urban. About 3.1 billion people, or 55% of the total population, live in rural areas. Despite massive progress in reducing poverty in some parts of the world over the past couple of decades - notably in East Asia- there are still about 1.4 billion people living on less than US$1.25 a day, and close to 1 billion people suffering from hunger. At least 70% of the world's very poor people are rural who rely most on farming and agricultural labour (IFAD, 2011). Rural poverty results from lack of assets, limited economic opportunities and poor education and capabilities, as well as disadvantages rooted in social and political inequalities. Evidence in the latest Millennium Development Goals Report (MDGR, 2009) suggests that most of the major advances in the fight against extreme poverty since the adoption of the MDGs in 2000, which saw the number of people living in extreme poverty declining from 1.8 billion in 1990 to 1.4 billion in 2005 are most likely to have been stalled by the recent global food crisis with an estimated 55-90 million more people added to the World extremely poor over what was anticipated in 2009. Likewise, the encouraging trend in the eradication of hunger since the early 1990s was reported to have been reversed in 2008, largely due to higher food prices, with the prevalence of hunger in the developing regions now on the rise, jumping from 16% in 2006 to 17% in 2008 (MDGR, 2009). World Bank reported that in absolute term the number of poor people in developing countries nearly doubled between 1981 and 2005 (World Bank, 2010).

The situation in the sub-Saharan Africa (SSA) has been the most deplorable: not only the incidence of extreme poverty is much higher in the region (50.7% of the populace in 2005) than elsewhere, but the region was also reported to have recorded about 100 million more extremely poor people in 2005 than in 1990 unlike the experience in other regions where both the incidence of extreme poverty and the actual number of the extremely poor fell between 1990 and 2005 (MDGR, 2009). In essence, one can conclude that SSA contributed more to the extreme poverty in the World more than any other region.

Nigeria is one of the most resource-endowed nations in the world. But socio economically, Nigerians are also among the poorest in the world (Etim *et al*., 2009). Hence, there is a persisting paradox of a rich country inhabited by poor people, which has been the subject of great concern for many years, but more especially in the last decade. NBS (2007) revealed that about 69 million people were living in poverty in 2004, which represents 54.4% of the Nigerian population. Sectoral disaggregation showed urban poverty rate of 43.1% and rural poverty rate of 63.8% in the same year. Incidentally, the rural sector is the predominant sector in the Nigerian economy. It plays some fundamental roles, which include job creation at relatively low unit costs, and thus remains the most important growth priority of the country. Some of the factors which help in perpetuating poverty in the country are inadequate rural infrastructure - that limits income-earning opportunities, environmental and land degradation problem, bad macroeconomic policy leading to market imperfection, low productivity of the farmers and political instability have been identified as major causes of poverty in Nigeria. These factors contribute to reducing the income of an average household thereby perpetuating the poverty cycle (IFAD, 2011).

With only about three years away from the target date for achieving the MDG goal on the reduction of poverty and hunger, the rural poverty situation remains a daunting challenge. The rate of poverty reduction achieved in the past twenty-one years, if any, is far below what is required to achieve the MDG poverty reduction goal in the country.

Evidences abound that among the rural poor, the farming households are poorer. For instance, Federal Office of Statistics (FOS) (1999), Olaniyan and Bankole (2005) reveals that in 1980, 1985, 1992, 1996 and 2004,

the incidence of poverty were 32.1, 43.1, 38.7, 72.3 and 64.4 percent, respectively for Nigerian farming households and 16.3, 37.2, 36.0, 58.0 and 59.2 per cent for their non-farming counterparts, respectively. This shows that poor families are more in farming households than in non-farming households over the period of years considered for Nigeria. The poverty level rises during the dry season especially at the beginning of the rains. Usually, this period is characterized by hunger and malnutrition leading to sickness, inability to do hard work on regular basis and absenteeism from work which have negative impact on farmer's quality of life as well as their productivity (World Bank, 1975). Hence, most of poverty discussions in Nigeria are linked with agriculture (Canagarajah *et al*., 1995; World Bank, 1996; Okumadewa, 1997, 2002; Omonona, 2001; Ayoola et *al*., 2000; Alayande and Alayande, 2004; Apata, 2006; Apata *et al*., 2010). This is because agriculture still remains the mainstay of the Nigerian rural economy. The bulk of agricultural production in Nigeria takes place in the rural areas. About 90% of the country's food is produced by small-scale farmers cultivating tiny plots of land who depend on rainfall rather than irrigation systems (IFAD, 2007).

With the recognition by the Nigerian Government of the multi-sectoral and multi-dimensional nature of poverty, a number of coordinated programmes and policies had been formulated to combat poverty in all its ramifications. The Federal Government of Nigeria has also taken a number of measures to reduce the level and incidence of poverty in Nigeria and among farming households in particular. Some of the recent measures and programmes include the National Poverty Eradication Programme (NAPEP), the National Economic Empowerment and Development Strategy (NEEDS) (NBS, 2006). The procurement of 12 billion Naira worth of fertilizer between years 2000 - 2003 at 25% subsidy to farmers was especially targeted at reducing poverty among the farming households. In 2005, the sum of 50 billion naira was set aside as credit to farmers at a concessionary interest rate of eight per cent. Others are National Fadama Development project (NFDP), Community based Poverty Reduction Project (CPRP), Local Empowerment and Environmental Management Project and Community and Social Development Project (CSDP which upshot from LEEMP and CPRP).

Despite all these, the poverty incidence in the rural areas of the country still remains high (HDR, 2006; 2007/2008). The reason for this may not be far- fetched, it may be because the data used in poverty analysis in the country has been cross sectional data neglecting the fact that the country is agrarian, agricultural production is still rain-fed and that poverty level differs by season of the year. To this end it then becomes imperative to have a good look at poverty level of farmers in rural areas during rainy and dry seasons in other to evolve strategies that will reduce poverty all year round to a tolerable level. Therefore, this study examined poverty among rural farming households in Oyo State at two different seasons of the year.

MATERIALS AND METHODS

Area of study

The study area is Oyo State which is an inland state in southwest, Nigeria, with its capital in Ibadan. The state was chosen because it is the most agrarian state out of the six states in southwest geopolitical zone. It is bounded in the north by Kwara state in the east by Osun state in the south by Ogun state and in the west partly by Ogun State and partly by the Republic of Benin. Oyo State covers approximately an area of 28, 454 square kilometers and ranked 14th by size among the states in Nigeria. Population is 5, 591, 589 (NPC, 2006). The state consists of thirty three Local Government Areas (LGAs). The Climate is equatorial notably with dry and wet seasons with relatively high humidity. The dry season lasts from November to March while the wet season starts from April and ends in October. Average daily temperature ranges between 25 degrees Celsius and 35 degrees Celsius, almost throughout the year. Agriculture is the main occupation of the people of Oyo State. The climate in the state favours the cultivation of crops like maize, yam, cassava, millet, rice, plantains, cocoa, palm produce, cashew etc.

Data collection and sampling procedure

Primary data were used for this study. Data were collected through the aid of a well-structured questionnaire. The survey instrument was designed to collect information on household composition and other socioeconomic data, including detailed income and expenditure data. Data were collected from the same farming households in August (rainy season) and December (dry season) following (Wodon and Beegle, 2006). Multi-stage sampling technique was used in selecting the representative farming households that were used for this study. The first stage of the sampling procedure was the purposive selection of Oyo from southwest, Nigeria. The next stage was the random selection of two out of eight agricultural zones in the state. The two zones selected are Ogbomoso and Ibadan. The next stage involved the selection of five villages from each of the selected zones to give a total of ten villages. The list of farming households from the villages selected was obtained from state's Agricultural Development Projects (ADPs). The fourth and final stage was the random selection of representative farming households from each of the ten villages. A total of 200 households were selected for the two seasons. However, a total of 180 farming households were found useful for the analysis.

Methods of data analysis

Both descriptive statistics and econometric (FGT) poverty measures were employed for data analysis.

P-alpha poverty measures

P-alpha measures proposed by (Foster *et al*., 1984) were used in analyzing poverty among sampled households. They include the head count index (Po),

poverty gap index (P_1), and poverty severity index (P_2). The general formula for this class of poverty measures depends on a parameter α which takes a value of zero for the head count, one for the poverty gap and two for poverty squared gap in the following expression:

$$p_\alpha = \frac{1}{n}\sum_{i=1}^{q}\left[\frac{z - y_i}{z}\right]^\alpha$$

Where n = the population size, q = the number of households below the poverty line, y_i = mean per capita expenditure of household i, Z = absolute poverty line, defined as an estimated per caput cost of a basket of food and nonfood consumption, required to supply an average member of the farming household the daily dietary calorie requirement necessary to live an healthy life as defined by FAO/WHO/UNU (2008); and a 20% mark-up for non-dietary food expenditure.

RESULTS AND DISCUSSIONS

Household Socio-economic characteristics

Table-1 summarizes selected socio-economic characteristics derived from the sampled households. The analysis reveals that the households are mainly male headed (85%) while the mean age of the household head was about 61.3 years. The implication of this is that farmers are still within the active productive age group in which their farm productivity should be relatively high ceteris paribus. The mean years of schooling stood at about 5. Generally, there is a low level of education among the rural farming households and this has implications for their income-earning capacity as the respondents may lack the required skill to secure a well-paid job. Also, farmers may find it difficult to adopt modern improved techniques of production or operation because of their lack of education. About 84.0% of the respondents are married (living with partners). The mean household size stood at 5 members. The household size in the study area is still large this however compares well with 4 members reported for the state by (NBS, 2005). Larger household size especially with high percentage of dependents increases household poverty. Households that cultivated less than 1.5 hectares of land was less than 35.0% while majority of the households (46.0%) cultivated between 1.6-3.0 hectares and the remaining 20.0% cultivated 3.0 hectares or more. The average farm size stood at 2.3 hectares. The mean farm size compares well with the national average of 2.0 hectares as reported by (NBS, 2005). This signifies that farmers in the study area are small scale farmers. Only about 32.0% of the households in the study area have access to farm machineries. This is a testimony to the fact that agricultural production in the study area is still at subsistence level. Majority of the farming households in the study area (62.2%) had no access to food processing machine. This definitely increased the time allocated to food preparation which is a non-monetized activity, hence increase in poverty rate. Surprisingly, average total monthly income stood at ₦14008.49 during the rainy season while it was ₦13015.16 during the dry season. The monthly income is rather too low and it is even lower during the dry season than rainy season. This may explain why poverty is higher during dry season than rainy season.

Table-1. Socio-economic characteristics of respondents.

Characteristics	Percentage
Gender of household head	
Male	85.2
Female	14.8
Age in years	
<40	8.9
40-49	20.0
50-59	28.9
>59	42.2
Years of schooling	
0	45.6
1-6	40.0
7-12	10.0
>12	4.4
Marital status	
Married	83.9
Single	16.1
Membership of cooperative society	
Yes	36.7
No	63.3
Household size	
2-5	80.0
6-9	17. 8
>9	2.2
Farm size (hectares)	
<1.6	34.4
1.6-3	45.6
>3	20.0
Land ownership	
Own land	76.0
Landless	24.0
Access to farm machineries	
Yes	32.2
No	67.8
Access to food processing machine	
Yes	37.8
No	62.2
Total monthly income during rainy season (₦)	
<10000	10.0
10000-20000	81.1
20100-30000	7.8
>30000	1.1
Total monthly income during dry season (₦)	
<10001	26.7
10001-20000	70.0
20001-30000	2.2
>30000	1.1

Source: Field Survey, 2009

Farming household poverty level

Table-2 shows the result of farming household expenditure on both food and non- food items during rainy and dry seasons. As shown in the Table, during the rainy season, the farming households' monthly MPCHHE is ₦6081.01 while the poverty line, which is 2/3 of MPCHHE, stood at ₦4054.00 with the poverty incidence of 32.7%. During the dry season however, MPCHHE is ₦5415.34 while the poverty line was ₦3610.00 with poverty incidence of 40.7%. The Figures are somewhat lower than 43% reported by (NBS, 2005) for south west zone. This is understandable because Oyo State has the lowest poverty incidence in the zone as reported by (NBS, 2005). However, the poverty incidences obtained during the two seasons showed that poverty is still high among farmers and that they are poorer during the dry season than raining season. This is in agreement with FOS, (1999) and IFAD (2007) which reported that poverty is more rampant among farmers during the dry season.

Table-2. Average monthly expenditure of farming households on food and non- food items.

Item	Rainy season average monthly percentage expenditure(₦) of total		Dry season average monthly percentage expenditure(₦) of total	
Food	15294.90	62.7	12275.49	63.2
Clothing and foot wear	1619.30	6.6	1080.67	5.6
Rent	85.07		85.07	0.4
Health care	935.08	3.8	637.37	3.3
Children education	2093.33	8.6	1412.40	7.3
Fuel and lightning	792.19	3.3	600.87	3.1
Transportation	996.12	4.2	1013.80	5.1
Other expenditure	2640.17	10.3	2351.59	12.1
Total non-food	9104.27	37.3	7164.09	36.9
Total (Food + Non-Food)	24399.17	100	19439.58	100
Mean per capita household expenditure (MPCHHE)	6081.01		5415.34	
Poverty line (2/3 MPCHHE)	4054.00		3610.04	

Source: Field Survey, 2009

Analysis of household poverty

In this section, household poverty status was analyzed by decomposing it using three indicators - prevalence of poverty (P_0), poverty depth (P_1) and severity of poverty (P_2). Table-3 shows the result of these indicators according to some selected household's characteristics. The result shows that the prevalence of poverty is higher among older female headed households who are not members of farmers' cooperative group and this is higher during the dry season than rainy season. This implies that there are more income-earning opportunities for younger male farmers who are members of cooperative society. The results indicate that poverty rate is higher among small-scale farmers-those cultivating less than 2 hectares of land. This is also differs by season of the year. It means that large scale farmers have more income, ceteris paribus than small scale farmers and hence higher consumption.

Also, poverty level increases with increase in family size. All the farming households whose population size is six persons or more are poor. This could be due to the fact that large household size is synonymous with more dependants' who contribute little or no income to the household. The income is rather expended on the children's schooling as well as feeding, clothing and on other expenses of the children and the seniors. This leads to reduction in MPCHHE with its attendants increase on poverty level. Poverty is more prevalent among farmers who had no access to modern food preparation and farming technologies. The implication of this is that farmers with access to these technologies are able to free more time for non- farm income earning activities which translated into more earnings and hence lower poverty rate.

Table-3. Prevalence, depth and severity of poverty by season of the year according to household characteristics.

Variables	Rainy season			Dry season		
	P_0	P_1	P_2	P_0	P_1	P_2
Gender of the household head						
Male	0.100	0.002	0.000	0.161	0.007	0.001
Female	0.362	0.018	0.002	0.597	0.029	0.003
Age in years						
<30	0.111	0.004	0.000	0.500	0.049	0.006
30-39	0.147	0.003	0.000	0.397	0.016	0.001
40- 49	0.296	0.012	0.001	0.210	0.010	0.010
>49	0.492	0.026	0.002	0.175	0.003	0.001
Years of schooling						
0	0.609	0.029	0.004	0.667	0.111	0.019
1 - 6	0.133	0.007	0.001	0.455	0.034	0.003
7 -12	0.067	0.001	0.000	0.319	0.011	0.001
>12	0.000	0.000	0.000	0.250	0.018	0.002
Marital status						
Married	0.217	0.020	0.003	0.385	0.023	0.002
Single	0.155	0.012	0.001	0.296	0.017	0.001
Membership of cooperative society						
Yes	0.262	0.008	0.000	0.333	0.019	0.001
No	0.371	0.001	0.002	0.389	0.001	0.010
Household size						
2 - 5	0.122	0.003	0.000	0.321	0.015	0.010
6 -9	1.000	0.112	0.015	1.000	0.242	0.018
>9	1.000	0.048	0.004	1.000	0.842	0.012
Farm size						
<1.5	0.500	0.037	0.004	0.548	0.031	0.003
1.5 - 3	0.360	0.010	0.001	0.197	0.006	0.000
>3	0.170	0.011	0.001	0.111	0.002	0.000
Access to farm machineries						
Yes	0.172	0.007	0.000	0.294	0.011	0.001
No	0.364	0.018	0.002	0.410	0.017	0.001
Access to food processing machine						
Yes	0.214	0.015	0.002	0.294	0.013	0.001
No	0.394	0.016	0.001	0.350	0.017	0.002

Source: Field Survey, 2009

CONCLUSIONS

Despite the current effort by government to eradicate rural poverty in the country, poverty still remains a serious problem in the study area given that about 32.7 per cent and 40.7 per cent of farming households in the study area during the rainy season and dry season respectively were still below the poverty line. The poverty depth which was 0.22 for rainy season 0.36 for dry season implies that the cash transfer needed to lift the poor farming households out of poverty represents 22 per cent and 36 per cent of the poverty line for rainy season and dry season respectively. The poverty level is more endemic during the dry season. It was on the basis of this, I recommended that government and non-governmental organizations show more commitment to poverty

reduction programmes and put the issue of seasonality in poverty into consideration.

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