Poverty and Welfare Status of Households in Easter Senatorial District of Kogi State, Nigeria

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Abstract- The study advances to find out the welfare status and poverty situation of households in Eastern Senatorial District of Kogi State. Data for the study were collected using structured questionnaire / interview schedule of households. Three research questions and three hypotheses were stated for the study. The analysis of data was done by the use of Tobit regression model and Froster, Greer,Thorbeck (FGT) poverty analysis. The study discovered that the age of household heads, number of people with higher education, gender dummy, and number of hour's household work per week have positive impacts on household income and are significant at 5% levels of significance. This means that as these variables increase, the households income also increases, leading to a fall in poverty level. Also, it was discovered that location dummy and number of people not educated have negative impact on household income and statistically significant at 5% levels of significance. This means that these variables increases, household income will fall, leading to an increase in poverty among the households. On poverty situation in Kogi State, it was discovered that poverty level varies with different income sources with farm income having the highest level of poverty in the area. The study also revealed that ignoring farm income as the highest level of income among households in the senatorial District has greater effect on poverty severity and poverty gap than poverty headcount. Average poverty for instance increases by 23.3% of those above poverty line. This means that those in poverty are further pushed into poverty when farm income is ignored in poverty calculations.

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Strictly as per the compliance and regulations of:

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Abstract- The study advances to find out the welfare status and poverty situation of households in Eastern Senatorial District of Kogi State. Data for the study were collected using structured questionnaire / interview schedule of households. Three research questions and three hypotheses were stated for the study. The analysis of data was done by the use of Tobit regression model and Froster, Greer,Thorbeck (FGT) poverty analysis. The study discovered that the age of household heads, number of people with higher education, gender dummy, and number of hour's household work per week have positive impacts on household income and are significant at 5% levels of significance. This means that as these variables increase, the households income also increases, leading to a fall in poverty level. Also, it was discovered that location dummy and number of people not educated have negative impact on household income and statistically significant at 5% levels of significance. This means that these variables increases, household income will fall, leading to an increase in poverty among the households. On poverty situation in Kogi State, it was discovered that poverty level varies with different income sources with farm income having the highest level of poverty in the area. The study also revealed that ignoring farm income as the highest level of income among households in the senatorial District has greater effect on poverty severity and poverty gap than poverty headcount. Average poverty for instance increases by 23.3% of those above poverty line. This means that those in poverty are further pushed into poverty when farm income is ignored in poverty calculations. It equally means that those in poverty are further pushed into poverty when farm income is ignored in poverty calculation. It was also discovered from the analysis that welfare gap for the entire local government areas LGAS was 31.8% when compared to 23.2% for the Senatorial District sample. This indicates an increase of 8.6%.From this analysis, three hypotheses stated were tested and rejected. Based on this, it was recommended that higher Education, number of hours household work per week and gender dummy be encouraged since they have positive impact on household income. This means that increasing levels of these variables will greatly improves the well-being of households and bring them out of poverty. It was also recommended that serious poverty intervention projects such as soft loans and farm inputs to real farmer in the area should be intensified so as to increase the welfare status and reduce poverty among individual household in the Senatorial Area of Kogi State.

I. Introduction

All over the world, poverty is the most dehumanizing aspect of life. This is because people who are poor lack basic necessities of life such as shelter, food, clothing, and medication. Poverty according to Gbosi (2001) is the state of wants and a situation where human beings are unable to meet the basic needs of livelihood, such as social amenities and economic infrastructure needed for survival. Poverty is also regarded as the state deprivation of basic necessities of life which are the germane for manful existence. Accordingly, poverty exists when individuals, groups, and society at large are unable to provide the minimum level of social and economic infrastructure desirable for survival (sule 2006). It is a situation where individuals or groups are unable to obtain sufficient income to secure desirable goods and services in the economy.

Gbosi (2001) opines that any household or individual with insufficient income or expenditure to acquire basic necessities of life is considered as being poor. Obadan (1997) had it that poverty is the state of affairs which makes individuals and groups in the economy incapable of utilizing resources around them to improve oneself because of lack of education and awareness of other basic needs that leads to human development.

In the same vein, World Bank (2001) in Ayodele (2002) states that poverty is a pronounced deprivation of human wellbeing which includes vulnerability to adverse events outside ones control and being excluded from having a voice and power in the society. However, in spite the fact that Nigeria economy is growing paradoxically, the proportion of Nigerians living in poverty is increasing every year. This is shown on the table below.

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Relative Poverty Headcount From 1980-2010.

Year	Poverty incidence (%)	Estimated population in(million)	Population in poverty (million)
1980	27.2	65	17.1
1985	46.3	75	34.7
1992	42.7	91.5	39.2
1996	65.6	102.3	67.1
2004	54.4	126.3	68.7
2010	69.0	163	112.47

Source: National Bureau of statistics HNLSS 2010

The above figure also indicate that the proportion of the population below poverty line increases significantly from 1980-2010 (NBS 2010). Poverty line according to Aigbokhan (2000) is a measure that divides the poor from non-poor. It is used to determine how far away people are from poverty. The table below presents the percentage of persons and household below poverty line in 1996-2010 by some of those characteristics.

Poverty incidences in Nigeria by socioeconomic groups (1996-2010)

Socioeconomic groups	Extreme poor	Moderate poor	Non-poor
Urban	41.8	33.0	25.2
Rural	38.2	31.1	30.7
Male headed	36.7	33.6	29.7
Female headed	41.5	33.5	25.0
Age of household head			
15-24	62.6	21.2	16.2
25-34	47.8	32.0	20.2
35-44	39.8	33.2	27.0
45-54	38.6	32.7	28.7
55-64	37.3	32.6	30.1
65 and above	34.6	33.4	32.0
Education of household head			
None	39.9	32.9	27.2
Primary	44..1	32.9	23.0
Secondary	48.0	30.8	21.2
Post secondary	51.8	32..9	15.3

Source: NBS (2010)

Poverty has disrupted and eroded some social and economic activities in this country (Sule 2006).In the educational sector, apart from being inaccessible to the masses of this country, the educational system is gradually deteriorating in the light of dilapidated infrastructure, lack of essential textbooks and other materials needed for effective teaching and learning, poor staff remuneration, low morale, greater emphasis on paper qualification as against emphasis on skill acquisition and technological development. Consequently, in agricultural sector, farm implements as well as inputs (good seeds, fertilizers, financial incentives etc) which are germane for proper agricultural production are lacking or completely out of reach of the farmers. Thus, to augment food intake, a large proportion of the population have to depend on huge importation of rice and other food crops. This practice does not only drain the meager foreign reserves but put the farmers in very unhealthy competition with foreign food producers thereby widening the poverty gap (Ayodele 2002). Skewness in the distribution of social and economic infrastructure between the rural and urban areas continues to exacerbate the situation of the silent majority of the citizens who reside in the rural areas (Sule 2006).

Furthermore, the concomitant effect of poor planning and bad economic and social policies had rendered the majority of the citizens in the country hopeless, dejected and neglected, making many people to live in abject poverty. Thus, resulting to their inability to feed themselves and provide necessities of lives. This is an indication that poverty is not only institutionalized but highly endemic. Following this assertion therefore, one may consider the poor as those who are unable to obtain an adequate income, find a stable job, own property or maintain healthy living condition, lack

adequate level of education and are often regarded as illiterates. The poor are not homogenous group. They can be found among some social/occupational groups and can be distinguished by the nature of their poverty.

Evidence from the World Bank poverty assessment on Nigeria using 1992/1993 household survey data, shows that the nature of those in poverty can be distinguished by the following characteristics: sector, education, age, gender and employment status of the head of the household (FOS 1993). Other characteristics of poverty include household size and the share of food in total expenditure. In this case, it can be observed that the poor are the most vulnerable to low income because of the quality, access, variety of resource they have (Gbosi 2001). The poor are not homogenous group. They can be found among some social/occupational groups and can be distinguished by the nature of their poverty. In view of this therefore, the study intends to find out the levels of poverty and welfare status of households in Eastern Senatorial District of Kogi State, Nigeria.

II. Statement of Problem

In Nigeria poverty is an indispensable problem that commands attention of many people. Some attributed this situation to growth in population, while others see it as imperfection in income distribution. The most disheartening aspect of poverty in Nigeria is that the country is rich but large percentage of the populations is wallowing in poverty? The work builds on previous work in Kogi State but differ in variables used. The study identified different income sources in the State and used it to determine the levels of poverty in Eastern Senatorial District of the State. The study also used Tobit regression model to determine the level of welfare of households in the area. Also most of the previous studies did not recognize the effect of ignoring certain income source in poverty calculation. Most of the studies have been on the preliminary causes of poverty with no regard to the factors that affect the welfare status of individuals and groups in the society. However no matter the cause of poverty, governments' efforts have been on how to eradicate this ugly trend through its policies and programmes. Some of these policies and programmes include, National Empowerment and Development strategy (NEEDS), National poverty eradication programme (NAPEP), National Directorate of Employment (NDE), National Special Programme for Food Security (NSPFS), and Niger Delta Development Commission (NDDC), to mention but a few are all indications of Government efforts to fight poverty in the country. Usually, to reduce poverty in any economy, strong emphasis have to be imposed on socio-economic/demographic variables as it effect economic and social policies and programmes and the standard of living of people in the economy. This is effectively

achieved when different policies and programmes are applied for successful implementation. It is evident to note that the policy environment required for rapid transformation of any economy is that which can provide policies and programmes with adequate result that can be used to improve household income to all and sundry in the economy with no regard to area of abode. However, ignoring one sector of the economy especially the rural areas can be devastating. In view of this therefore, the following research questions are necessary.

1. What is the welfare status of households in Eastern Senatorial District of Kogi State?
2. What is the level of poverty among households in the area?
3. what is the redistributive effect of ignoring certain income source in poverty calculation in Kogi State
4. What the welfare gap among households with and without certain income source in Kogi State.

III. Objectives of the Study

The general objective is to determine the welfare status and the poverty levels of households in Kogi State. The specific objectives are:

1. To determine the welfare status of households in Eastern Senatorial District of Kogi State
2. To determine the poverty level of households in the area.
3. To determine the effects of ignoring certain income source in poverty calculation in Kogi State
4. To estimate the welfare gap among households with and without certain income source in Kogi State.

a) Hypothesis

The following hypotheses will guide the study

Ho_1: There is no significant level between the welfare statuses of households in Eastern Senatorial District of Kogi State

Ho_2: There is no significant difference between the poverty situation in senatorial and local government in Kogi State.

Ho_3: Ignoring certain income source has no significant difference on poverty calculation in Kogi State.

Ho_4: There is no significant difference between the welfare gap of households with and without certain income source in Kogi State.

IV. The Study Area and Data

This study was carried out in Kogi State specifically in Eastern Senatorial District of the State. Eastern Senatorial District of the State is located in Eastern part of Kogi State. The State has a population of about 2, 2787 from 2006 population census. Primary Data were collected with the aid of structured Questionnaire/ interview scheduled administered to 675

households in the Senatorial District. The information collected were collated, arranged and stored on data base and used for Data analysis.

V. Methodology

a) Measure of household welfare level

To determine the effect of some selected socio-economic/Demographic variables on household income (proxy for welfare levels of household), we have to identify the determinants of income poverty bearing in mind that individual households have to engage in one occupation or the other to earn income. This situation would enable us decide on the amount such individuals would have spent in relation to socioeconomic variables as a measure of welfare. To make joint decision on the issues, we divide the households into two groups. The first is the households income sources (i.e the regressand) and second, the households expenditure

out of their income on some selected socio-economic variables (i.e the regressors) such as; location, job specification, gender of household heads, household size, age of household heads, level of education, dependency ratio, capital base and total number of hours worked per week. To check the presence of sample selection bias, we model the two choices simultaneously using Tobit model. Tobin (1958) devised what became known as the tobit censored normal regression model for situations in which Y is observed for values greater than zero, but not observed (i.e censored) for value of zero or less. Using standard Tobit Model, we can formally denote Y_i^* to represent the amount of income derived from all sources and d_i for the binary variables assuming the value of 1 for those who spend their income on some of the socioeconomic variables and zero otherwise.

Following this assumption, Tobit model can be stated as

$$Y_i^* = X_i\beta + \mu_i \text{ for i = (1,2,3...n)}$$

Where X represents the vector of explanatory variables such as:-

Ahh= Age of household heads (Numeric)
Depr= Household dependency ratio (Numeric)
HhEdu= Household with higher Education (Numeric)
Emp= Employment dummy (1 for govt. Employment, 0 otherwise)
Gender= Sex of household head dummy (1 for male, 0 otherwise)
Lctd = Location Dummy (1 for urban, 0 otherwise)
Nedu= Not educated (Numeric)
Nhrs= Total number of hour's household member worked per week (Numeric)
Prm= No of households with primary education (Numeric)
Occgp= Occupational group of the households dummy (1 for professional, 0 Other wise)
Sec= No of households with secondary education (Numeric)
Hsz= Household size (Numeric)
Ine= No of households with intermediate education (NCE, & OND Numeric).
Secoc= Households in secondary occupation dummy (1 for yes, 0 otherwise)
Ɛ= Coefficient parameter
μ = error terms, while co is the intercept and Y is the dependent variable representing the total household income (proxy for welfare).
ß is a vector of regression coefficient and e is the residuals.

Predictions of household income Y=Xiß are formed using information from the entire data set. However, a strong major limitation is that the influence of a variable that is constant for all observations cannot be estimated. The econometric result will yield estimates of the income flows attributed to household variables, which allow us to decompose inequality, by factor income that is to apportion inequality to the component of income, where the sum of these components equals total income.

$$Y_i = \sum_{k=1}^{k} Y_i^K$$

However, to test the Tobit model, we can set $V_i = Z_i$
And $d_i^* = ZY + V_i$
Where $Y_i = Y_i^*$ and $d_i = 1 \ if \ d_i^* \geq 0$
And $Y_i = d_i = 0 \ if \ d_i^* < 0$

Where X_i has K variables and Z has M variables and (U_i, V_i) are assumed to have a serially independent bivariate normal distribution with a mean of zero and a variance matrix of

$$\begin{bmatrix} \sigma^2 & \sigma uv \\ \sigma uv & 1 \end{bmatrix} \text{ For all i}$$

This normality assumption is estimated by standard ML to produce Tobit estimator. The Tobit estimator is a non linear model and thus similar to the probit and logit models, it is usually estimated using maximum likelihood estimator technique (MLET) (Olsen 1978). The likelihood function or the Tobit model takes the form of;

$$\log L = \sum_{Y_i} -\frac{1}{2}\left[\log(2\pi) + \log \sigma^2 + \frac{(Y_i - \beta X_i)^2}{\sigma^2} + \sum_{Y_i=0}^{k}\log(1 - F(\frac{\beta X_i}{\sigma}))\right]$$

The estimated coefficient of the Tobit model unlike Ordinary Least Square represents the marginal effect of X on Y*. That is, the estimated coefficients from the Tobit model represent

$$\frac{\delta E\left(\frac{Y_i^*}{X}\right)}{\delta X_i} = \beta$$

The desired marginal effects are then the derivative of this function with respect to X.

Following the probability assumption of Tobit model estimation of mean equal to zero and variance equal to one, the model is superior to ordinary least regression analysis in so many ways: (i) when the observations for which Y>0 increase and are estimated with ordinary least squares, the parameter estimates will be bias and inconsistent, and (ii), the degree of bias will also increase as the number of observations that have the value of zero increases (Cosslett1987). But with Tobit regression, all observations both at the limit and those above it are used to estimate regression line. The model is also superior to ordinary least square method because results obtained from its usage adequately portray the robustness of the analysis.

b) Measuring Poverty

To determine the level of poverty and the redistributive effects of ignoring certain household income in poverty calculation in the area, we opted for Foster-Greer-Thorbecke (1984) poverty decomposable indices. This is because the index is not only decomposable as sub-group consistence but satisfies Sen (1976), axioms of transfer and monotonicity. Essentially, the index increases whenever a pure transfer is made from a poor person to someone with more income, and increases when there is a reduction in a poor person's income holding other incomes constant. Following the Foster-Greer-Thorbecke (1984), we defined the poverty index as The Foster-Greer-Thorbecke (sometimes referred to as FGT) metric is a generalized measure of poverty within an economy. It combines information on the extent of poverty (as measured by the Headcount ratio), the intensity of poverty (as measured by the Total Poverty Gap) and inequality among the poor (as measured by the Gini and the coefficient of variation for the poor)

The formula for the FGT is given by:

$$FGT_\alpha = \frac{1}{N}\sum_{i=1}^{H}\left(\frac{z - y_i}{z}\right)^\alpha$$

And thus corresponds to the marginal effect of X on the latent variables Y* not to the observed variable Y. Sometimes Y* is what of interest but usually it is not. What we really want is the marginal effect of X on Y. this means that, we want expected value of Y conditional on Y being greater than zero. In the Tobit model, this is

$$E(Y_i/Y_i > 0) = \beta_0 + \beta_i X_i + \delta\left(\frac{\emptyset(\beta_0 + \beta_i X_i)/\delta}{\alpha(\beta_0 + \beta_i X_i)/\delta}\right)$$

where z is an agreed upon poverty line (1$ or 2$ per day adjusted for purchasing power parity are the two most common poverty lines used by the World Bank. Developed countries usually have much higher poverty lines), N is the number of people in an economy, H is the number of poor (those with incomes at or below poverty line z) and y_i are individual incomes and α is a "sensitivity" parameter. If α is lower than the FGT metric weights, it mean that entire individuals with incomes below z are roughly the same. If α is high, those with the lowest incomes (farthest below z) are given more weight in the measure. The higher the FGT statistics, the more poverty there is in an economy. The FGT measure corresponds to other measures of poverty for particular values of α. For $\alpha = 0$, the formula reduces to

$$FGT_0 = \frac{H}{N}$$

This is the Headcount ratio, or the fraction of the population, which lives below the poverty line. If $\alpha = 1$ then the formula is

$$FGT_1 = \frac{1}{N}\sum_{i=1}^{H}\left(\frac{z - y_i}{z}\right)$$

This is the average poverty gap, or the amount of income necessary to bring everyone in poverty right up to the poverty line, divided by total population. This can be thought of as the amount that an average person in the economy would have to contribute in order for poverty to be just barely eliminated. While the two above versions are widely reported, a good deal of technical literature on poverty uses $\alpha = 2$ version of the metric:

$$FGT_2 = \frac{1}{N}\sum_{i=1}^{H}\left(\frac{z - y_i}{z}\right)^2$$

as in this form, the index combines information on both poverty and income inequality among the poor. For ease decomposition, we followed the simulation method proposed by Reardon and Tylor (1996), which allows the decomposition of the FGT poverty coefficient by income

source (see Fonta et. al 2008). For ease decomposition, we followed the simulation method proposed by Reardon and Tylor (1996), which allows the decomposition of the FGT poverty coefficient by income source (see Fonta et. al 2008).

c) Setting the Poverty Line Z

The poverty line used for the study was constructed by taking the sub-sample of households whose total income is close to and equal to the recommended calorie level of 2900 calories per day and derived the simple average. It gave us a total poverty line of 29806 Naira per annum or USD252.5. This method of food energy intake poverty line has practical advantage over all other methods because it is used to construct poverty line that is consistent with the attainment of basic needs and doing so with modest data requirement. It avoids the use of retail prices and requires no explicit valuation in its computation.

d) Analysis of welfare level of households

The empirical result above shows the effect of socio-economic/demographic variables on household income. The result on table 1 in appendix 1 shows that age of household head and Gender Dummy with values of $Z=2.756633$ and $Z=2.307628$ has positive impact on household income and are statistically significant at 5% level of significance. The findings also indicate that labour which is defined as the number of productive hours put into different occupations impact positively on household income with the value of $Z=2.554807$ and is statistical significant at 5 percent level of significance This means that as the hours the household put into different occupation increases, household income also rises which means increase in welfare level of the households. These increases eventually lead to fall in poverty. Equally, it was established that number of households with higher Education of $Z=15.332190$ has positive impact on household income and statistically significant at 5% level. This means that increasing levels of education greatly improves the well-being of households. Higher Education raises income as it afford more job opportunities and enhances the earning capacity of an individual for higher pay which has the propensity to reduce household poverty. Higher Education helps to break the barrier of high risk on higher paid jobs and improves the well being of the households by reducing household poverty. Essentially worthy of note is that the extent of rural poverty is reflected by the negative impact of location dummy on the level of income of the household. The result $Z=- 4.205046$ also shows that household size is negatively correlated with household income and statistically significant at 5 percent level of significance.

It then means that increase in household size significantly decreases household income and results to a fall in welfare of the households, thereby leading to increases in poverty level.. This is so because net effect of large family size is low income, little saving and poverty [Olsen 1978]. Usually increase in demand for more children in households will increase household poverty because the desire for more children in families lies among the poor. Likewise, Non-educated has a negative impact on household income with the value of $Z= -27.80011$ but statistically significant at 5% level of significance. This means that as this variable increases, the household income will fall. The result reveals that the coefficient of primary education (of which more than half of the respondents are farmers) is negative and not significant. This implies that as the number of people engaged in farming increases, household income of the farmers also decreases as they get greater part of their food items from their farms. It portrays that being in rural area reduces the welfare of the household by 0.366. Other variables having negative impact on household income are Dependency Ratio, occupational group dummy (Occgp), number of households with intermediate education, (Nhhined), number of households with secondary Education,(NHHSECED) and household secondary occupation (HHsecocc),That is, as these variable increases, poverty level among household will also increase.

Furthermore, the negative coefficient of occupational group (Occgp) dummy is an indicative of the fact that majority of the employed are not in professional occupation like legal profession, Architecture, medicine, Engineering and the likes. But in petty occupation like shop-keeping, food processing and other local services which have little significant impact in increasing household income.

The coefficient of determination (R^2) of 0.56 in the study and the adjusted R of 0.53 indicate that study is best fit. Also, F-statistics of 57.14 and probability of F-statistics of 0.0000 shows that the whole effect is significant at 5% level of significance.

e) Poverty Analysis

The measurement of poverty can be divided into two distinct operations viz: the identification of the poor and the aggregation of their poverty characteristics into an overall measure. The poor are identified as those who are unable to meet their specific minimum needs or poverty line considered necessary for living in the society (Sen 1984). That is, (a) the proportion of the population whose income level is below poverty line; (b) the depth of poverty expressed by the income gap ratio or the poverty gap, i.e. the average percentage by which a person's income falls below poverty line, and (c) the depth of extreme poverty or poverty severity. The decomposition analysis was therefore conducted using food- energy- intake poverty line. FGT poverty index was used to estimate the levels of poverty among the sample household. Table 2 in appendix 2 presents the FGT poverty computation by income sources. The decomposition analysis of different income sources

shows that farm income has a poverty level (FGT α=0) of 56.7%, , wages & salaries 44.8%, craft and Artisan 40.9% Entrepreneur 51.1%., Trade 35.1%, Other incomes and Credit 23.5% and 15.6% respectively. Also, farm households has the highest level of poverty of 56.7%, while households who depend on credit as their income source has the lowest level of 15.6%. The result of the analysis also indicates that households with farm income has the least poverty gap (FGT α=1) of 14.2% and poverty severity (FGT α=2) of 2.0% against craft &Artisan with poverty gap and poverty severity (FGT α=2) of 39.4% and 15.5% .respectively. Also, Entrepreneur has poverty gap (FGT α=1) of 38.4% and poverty severity (FGT α=2) of 15.5%.while, Trade has poverty gap (FGT α=1) of 28.5% and poverty severity (FGT α=2) of 6.7%. The result of the analysis shows that poverty level in Eastern Senatorial District varies with household income.

Table 3 in the appendix 3 below presents the FGT decomposition results when farm income as the highest source of income is ignored in the poverty calculations. The result of the analysis indicate that when farm income is set at zero, poverty increases in all three cases, ranging from 11% [when α=0], to 22.9% [when α=1] and finally to 25.7% [when α=2]. This implies that 11% of the poor households in absolute term are further pushed into poverty. Poverty depth increases by 22.9%, while severity of poverty or poor households that are further away from poverty line increases by 25.7%. It then means that the poverty impacts of excluding farm income in poverty calculations in the senatorial district of Kogi State is greater on poverty severity and poverty depth measures than on head count ratio. Also, the welfare gap is put at 25.7%/ Following this assertion therefore, it means that the poverty situation become different when a short-term impact of 10% increase in farm income is considered to total households' income. For instance, an increase in farm income by 10% is expected to reduce the number of households in poverty to about 10.5%. The same decrease is associated to depth, and severity of poverty of 21.4% and 22.3% and welfare gap of 20.6%. This means that farm income has significant role in reducing poverty in the senatorial district. In this case, it is appropriate to embark on people intervention projects especially among the core poor in the area and Kogi State in general. This result is consistent with a similar study of Fonta and Ichoku (2008) and the studies of Babatunde [2008], Adebayo [2006] and Oyekale [2006], who had it that farm income has poverty and inequality reducing effect on any society.

Table 4 in Appendix 4 above also, further present poverty decomposition results using household's samples from each local government area of Eastern Senatorial District of Kogi State. As shown on the table, when farm income is set to zero, the effect of

poverty and welfare gap on the local government levels are substantially higher than at the Senatorial District Level. For example, the average headcount ratio for entire LGAS is 17.7% when compared to 1.2% for the Senatorial District sample. Also the welfare gap for the entire LGES is 31.8% when compared to 23.2% for the Senatorial District sample. This indicates an increase to 8.6%. On using the poverty gap and severity measures, the poverty figure also increases. Average poverty increases by 23.3% of those above poverty line.. For poverty severity This means that those in poverty are further pushed into poverty when farm income is ignored in poverty calculations measures, poverty increases to 20.9 % as against 2.5 % and 2.8% respectively for the full sample. The observed difference between the two sub-groups is not in error considering the fact that farming activities contribute significantly higher on each LGA than at Senatorial District level. This prone us to suggesting that ignoring farm income in the estimation of poverty measures in the Senatorial District has negative effect on most people who depend on farming activities for their livelihood. Such effect is usually greater in poverty gap and poverty severity measures than on headcount ratio [Fonta Ichoku 2010]

VI. Conclusions and Policy Issues

The study reveals that the most devastating aspect of life in any economy is poverty. This occurs when certain income source is ignored in poverty calculation. For instance, in Kogi State when farm income as the highest income source is ignored in poverty calculation, it leads to social and economic deprivation among individuals and groups in the society. It also leads to man inhumanity to man and social unrest. In view of this therefore, the following recommendations are made:

Firstly, from the result of the analysis, it was discovered that level of households with higher Education, Gender Dummy and number of hours households work per week have positive impact on household income. This means that as these variables increase, the households income also increases, leading to a fall in poverty level. Also, it was discovered that location dummy and number of people not educated have negative impact on household income and statistically significant at 5% levels of significance. This means that if these variables are increased, household income will fall, leading to an increase in poverty among the households. Policy on how all encourage higher education, increase in the number of hours household put for work should be promulgated to enhance the earning capacity of households. It was also discovered that increase in household size increases poverty. In this case, law prohibiting large family sizes should be promulgated since the propensity of large family size lies among the poor. Also, it was discovered

that poverty varies with income sources and that ignoring farm income in poverty calculation in Senatorial district will create great impact on poverty severity and poverty gap than poverty headcount. This requires serious people targeted intervention policy such as National Economic empowerment and poverty reduction strategy (NEEDS) and Kogi State Economic empowerment and poverty reduction strategy (KOSEEDS) on core poor and moderately poor in both rural and urban areas of the country with emphasis to Kogi State. This will help to provide relieve welfare packages such as subsidies on farm inputs, and soft loans to improve on their various business to increase their income and further reduce the effects of poverty in their households.

Secondly, it was also discovered that on using the poverty gap and severity measures, the poverty figure also increases. Average poverty increases by 23.3% of those above poverty line. This means that those in poverty are further pushed into poverty when farm income is ignored in poverty calculations. It equally means that those in poverty are further pushed into poverty when farm income is ignored in poverty calculations. From this analysis, serious poverty intervention projects such as soft loans should be advanced to real farmer in the area to be utilized in farming activities to help increase the welfare status and reduce poverty among individual in the society.

Thirdly, it was discovered that farm income increases income of the households. In this case therefore, the government should try to tackle major policy lapses especially on agricultural production in the area. More importantly, farmers at various levels should be incorporated into policy formulation to enhance efficiency and increase output for the benefit of the poor in the economy.

Fourthly, it was also discovered from the analysis that welfare gap for the entire LGES was 31.8% when compared to 23.2% for the Senatorial District sample. This indicates an increase of 8.6%. From this result it means that the local government areas in the state require serious welfare packages like provision of infrastructural facilities such as good road network, Health services, Employment generation, Gender equity, and Water and sanitation strategy to boost the living standard of people in the senatorial District.

Finally, non-governmental organizations (NGOS) should work closely with the poor farmers by making them to act as a watchdog on various activities sponsored by the government concerning farming in the country with particular reference to Kogi State for better efficiency and optimum benefit.

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APPENDIX 1

Table 1 : Tobit Regression Results

Dependent Variable: LOG(THHY)
Method: ML - Censored Normal (TOBIT)
Date: 06/14/10   Time: 21:29
Sample(adjusted): 1901 2575
Included observations: 671
Excluded observations: 4 after adjusting endpoints
Left censoring (value) at zero
Convergence not achieved after 1 iterations
Covariance matrix computed using second derivatives

	Coefficient	Std. Error	z-Statistic	Prob.
C	9.751275	0.253526	38.46269	0.0000
Ahh	0.006330	0.002296	2.756633	0.0058
Depr	-0.003539	0.008297	-0.426491	0.6698
HhEdu	0.652860	0.042581	15.332190	0.0001
Emp	-0.039858	0.087566	0.455179	0.6490
Gender	0.261177	0.113180	2.307628	0.0210
Lctd	-0.366693	0.087203	-4.205046	0.0000
Nedu	-0.328514	0.011817	-27.80011	0.0000
Nhrs	0.007078	0.002211	2.554807	0.0095
Prm	-0.008666	0.044768	-0.193582	0.8465
Occgp	-0.038019	0.086006	-0.442044	0.6585
Sec	-0.030059	0.047518	-0.632577	0.5270
Hsz	-0.039695	0.011301	-3.512521	0.0009
Ine	-0.011637	0.047648	-0.244229	0.8071
Secoc	-0.036310	0.090106	-0.402970	0.6870
		Error Distribution		
SCALE:C(16)	1.065801	0.029940	35.59742	0.0000
R-squared	0.560282	Mean dependent var		9.968246
Adjusted R-squared	0.530761	S.D. dependent var		1.100635
S.E. of regression	1.079093	Akaike info criterion		3.013675
Sum squared resid	762.7091	Schwarz criterion		3.121187
Log likelihood	-995.0879	Hannan-Quinn criter.		3.055315
Avg. log likelihood	-1.482992	F-tatistics		57.1428
Prob.(F-statistics)	0.000000			
Left censored obs	0	Right censored obs		0
Uncensored obs	671	Total obs		671

APPENDIX 2

Table 2

S/N	INCOME SOURCES	FGT α=0 ×100	FGT α=1×100	FGT α=2×100
1	Farm income	56.7%	14.3%	2.0%
2	Wages &salaries	44.8%	32.3%	10.4%
3	Craft & Artisan	40.9%	39.4%	15.5%
4	Entrepreneur	51.1%	38.4%	15.5%
5	Trade	35.1%	25.9%	6.7%
6	Other incomes	23.5%	18.1%	3.3%
7	Credit	15.6%	18.1%	1.9%

Observation 675

Source: Author\s Computation

APPENDIX 3

Table 3 : FGT index with and without farm income Poverty line used 29806 Naria or USD 252.5

All households(N = 675)	FGT (α = 0)	FGT (α= 1)	FGT (α = 2)	Welfare gap FGT(α= 1)／FGT (α = 0)
Total income without farm income	0.608	0.448	0.201	0.690
With farm income	0.718	0.677	0.458	O.941
% change in FGT	11%	22.9%	25.7%	25.7%
The effect of 10% increase in farm income				
Total income without farm income	0.559	0.412	0.169	0.737
10 % increase in farm income	0.664	0.626	0.392	0.943
% change in FGT	10.5%	21.4%	22.3%	20.6%

Source: Authors calculation

APPENDIX 4

Table 4 : Poverty Decomposition by Lgas in Eastern Senetorial District of Kogi State

	FGT (α = 0)	FGT (α = 1)	FGT (α = 2)	Welfare gap FGT(α = 1)／FGT (α = 0)
Ankpa LGA (N=75)				
With farm income	0.467	0.439	0.192	0.940
Without farm income	0.667	0.365	0.133	0.547
% change in FGT	20%	7.4%	5.9%	39.3%
Bassa LGA (N = 75)				
With farm income	0.604	0.479	0.229	0.793
Without farm income	0.504	0.220	0.048	0.433
% change in FGT	10%	25.9%	18.1%	35.5%
Dekina LGA (N = 75)				
With farm income	0.900	0.804	0.646	0.893
Without farm income	0.832	0.225	0.050	0.270
% change in FGT	6.8%	57.9%	59.6%	62.3%
Ibaji LGA (N = 75)				
With farm income	0.752	0.482	0.232	0.641
Without farm income	0.476	0.366	0.134	0.768
% change in FGT	27.6%	11.6%	9.8%	12.7%
Idah LGA (N = 75)				
With farm income	0.720	0.508	0.258	0.705
Without farm income	0.533	0.243	0.059	0.455
% change in FGT	18.7%	26.6%	19.9%	38.5%
Igalamela/Odolu LGA (N=75)				
With farm income	0.823	0.735	0.540	0.893
Without farm income	0.640	0.483	0.233	0.754
% change in FGT	18.3%	25.2%	30.7%	13.9%
Ofu LGA (N = 75)				
With farm income	0.686	0.582	0.339	0.848
Without farm income	0.507	0.376	0.149	0.742
% change in FGT	17.9%	20.6%	19.8%	10.6%
Olamaboro LGA (N = 75)				
With farm income	0.560	0.507	0.257	0.905
Without farm income	0.736	0.193	0.037	0.262
% change in FGT	17.6%	31.4%	22%	64.3%
Omalla LGA (N = 75)				
With farm income	0.573	0.283	0.080	0.494
Without farm income	0.793	0.318	0.101	0.401
% change in FGT	22%	3.5%	2.1%	9.3%

Source: Authors calculation