

Explaining Poverty and Inequality by Income Sources in Rural Nigeria

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Abstract: *This paper analyses poverty and income inequality among farm households in rural Nigeria. The incidence of poverty was highest (65.70 per cent) among Remittance Income Earners (RIEs) followed by other sources of income (58.0 per cent). It was lowest (34.1 per cent) among Non-farm Income Earners (NIEs). RIEs contributed most (61.8 per cent) to rural poverty based on FGT(2) and was followed by Others sources (59.5 per cent). NIEs contributed the least (32.8 per cent). The results also reveal the relative importance of specific income sources to income inequality and the various determinants of income inequality in rural Nigeria. From the results, the overall Gini index of income inequality is 0.39 indicating low income disparity among rural dwellers. While Agricultural Employment is income inequality reducing (45.3 per cent), followed by NIE (55.3 per cent), Remittances Income Earning (RIE) increases inequality (67.1 per cent). Farming activities and non-farm employment therefore hold the potentials for boosting income of the rural poor in Nigeria.*

Keywords: *Poverty, inequality, income sources, rural Nigeria*

I. Introduction

Extreme poverty and hunger are major problems faced by majority of the countries in Sub-Saharan Africa including Nigeria. Past governments between 1970s and now have mounted several projects that were meant to alleviate poverty with billions of naira spent on these projects. Yet Nigerians have remained poor and hungry. The International Fund for Agricultural Development (IFAD) (2007) noted that “despite its plentiful resources and oil wealth, poverty is widespread in Nigeria. The situation has worsened since the late 1990s, to the extent that the country is now considered one of the 20 poorest countries in the world. Over 70 percent of the population is classified as poor, with 35 percent living in absolute poverty”. The Millennium Development Goals (MDGs) was adopted in 2000 and the target date for achieving the goals is 2015. Nigeria is a party to the adoption of MDGs.

The millennium development goals are a platform for actions that will make for sustainability. It provides direction and focus for governments and various educational settings to improve the well being of families. In effect, poverty eradication strategies are the main thrust of MDGs.

1.1 Rural Poverty in Nigeria

IFAD (2007) reported that poverty in Nigeria tend to spread evenly across the country but is worse in some zones such as the northern area bordering Niger which is arid. Poverty is especially severe in rural areas, where social services and infrastructure are limited or non-existent.

The link between poverty, hunger and human development is very significant. Indeed, poverty and hunger are the exact opposite of human development. All the attributes of human development are deprived by poverty. Poverty is lack of job. Poverty is hunger, poor health, low education, low self esteem, lack of adequate housing, lack of land, inability to cloth oneself/family low economic status. Maduagwu (2007) concluded that poverty creates frustration, loss of hope/prospects and value for life, loss of meaning for life and purpose of living. It also creates disillusionment about morality, poverty makes people compromise on moral values or abandon moral values completely. Okafor (2004) affirmed that the success or failure of any government is measured by the degree of attainment of human development or the level of poverty prevalent among the people. On this note, Nigerian government is faced with the challenge of so many people wallowing in abject poverty. Poverty is a challenge to all and a call to action by the rich as well as the poor to change the nation so that people will have enough food to eat, roof over their heads, suitable clothes, access to quality education, good health facilities, protection from violence and having a voice in what happens in their communities. “It is appropriate for government to ensure their citizen’s active participation in formulating and implementing projects of which they are supposed to be the beneficiaries” (Maduagwu 2007). Commenting on the many faces of poverty, IFHE (2003) postulated that “poverty is not only inadequate income; it is also the lack of access to basic services and amenities, the lack of security and exclusion from community life. The recommendation is to focus efforts to uproot the causes of poverty and to achieve the involvement of the poor themselves taking part in the elaboration of policies which concern them”.

1.2 Agricultural Employment

The Nigerian economy is characterized by a large rural, mostly agriculture based, traditional sector, which is home to about three-fourths of the poor, and by a smaller urban capital-intensive sector, which has benefited most from the exploitation of the country's resources and from the provision of services that successive governments have provided. Most of the rural income poor are small subsistence farmers. Such farmers accounted for 73 per cent of the rural African population and in some countries for as much as 90 per cent of the poor (FOS, 1999).

In Nigeria, it was reported that even though poverty is more prevalent in the rural areas, the proportion of farmers in the population of those who live below poverty line has declined progressively from 86.6 per cent in 1985 to 67.4 per cent and 33.3 per cent in 1992 and 1997, respectively (NBS, 2009). The occupational dimension of the poverty incidence as reported by FOS (1999) shows that the agricultural sector is most affected by poverty. The rise in poverty in the agricultural sector in 1996 is explained by the abandonment of rural agricultural policies of the SAP period. Although there is relative decline in the percentage of poverty among people in the agricultural sector in 1996, there is still a concentration of poverty in the sector. Thus, the challenge for Nigeria is not to improve one sector or region at the expense of another, or to introduce policy distortions and inefficiencies in resource allocation to benefit one group, which in the past has led to increased poverty for others. The challenge is to adopt growth and social service oriented policies (i.e., public expenditure, revenue and investment – budget) that will enable all its inhabitants to improve their welfare (Obi, 2007).

1.3 Non- Farm Employment

Even though agriculture remains the main source of income and employment in most rural areas in developing countries, the rural non-farm sector has gained increasing importance over the past decades. Many small and landless farmers undertake non-farm work in the slack season. Construction and irrigation works are common examples but repair and maintenance jobs which can be postponed to the slack season are important as are a number of processing, service and commercial activities that expand after the harvest while the products of a number of manufacturing activities can be stocked. Within manufacturing, most rural employment is accounted for by four broad groups of activities which are: food processing, textiles and weaving apparel; wood including sawmilling, furniture making and general carpentry; and metal entailing blacksmithing, welding, fabrication and the making of tools and equipment. A particular noticeable feature of manufacturing activities in rural areas (as elsewhere) is their diversity, both with regard to manufacturing technique used and with regard to the type and quality of the final product. In Africa, for example, the rural metal working sector is largely confined to blacksmithing and welding. In irrigated regions of the Pakistan Punjab and some Indian states, the sector is much more advanced and includes small scale manufacturing of diesel and electrical tubewell pumpsets, an activity that has quickly become an important source of rural employment. At the start of the new millennium, roughly 25 per cent of rural full-time employment and 35 to 40 per cent of rural incomes was attributed to the rural non-farm economy in developing countries (Haggblade et al., 2002). Many smallholder farm households complement their farm income with income from non-farm sources. This strategy has several advantages, especially for poorer households. Their agricultural resources are often too limited to allow the productive use of all household labour, and non-farm activities offer an alternative remunerative allocation, especially during the lean agricultural season. Moreover, income from agriculture is subject to high risk due to climatic factors, price fluctuations, pests and diseases. Earnings from non-farm employment may help to buffer the resulting income fluctuations and improve livelihood security (Lanjouw and Lanjouw, 2001). These potential advantages for the rural poor do not necessarily imply that this group benefits most from a growing non-farm economy. In much of Africa, the share of non-farm income in total income is higher for wealthy households than for the poor due to entry barriers (Barrett et al., 2001; Ellis and Freeman, 2004; Reardon et al., 2000). As a result, the non-farm economy does not reduce poverty but increases inequality instead. Evidence for Ethiopia is, however, mixed: using a sample of rural households spread over the country, Jayne et al. (2003) finds that the share of non-farm income is highest for the poor whereas Woldehanna (2000) and Block and Webb (2001) note that non-farm employment worsened income distribution in a case study of Tigray in northern Ethiopia. These contradictory results are not inconceivable, as the determining factors, such as the development of markets and institutions and the biophysical environment, can vary strongly within a single country. Reardon and Taylor (1996), for example, observe that non-farm income had an unequalizing effect in northern Burkina Faso (a poor and risky agricultural zone) and an equalizing effect in southern Burkina Faso (a favorable agro-climatic zone with dynamic agriculture). In most rural areas, agriculture cannot provide sufficient livelihood opportunities. Rural non-farm employment can therefore play a potentially significant role in reducing rural poverty. Several studies point out the importance of non-farm enterprises to rural income. For example, Reardon (1997) documented small enterprise studies that show that the typical rural household in Africa has more than one member employed in a non-farm enterprise. He also finds rural non-farm income

shares in Africa as ranging from 22 per cent to 93 per cent. Newman and Canagarajah (2000) pointed to a large body of recent research that shows that Rural Non-farm (RNF) sector is now thought to be more dynamic and important than earlier thought.

Rural non-farm income is usually reinvested in improved agricultural technology. Empirical evidence shows that non-farm income is indeed the main source of investment for raising farm productivity (Ellis and Freeman, 2004). The contribution of non-agricultural activities to household income in the developing world in general and Sub-Saharan Africa (SSA) in particular is substantial. Huggblade et al (2005) observe that local non-farm income contributes between 30 to 40 per cent of rural household incomes in developing world. In Nigeria, recent studies have shown that non-farm activities account for over 50 per cent of rural income (Awoyemi, 2004; Babatunde and Qaim, 2008).

Berg and Kumbi (2006) on Ethiopia report that majority of the people in the Oromia region are subsistence-oriented smallholder households. Labour markets are virtually absent and most households depend on self-employment on or off their farm using own labour resources. The proportion of farmers with access to credit facilities is very small. The productivity of agriculture is low and risky and the lion's share of produce is used for consumption. These circumstances imply that market prices alone do not govern the allocation of household resources to the different productive activities in the absence of insurance markets. That is, the household does not simply maximize profits, and production and consumption decisions are non-separable. What does this imply for the relation between poverty, inequality, and non-farm income? That is, who will engage more in the non-farm economy? Poor households are those with low asset endowments. Most of the capital in the study region is agricultural capital, as this is the dominant productive sector and most non-farm activities are capital intensive. This farm capital plays a dual role for participation in the non-farm sector. First, more agricultural capital implies a higher liquidity which facilitates engagement in the non-farm sector. Second, more agricultural capital implies a higher productivity of labour and liquid capital in agriculture and thus a lower use of these resources in the non-farm sector. Hence, there are two opposing factors at work (Reardon et al., 2006). On one hand, liquidity constraints resulting from low asset levels may inhibit the poor from participating in the non-farm sector whereas the rich have sufficient access to liquidity to satisfy not only the requirements of agriculture but also of non-farm production. On the other hand, poverty may push households into the low-wage non-farm sector, as they cannot profitably employ all family labour in agricultural production. The presence of income risk in agriculture strengthens this push effect because the poor generally display more risk-averse behaviour than the rich. If farm and non-farm income are not perfectly positively correlated which is likely to be the case, diversification to non-farm activities will decrease income variability and thus, be most attractive to the poor. Depending on which factor is more important—the liquidity constraint or the labour surplus or the combination with risk aversion—either the poor or the rich will engage more in the non-farm sector. If it is the poor who participates more because they are pushed out of agriculture, non-farm income will decrease inequality. If it is the rich who participates more because they have the means to do so, non-farm income will increase inequality. In Nigeria, even among people in regular or self-employment, those living below the poverty line account for about 30.0 per cent and 25.0 per cent, respectively (Obi, 2007).

1.4 Wage Employment

Wage income includes all activities undertaken by persons in which the income received is in the form of a wage paid out by an employer; in other words, it includes earnings from dependent activities. Wage employment consists of employment compensation in cash, kind and bonuses.

Although skill acquisition is a prerequisite for gainful employment but the civil service, corporate establishment and trading (or informal) sector which accounted for 11.1 per cent and 26.3 per cent of the poor in 1985 and 1992, respectively, now harbour about 52.5 per cent. This reflects the impact of falling real wages and inaccessibility of social services on the living standard of the people. With an adult literacy rate of 57 per cent in 1997, education indexes show that about 43 per cent of Nigerians are illiterates. The consequences are poor income, inadequate skilled manpower and low productivity – and hence the persisting high level of poverty in the country. The high incidence of poverty among educated Nigerians reflects problems of unemployment and low wage levels (Obi, 2007). A defining characteristic of both the urban and rural middle class in developing countries is permanent, well-paying wage employment (Banerjee & Duflo (2008). Despite this, in rural areas the labour market, at least agricultural wage employment, has often been negatively perceived as a refuge sector for the rural poor (Lanjouw, 2007). Further, the rural labour force typically grows at a faster rate than the agricultural labour force limiting the ability of the agricultural sector to absorb rural labour (World Bank, 2008). This raises questions about the potential for agricultural labour as a pathway out of poverty. One alternative to looking for work in rural areas is migration to cities with greater potential for steady employment. There is evidence that the poor have indeed been migrating to urban centres at a rate faster than the rest of the population, although the number of poor in rural areas remains substantially higher than in urban areas (Ravallion, Chen and Sangraula, 2007). Another alternative to agricultural wage employment is the rural non-

agricultural labour market. Recent studies show that the rural non-agricultural economy has increased in importance around the developing world in terms of the share of rural household income it provides. This is somewhat less true in African countries, and more generally in countries with lower levels of economic development (FAO, 1998; Reardon, Berdegue and Escobal, 2001; Winters et al., 2008). What is less clear is the role that rural non-agricultural wage activities play in providing a clear exit out of poverty for rural households and whether non agricultural wage employment is truly so distinguishable from agricultural wage activities or at what point in the development process this occurs. The key to participating in high value wage employment activities appears to be education. Along with influencing overall participation, education is closely linked to high wage employment.

1.5 Remittances

Remittances are the funds that migrants transfer from their destination country to their country of origin. They constitute a crucial component of rural households' incomes and a key element of the continued links between migrants and their home. Such transfers may be made on a regular basis and/or sporadically in the event of emergencies or special events by using both formal channels-such as banks and remittance agencies and informal channels such as the personal transport of items by the migrants themselves or migrating friends and relatives. In recent times, workers remittances have become a major source of external development finance. It is estimated that migrant remittance flows to developing countries now surpass official development aid receipts in many developing countries (Rutha, 2005). Migrant remittances are currently ranked as the second largest source of external inflows to developing countries after foreign direct investment (FDI). Over the last decade, Nigeria has been recorded as the single largest recipient of remittance in SSA (Maibo and Rutha, 2005). Nigeria receives between 30 and 60 per cent of remittance to the region (Orozco, 2003). Remittance to Nigeria from various parts of the world was USD 2.8 billion in 2004 (World Bank, 2004), ranking second only to oil exports as a source of foreign exchange earnings. The majority of remittances in Nigeria are person to person flows mainly from the United States, The United Kingdom, Italy and other Western European countries.

Remittances include current transfers from other households and an imputation of rent-free or subsidised accommodation by another household. Finally, the "other income" category includes a mixture of transfer payments (social security, pension receipts, private retirement benefits, educational scholarships) and factor incomes including dividends and interest on savings. The objective of this study is to determine the contribution of different occupational groups in Nigeria to rural poverty?

The rest of the paper is organized as follows: Section 2 presents a brief discussion on measuring poverty among the various income sources by different author. Part 3 discusses the Methodology. Part 4 identifies the income source that contributes most (least) to poverty and inequality in Nigeria while section 5 concludes.

II. Literature Review

2.1 Poverty measures and income sources

Disaggregated household income data, including farm income, off-farm income, and monetary and in-kind transfer income were used to set relative poverty lines for each agro-ecological zone following World Bank (1996a) where two-third of the mean per capita income was used to set the poverty line for Nigeria. Poverty is pervasive among rural Nigerians, with poverty most pronounced in the dry savannah agro-ecological zone (69.6%) and relatively less pervasive in the moist savannah (54%) and the humid forest zone (53.8%). FOS (2004) also reports a poverty incidence of 57.8% for all Nigeria. The important determinant of the impact of agricultural research on poverty reduction is the share of farm income in total household income. In their study of poverty in relation to agricultural research in Nigeria, Alene, Mauyong and Tollens (2006), find that clearly, poor rural households derive more than two-thirds of their incomes from farming, with little variation across agro-ecological zones. In-kind and monetary transfers (e.g., remittances) are the second important sources of rural livelihoods, especially in the dry savannah. This is partly due to growing urbanisation and increased rural-urban migration. Their study also shows that off-farm incomes represent an insignificant source of rural income. Farm incomes being the single most important sources of rural household incomes, agricultural research holds considerable promise to contribute to poverty reduction in Nigeria.

In Nigeria, Awoyemi and Adeoti (2004) used the standard Gini decomposition approach to examine the sources of income inequality in rural Nigeria. The results show that agricultural income contributed the most to total income, but found to increase income inequality. Non-farm income was found to decrease income inequality. It was recommended that to reduce income inequality, development efforts should be channeled towards improvement of rural human capital. Ssewanyana et al (2004) contend that in Uganda, non-farm income increased inequality, although not all sources of non-farm income have unfavorable effect on income distribution among the rural population.

Fields and Yoo (2000) proposed a regression-based method for analysing the contributions of socio-economic characteristics to change in labour income in Korea. It was found that between 1986 and 1993, the job tenure, gender, years of education and occupation explained the level of income inequality while education, industry, occupation and potential experience accounted for change in income inequality. Morduch and Sicular (2002) also propose a regression-based approach for decomposing income inequality. The approach provided an efficient and flexible way to quantify the roles of variables like education, age, infrastructure, and social status in a multivariate context. Using data from China, the results illustrated the sharp differences that can result when using decomposition methods with varying properties. Alayande (2003) decomposes income inequality in Nigeria with the Morduch and Sicular (2002) method. With 1996/1997 data, the Gini decomposition method reveals that primary and post-secondary educational attainments are important in reducing income inequality, while the number of unemployed persons in the households contributed positively to income inequality. Wan and Zhou (2005) applied a regression-based approach using a combined Box-Cox and Box-Tidwell income generating function to decompose income inequality in rural China. The results show that capital input and farming structure are the most significant factors explaining income inequality. Baye (2005) used the Shapley value for assigning entitlements in distributive analysis and assessed the within- and between-sector contributions to changes in poverty levels in Cameroon between 1984 and 1996. He finds that the within sector effects disproportionately accounted for an increase in poverty, but the between-sector contributions in both rural and semi-urban areas increased poverty. Araar (2006) used the Shapley value to decompose the Gini coefficient and generalize it to other inequality indices. It was concluded that, if well-interpreted, the analytical approach can give convincing results on the contribution of each component factor. Using data from Cameroon, it was found that rural areas contribute less than the urban areas to total inequality while about two-thirds of the total inequality was explained by the non-food in the expenditure components decomposition. Kakwani (1990) explored the relation between economic growth and poverty, and developed the methodology to measure separately the impact of changes in average income and income inequality on poverty. This decomposition provides a link between macroeconomic adjustment policies and poverty, discussed in the context of the adjustment experience of Cote d'Ivoire. Son (2003) proposed a poverty decomposition approach that can be used to analyse changes in poverty over time into the following components: as the overall growth effect while assuming that inequality in the distribution does not change, the impact of differences in growth rates between the groups, the effect of the change in inequality within the different groups, and the impact of changes in the population shares of the various groups. Ravallion and Chen (2003) introduced the growth incidence curve (GIC) to measure the rate of growth over the relevant time period at each percentile of the distribution (ranked by income or consumption per person). Their rate of pro-poor growth is the mean growth rate of the poor, which gives the change in the Watts index per unit time divided by the headcount index. Ravallion (2004) submitted that the measure of the rate of pro-poor growth proposed by Ravallion and Chen (2003) is the ordinary rate of growth times a "distributional correction" given by the ratio of the actual change in poverty over time to the change that would have been observed under distribution neutrality. If growth is pro-poor, the rate of pro-poor growth will exceed the ordinary rate of growth. If the distributional shifts go against the poor, then it is lower than the ordinary rate of growth. Son (2004) also proposed a 'poverty growth curve' that measures whether economic growth is pro-poor or not pro-poor. The methodology was developed based on Atkinson's theorem linking the generalized Lorenz curve and changes in poverty. The approach seemed to give satisfactory results in some statistical investigation and testing with data from Thailand and some other cross-country data. Duclos and Wodon (2004) also proposed simple graphical methods to test whether distributional changes are pro-poor or not. Based on the definition of some terminologies, it was noted that the issue of whether pro-poor growth should be absolute or relative is of paramount importance and whether more emphasis should be placed on the impact of growth on the poorest population. Kalwij and Verschoor (2007) analysed the impact of globalisation on poverty by explicitly quantifying the responsiveness of poverty to aggregate changes in income in six developing regions between 1980 and 98 using the Shapley method. It was found that differential income growth accounts for most of the diversity in poverty trends, both across regions and over time but leaves a substantial amount of variation unexplained. The impact of changes on inequality is relatively small, except in Eastern Europe and Central Asia.

III. Methodology

3.1 Sampling technique

Data from 2003/2004 National Living Standard Survey was used for this study. The National Living Standard Survey of the Federal Office of Statistics (Now National Bureau of Statistics) is a nationally representative survey covering about 22,200 households. A two-stage sampling design was used while the stratification criteria were based on the state of residence and the locality (urban/rural). The survey contains detailed information on the income, expenditure and consumption of household members. The National Living

Standard Survey NLSS is based on the National Integrated Survey of Household (NISH) framework. The NISH is an ongoing programme of household surveys enquiring into various aspects of households.

A two-stage stratified design was employed. The population census Enumeration Areas (EAs) constitutes the primary sampling units while the housing units were the secondary sampling units. In each state, a sample of 120 EAs were selected for the survey, while 60EAs were selected for Abuja. At the second stage, a total selection of 5 housing units from each of the selected EAs were chosen. Thus, a total of 600 households were randomly interviewed in each of the states and the FCT, summing up to 22,200 households across the country (NBS, 2005). The rural household components of NCS and NLSS data totaling 14,515 was used for this study. The questionnaires were designed to obtain information from various members of the household, including husbands, wives and adult children. Topics addressed in the questionnaires include: demographic characteristics of all household members; age, sex, education, state, non-farm and off farm employment; family size, land tenure, distance from source of water, electricity supply, sources of household income etc.

3.2 Foster – Greer – Thorbecke (FGT) Measures of Poverty.

One of the methods considered in the study is the popular FGT measures of poverty. A number of previous studies have used relative poverty lines, which are proportions (two third) of the average per capita expenditure (Canagarajah and Thomas 2001 and FOS (now NBS) 1999). In this study, this same approach was followed using the per capita expenditure as a proxy for welfare. This poverty line helps us in classifying the poor and non- poor and then calculate the poverty indices for rural households in Nigeria. We used the Foster-Greer-Thorbecke (FGT) indices to measure the magnitude, depth and severity of rural poverty. The P_{α} class of poverty according to Foster et al (1984) can be addressed in respect of poverty incidence, ($\alpha =0$); depth of poverty ($\alpha =1$); and severity of poverty ($\alpha =2$). The larger the value of α , the greater the weight given to the severity of poverty. For $\alpha =0$, FGT reduces to Head Count Ratio (H) and when $\alpha =1$, it reduces to poverty gap and if $\alpha =2$, we have poverty severity index.

Following Greeley (1994), Foday-Lamin (1996), Gibson (2001) as well as Mukherjee and Benson (2003) general class of a poverty measure which combines these three characteristics of poverty can be written as:

$$P_{\alpha}(y, z) = \frac{1}{n} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)^{\alpha} \dots\dots\dots 1$$

Where: n = total number of households in population
 q= the number of poor households
 Z= the poverty line
 yi=household per capita expenditure
 α =poverty aversion parameter and takes on values 0, 1, 2.

$\left(\frac{z - y_i}{z} \right)$ = proportionate shortfall in income below the poverty line.

α takes on value value 0, 1, 2 to determine the type of poverty index.

When: α =0, the expression reduces to

$$P_0 = \left(\frac{1}{n} \right) q = \left(\frac{q}{n} \right) \dots\dots\dots 2$$

This is referred to as the Headcount Ratio (Poverty incidence) describing the proportion of the population that falls below the poverty line. This measure gives equal weight to all poor irrespective of the intensity of their poverty. The headcount ratio has been criticized for focusing only on the number of the poor and being insensitive to the severity of poverty and to changes below the poverty line. That is, it treats all the poor equally whereas not all the poor are equally poor. Also, neither a transfer from the less poor to the poorer, nor a poor person becoming poorer would register in the index, since the number of the poor would not have changed.

When α =1, the expression in equation (equation 1) reduces to:

$$P_1 = \frac{1}{n} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right) \dots\dots\dots 3$$

And this is called the Poverty Gap (depth of poverty). Each poor is weighed by his or her distance from the poverty line, relative to z.

When $\alpha=2$, the expression now becomes

$$P_2 = \frac{1}{n} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)^2 \dots\dots\dots 4$$

Equation (4) is called Poverty Severity Index. In this measure, the weight given to each poor is proportional to the square of his or her income shortfall from the poverty line. This index weighs the poverty of the poorest individual more heavily than those just slightly below the poverty line. This measure satisfies all the three indicators of poverty stated above.

3.3 Occupational Inequality in Rural Nigeria

The Gini coefficient is adopted because it is a useful summary indicator of inequality. The equation is as follows:

The Gini coefficient is computed as:

$$I_{gin}(Y) = \frac{2 \sum_i^n = 1}{n^2 \mu} i \left[\frac{n+1}{2} \right] y_i \dots\dots\dots 5$$

Where n is the number of observations, μ is the mean of distribution, and y_i is the income of the ith household and I_{gin} is the income Gini.

IV. Result And Discussions

4.1 A Profile of Occupational Groups in Rural Nigeria

For the occupational profile, the sample households are classified (based on the occupation of household head) into five occupational categories, namely: wage income, agricultural income, non-farm income, remittances and others (Table 1).

In the rural sector of Nigeria (2004), the incidence of poverty was highest (65.7%) among Remittances Income Earners (RIEs) followed by Other Sources of Income (about 58.0%). It was lowest (34.1%) among Non-farm Income Earners (NIEs). The poverty gap index followed the same trend. It indicated 63.0 per cent for RIE and 34.2 per cent for NFE respectively. Farming activities is thus a means of reducing the incidence of poverty in rural Nigeria. Similarly, remittances contributed most (61.8%) to rural poverty based on FGT (2) in 2004 and this was followed by others (59.5%). Next is wage income (55.4%) while NIEs contributed the least (32.8%). These differences in values of poverty headcount and poverty severity index (FGT (2)) as noted by Araar and Duclos (2007) is an indication that the usual choice of the headcount index to assess the outcome of anti-poverty policies can very well result in poverty-inequality findings that contrast with those of others which are more distribution-sensitive ways to measure poverty. From the result, non- farm activities can therefore serve as means of reducing the incidence, depth and severity of poverty in rural Nigeria.

Table 1. Poverty Profile of Occupational Groups in Rural Nigeria (2004)

	P ₀	P ₁	P ₂
INCOME SOURCE			
Wage income	0.569	0.558	0.554
Agricultural income	0.369	0.369	0.352
Non -farm income	0.341	0.342	0.328
Remittances	0.657	0.629	0.618
Others	0.579	0.519	0.595
Total	0.323	0.106	0.049

Source: Author’s computation from field survey

4.2 A Profile of Occupational Inequality in Rural Nigeria

Table 2 shows the profile of occupational Gini in rural Nigeria. The overall Gini index for all the occupational groups is 39.0 per cent meaning that the overall income Gini index in rural Nigeria is low. This meant that income disparity is less among them. This could be as a result of the homogenous nature of income received in the rural area. Among the various sources of income, agricultural income has the lowest (45.3%) Gini. This is followed by NIEs with Gini of 55.3%. Highest income variation (67.1%) was recorded among RIEs. This implies that there is high inequality among those with remittances income. The financial sector reforms and exchange rate liberalisation are some of the measures that begun in the mid-eighties to attract remittances, especially through official channels. A substantial part of these remittances go to rural areas as a result of rural-urban migration and even international migration. This finding is in line with those of Portes and Rumbaut (1990) and Lipton (1980) which contended that pioneer migrants tend to come from households at the upper-middle or top of the sending- area’s income distribution and the income they send home in form of

remittances is therefore likely to widen income inequalities in migrant source areas. Some rural dwellers thus have access to hard currencies which leads to inequality. This finding corroborates that of Oyekale et al (2006) that agricultural income had the lowest Gini of 0.6987 while incomes from government transfers recorded the highest inequality (0.9944). Incomes realised from other sources and wage employment constituted 0.92 and 0.91 respectively. This showed that efforts to increase wage employment income will not lead to reduction in income inequality, as more income will be concentrated in the hands of the rich.

The result implied that promotion of agricultural and non-farm businesses have the potentials of boosting the incomes of the poor and thus reducing inequality. Expanding employment opportunities in agriculture and non-farm self-employment where the poor are concentrated is an obvious growth strategy which should be adopted. Therefore, incentives aimed at increasing agricultural production in the rural areas as well as encouraging NIEs are direct efforts to raise the income of the rural poor. Thorbecke and Jung (1996) used a Social Accounting Matrix (SAM) in Indonesia to address this question and noted that employment effects, both direct and arising from intersectoral linkages, accounted for most differences across sectors in the poverty impact of growth, and that agricultural growth was the most pro-poor of all. Datt and Ravallion (1998a, b), provided an even more striking result for India: over places and times, faster agricultural growth is substantially beneficial for both rural and urban poverty reduction. If growth is concentrated in sectors from which poor people are more likely to get their incomes, such as agriculture growth, surely such growth will have greater impact on poverty reduction. Osmani (2000) thus advocated an agriculture-led growth policy rather than industrial growth policy, which is widely believed to work better for poverty reduction in more equal and labour-intensive countries. However, while increased employment in the areas mentioned (agriculture and non-farm self-employment may have some overall poverty reducing effect, the marginal effects in practical terms may be too small to significantly impact on reducing inequalities.

Table 2: Occupational Gini in Rural Nigeria

INCOME SOURCE	GINI	STD	Confidence	Interval(95%)
Wage income	0.623	0.0019	0.607	0.615
Agricultural income	0.453	0.0038	0.427	0.442
Non -farm income	0.553	0.0023	0.559	0.569
Remittances	0.671	0.0023	0.663	0.672
Others	0.626	0.0033	0.615	0.628
Total	0.390	0.0033	0.384	0.397

Source: Author's computation from field survey

V. Conclusion And Recommendations

The result implies that promotion of agricultural and non-farm businesses have the potentials of boosting the incomes of the poor and thus reducing inequality. Expanding employment opportunities in agriculture and non-farm self-employment where the poor are concentrated is an obvious growth strategy which should be adopted. Therefore, incentives aimed at increasing agricultural production in the rural areas as well as encouraging NIEs are direct efforts to raise the income of the rural poor. Because growth in the off-farm sector is likely to increase inequality, the study recommends the removal of barriers faced by poor households in assessing better off-farm employment opportunities, so that it would have an equalizing effect on income distribution. This would require the provision of education and accessible credit schemes, coupled with provision of physical infrastructures that would create more economic opportunities for the poor households in the rural areas.

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