SHOCKS, COPING STRATEGIES AND SUBJECTIVE POVERTY: EVIDENCE FROM NIGERIA'S NATIONAL CORE WELFARE INDICATORS QUESTIONNAIRE SURVEY 2006

Tukur GARBA

Usmanu Danfodiyo University Sokoto, Nigeria

ABSTRACT

This study investigates the determinants of active coping strategies and the influence of household characteristics, economic and climatic shocks on subjective poverty in Nigeria. The study uses Nigeria Core Welfare Indicators Survey's cross-sectional data set for the year 2006, covering a sample of 77,400 housing units. The study also applies logistic regressions with robust standard errors in estimating the parameters of the models. STATA version 9.1 statistical package has been used in analysing the data set. The descriptive results indicated that 76.29% of the households adopted weak strategies in coping with shocks in Nigeria and 23.71% of them adopted active coping strategies in dealing with shocks at national level. At regional level, results varied from one region to the other, ranging from the lowest percentage of households (71.49%) to the highest percentage of them (83.62%) adopting weak strategies in coping with shocks. As regards incidence of subjective poverty, the results revealed that 64.28% of Nigerians considered themselves as poor while 35.72% of them not poor at national level. But at regional level, the incidence varied among the regions, ranging from 50.06% to 77.80%. However, the logistic regression results reveal that too high prices of commodities, hard economic conditions and lack of job opportunities, low production of agricultural produce are more likely to increase subjective poverty in Nigeria. On the determinants of coping strategies, the results also reveal that employment status of a household head is more likely to play a significant positive impact on the ability of a household to adopt active coping strategies in dealing with various shocks in Nigeria. Therefore, viable policy measures, with regional diversity in the form of safety nets and cargo nets that will help households pull out of poverty and adopt active coping strategies to withstand economic and climatic shocks should be pursued.

Key words: Shocks, coping strategies, subjective poverty, human capital theory

INTRODUCTION

Considering people's behaviour and their own understanding of poverty may offer a view that objective measures such as income or expenditure may not work well. Subjective poverty measures assert that poor people have a far better ability, on the basis of human behaviuor to assess their wellbeing than most development professionals. Therefore, instead of relying on market-based approaches that aim to increase people's income or expenditure, the subjective poverty approach may offer better informed, more comprehensive and participatory recommendations for poverty reduction.

The main advantage of subjective method is that it defines the poverty line on the basis of trusting individuals to judge their socio-economic situation by themselves (Beuran and Kalugina, 2005). Nevertheless, this method reveals some limitations to the extent that individual's answers could be triggered by different factors, such as attitudes and expectations (Beuran and Kalugina, 2005). For instance, individuals may judge themselves by means of comparison with socially accepted norms and rules in the society they live instead of what they really are. However, literature on subjective poverty usually assumes that all individuals share the same interpretation of each possible answer, i.e., individuals share a common opinion of what poverty and wealth are all about, therefore, they are in a better positions to evaluate their living standard (Beuran and Kalugina, 2005).

Therefore, it has been observed that the major concern of international community nowadays is largely concentrated on issues relating to poverty eradication and coping with climatic and economic shocks. Emphasis on these issues and others led to the adoption of the Millennium Development Goals (MDGs) on 18th September 2000, with poverty eradication top on the list. However, to achieve this goal, there is a need for knowing the percentage of those who are really poor.

Consequently, some studies advocate the use of objective poverty measures while others lend support to subjective ones in knowing the proportion of poor. Considering the fact that individuals are in a better position to evaluate their living standard (Beuran and Kalugina, 2005), National Bureau of Statistics in Nigeria, conducted a National Core Welfare Indicators Questionnaire Survey in the year 2006 that captured poverty variable subjectively.

Although Nigeria's commitment towards poverty reduction in general and the Millennium Development Goals (MDGs) in particular has been impeccable, yet progress towards sustainable reduction has been low. In view of this a study on poverty and coping mechanisms adopted by the poor, would be a worthwhile venture, not least because it would provide vital inputs into the process of review of the country's blueprint for economic and social development.

To cope with the income losses induced by shocks, the affected persons behave differently, some adopting active coping strategies while others adopting weak ones. This is also a problem that should concern policy makers when vulnerable people lack the opportunities to choose active coping strategies. The active coping strategies include an increase in home production, change in place of residence, finding supplementary work or second job, formal borrowing e.g., from banks, petty trading and others. Nevertheless, the failure of the households to adopt active coping strategies is not only reflected in household consumption volatility but also affects nutrition, health and education (Dercon, 2002; Dercon, 2006; and Zimmerman and Carter, 2003). However, the weak strategies include sale of assets (Dercon, 2006); promoting the labour force participation of additional family members such as children; reducing consumption patterns, including restriction of food intake of family members; taking children out of school to reduce education expenditures, or postponing health care expenditures; relocating and/or restructuring households, for example by having several families living under one roof; drawing on outside help both in kind and in cash, including support from local communities, friends and relatives, and private institutions such as NGOs. In addition, Hicks and Wodon (2000) argue that the adoption of weak coping strategies by households may have permanent effects that will make it difficult if not impossible for them to be salvaged from falling into chronic poverty trap.

For instance, Hicks and Wodon (2000) opine that substitution between work and schooling reduces the human capital endowment of working children. This may occur because working children may expect on average a loss of about 7 percent of their discounted life-time earnings when they are put to work (Hicks and Wodon, 2000). The expected loss may be incurred even after taking into account their positive earnings when working as children and the higher level of experience accumulated because of work at an early age (Hicks and Wodon, 2000). Glaringly, the extent of the long-term losses due to child labor as a result of withdrawal from school calls for the design of programmes that help parents keep their children in school, especially during economic crises. Similarly, Dercon (2006) argues that selling off assets as a coping strategy is not costless for the fact that it may lead to low level of welfare in both the short and long-runs.

The hardship faced by most households engulfed with shocks, especially those headed by women in Nigeria may be as a consequence of the adoption of weak coping strategies. As women continue to be the breadwinners of the households without any contribution from men, the affected households will find themselves vulnerable to economic and climatic shocks.

However, the ability of a household to adopt active coping strategy to mitigate the effect of shocks depends on certain household characteristics. Therefore, understanding the influence of shocks and other household characteristics on subjective poverty and why some affected persons adopt weak coping strategies is crucial in designing specific and appropriate poverty eradication policies in Nigeria.

Therefore, in order to formulate policies that will promote adoption of active coping strategies, there is a need for investigating those household characteristics that may lead to the adoption of such strategies. There is therefore still much to learn concerning the coping strategies used by households in developing countries, more particularly African countries where despite the fact that shocks are considered to be pervasive, there is little quantitative data on their incidence, severity and consequences (Dercon, 2006; and Dercon, Hoddinott, and Woldehanna., 2005). At this point, some questions may be raised. Firstly, what kind of poverty coping strategies that is commonly adopted by affected households in Nigeria? Second, to what extent is the incidence of subjective poverty in Nigeria? Thirdly, do shocks have any significant influence on household subjective poverty? Fourthly, what other household characteristics have significant influence on subjective poverty in Nigeria? Finally, what household characteristics make the affected individuals behave differently in choosing between active coping strategies and weak ones?

Answers to the aforementioned questions will help in suggesting appropriate policies that will assist in bailing out the most vulnerable households from the danger of being chronically poor. This study therefore, as part of its contribution to the subject matter, aims to identify a kind of poverty coping strategies commonly adopted by affected households in Nigeria, compute the incidence of subjective poverty and subjective poverty line, investigate the influence of various shocks and household characteristics on subjective poverty in Nigeria, and the influence of some household characteristics on the choice between active and passive coping strategies.

THEORETICAL FRAMEWORK

The Human Capital Theory (first developed by Becker, 1964) and propagated by Ben-Porath (1967), Mincer (1970) and Mincer and Polachek (1974) is often used to provide a link between certain household characteristics and poverty coping strategies. Thus, the theory argues that earning tends to increase within the level of education and experience to certain level. In addition, Reimers (1999) argues that education improves cognitive skills as well as social skills and those credentials that can be gained in school tend to expand the choices available to cope with shocks. These skills and credentials increase the probability that people can become more productive and obtain better means of sustenance, hence leading to adoption of active coping strategies for poverty reduction. As a rider to this argument, Moser (1998) argues that education ensures that people gain skills and knowledge, and ensures that they use their skills and knowledge productively leading to a choice of better coping strategies. Therefore, household human capital endowment is more likely to enable a household choose active poverty coping strategies.

However, the life cycle hypothesis (see Ando and Modigliani, 1963; Hanna, Fan, and Chang, 1995), predicts that wealth increases from working age up to retirement, and declines smoothly thereafter (Jappelli, 1999). This is in conformity with the theoretical explanation of human capital theory. But then, after retirement, an individual will use his pension and personal savings out of his income during working age to maintain his smooth actual consumption. In view of this, age of a household head is expected to have a significant influence on subjective poverty and ability of a household to adopt active coping strategies.

REVIEW OF LITERATURE

The chronically poor are characterised with food insecurity every year, poor children's school attendance and low level of assets. It has been observed however, that chronic poverty is mostly considered as an outcome of shocks. Shocks have been defined as adverse events leading to a loss of household income, a reduction in consumption and/or loss of productive assets (Dercon *et al.*, 2005).

According to Dercon *et al.* (2005), shocks are divided into a number of broad folds: climatic; economic; political/social/legal; crime; and health. Dercon *et al.* (2005) opine that climatic shocks include for example drought and flooding, erosion, frosts and pestilence affecting crops or livestock. Economic shocks include problems in terms of access to inputs (both physical access and large increases in price), decreases in output prices, and difficulties in selling agricultural and nonagricultural products. Political/social/legal shocks include the confiscation of assets or arbitrary taxation by government authorities, social or political discrimination or exclusion and contract disputes. Crime shocks include theft and/or armed robbery, destruction of crops, livestock, housing, tools or household durables as well as crimes against persons. Health shocks include both death and illness. In addition, Dercon *et al.* (2005) also consider miscellaneous shocks such as conflicts and disputes with other family members, neighbours or other village residents regarding access to land or other assets. All these shocks are apparent in most African countries, particularly Nigeria. Some of these factors lead to retention of poverty, keeping poor people poor while others are drivers to chronic poverty, pushing vulnerable groups into poverty that they cannot pull themselves out of.

Chronic poverty has significant effects particularly on children, old people, illiterates, female headed households and people with disability. For these vulnerable groups, poverty is not simply about lack of income but about multidimensional deprivations such as hunger, under-nutrition, dirty drinking water, illiteracy, poor health care, social isolation and exploitation (CPRC, 2005) which are beyond objective poverty (i.e., lack of income or low level of consumption expenditure). Many different people such as those stigmatised, socially marginalised, disabled and those with ill-health suffer such isolation and exploitation. Most people in chronic poverty trap work hard to improve their livelihood and prospects for their children in difficult circumstances that they have not intentionally chosen. Although chronically poor people are found in all parts of the world, there is evidence suggesting that the highest incidence of poverty is in Sub-Sahara Africa (CPRC, 2005) where the incidence among the ten least developed West African countries ranged between 60% and 94% during the periods 1995 to 2000 (Oduro and Aryee, 2003). In fact, African countries are highly vulnerable not only to climate shocks, but to economic and political shocks (Chhibber and Laajaj, 2006).

According to Enidun (1996) Nigeria's social indicators are low when compared to other developing countries. The study indicates that one in five children in Nigeria dies before the age of 5. However, social indicators are worst among the poor in rural areas and in the Northern part of the country (Enidun, 1996, Mikailu, 2000 and Canagarajah and Thomas, 2001). Furthermore, the incidence of poverty has continued unabated despite the efforts of successive governments in Nigeria to deal with the problem. Available statistics from the Federal Office of Statistic (FOS) reveals that although the incidence of poverty declined between 1985 and 1992, from 43.0% to 34.1%, it has been on the rise since then (FOS, 1998). An interesting point seems to emerge from the regional variations in the incidence of poverty during that period. While the southern part of the country witnessed a decline, certain parts of the north saw an increase, with Sokoto recording the highest increase of 6 percentage points (Canagarajah and Thomas, 2001). However, it is surprising that the studies that identify and examine the factors that make the afflicted individuals behave differently in coping with shocks in West Africa and Nigeria in particular are scanty.

The literature on poverty has shown that chronic poverty is mostly considered as an outcome of shocks (Dercon, 2006). Many vulnerable individuals are affected by different shocks. The nature of shock determines the ability of an individual to cope with its consequences (Dercon, 2002). Such shocks may include drought, ill-health, death in a household, output price collapse, increase in input prices, crime and crop pests (Dercon, 2006), flood, fire disaster, retirement or loss of job, and disability.

Using the Ethiopian Rural Household Survey panel data for a sample of 1450 households, covering 15 villages, for the period 1999-2004, Dercon *et al.* (2005) found that less than half of the households were affected by drought. Furthermore, the authors found that 43% of the respondents had been affected by a death in the household, 20% of them were affected by a serious illness in the household, 10% to 20% of the households had been affected by output price collapse, increase in input prices, crime and crop pests.

However, apart from shocks, poverty can also be affected by some household characteristics. A study on Nigeria conducted by Okojie (2002) indicates that education of a household head has the tendency to reduce likelihood of being poor. In a similar study, using three round household survey data for a sample of 149 households in Ethiopia and running binary logit model, Bogale, Hagedorn, and Korf *(*2002) find similar results with those of Okojie, indicating a negative relationship between educational level of a household head and poverty. Therefore, the higher the educational level of the household head, the greater the welfare of the household. The results re-echo the earlier findings reported by Enidun (1996) on the positive link between illiteracy and poverty. A similar study on the relationship between education and poverty by Jalan and Ravallion (1998) also confirms the negative relationship between education and poverty. The authors went further to examine the relationship between education and other forms of poverty, stressing a negative relationship between education and chronic poverty. These results are not at variance with the works of NEC, NSO and IFPRI (2001), who find a significant positive relationship between educational level and household welfare. Furthermore, using cross-sectional data for a sample of 598 households drawn from 15 villages in Sokoto State of Nigeria and running OLS and logistic regressions, Garba (2006) finds a statistically significant positive relationship between educational level of a household head and rural household welfare and a statistically significant negative relationship between educational level of a household head and poverty. Although the evidence seems to be overwhelming in support to the efficacy of education as a veritable tool for poverty reduction, some studies have reported findings running counter to stylised facts. Canabal (1997), using macro level data for a sample of 1684 observations for the period 1982-84, and running ordinary least squares, finds no significant relationship between education and household wellbeing.

Garba (2006) investigates the influence of some household characteristics on household welfare and finds that the age of a household head, number of hectares of farmland owned by a household, access to credit and ownership of livestock tend to have statistically significant positive consequence on household welfare. However, it is observed that household size tends to have a statistically significant negative consequence on household welfare. Similarly, an empirical study conducted by Sanda, Bashar, and Muhammad (2001) for a sample of fifty respondents, using single cross-sectional data and performing independent t-test, suggests that access to micro-credit tends to reduce income poverty in rural areas.

But considering shocks as important causes of poverty, Dercon *et al.* (2005) find that experiencing a drought at least once in the previous five years lowers significantly per capita consumption by approximately 20 percent and experiencing an illness significantly reduces per capita consumption by approximately 9 percent. These are the only shock variables that have a statistically significant effect on consumption according to their findings. The authors also found that shocks such as drought, input and output shocks were covariate (affecting everybody) but pests, crime, death and illness were idiosyncratic (affecting an individual). In addition, the authors find that output shocks are less likely to lead to loss of assets than other shocks. Similarly, death of a husband, wife or another person in a household is also less likely to lead to assets losses.

However, different victims of shocks adopt different strategies in coping with the crises. It also appears that most people use coping strategies that are not effective. Using panel data for the period 1996 and 1998 in Russia, and running logistic regression model for a sample of 2,875 households, Lokshin and Yemtsov (2004) found that 63% of the respondents adopted

cutting expenditure on clothes as a poverty coping strategy but less than 5% of the respondents turned to government agencies for assistance as part of coping strategy. The findings of these authors also showed that about 66% of the respondents indicated that their spending on shoes and clothes was lower than in the pre-crisis period. Similarly, more than half of the respondents reduced their expenditure on food after the crisis. In addition, the findings of Lokshin and Yemtsov (2004) indicated that 15% of the respondents cultivated more on a personal plot and more than 4% of them sold their belongings to cope with poverty. However, 5.1% of the respondents changed their place of residence, 18% of them sought help from relatives, 3.3% indicated that they merged in with other relatives and 7% turned to friends for assistance to cope with the changing reality of life.

Nevertheless, responses to coping strategies differ on the basis of gender. Lokshin and Yemtsov (2004) find that 59.3% of women in the sample decreased their expenditures on food compared to only 48.5% of men in the sample. Similarly, 8% of men reported that they found additional jobs to cope with poverty compared to 5.4% of women.

The literature on coping strategies has indicated some factors that are correlated with the choice of coping strategies. Educational level of the household members has been considered as one of the factors that influence the adoption of a given coping strategy. Using panel data for the period, 1996 and 1998 in Russia, and running logistic regression model for a sample of 2,875 households, Lokshin and Yemtsov (2004) find that households with higher levels of education are significantly more likely to adopt active coping strategies than others. As a rider to this finding, Moser (1998) argues that education ensures that people gain skills and knowledge, and ensures that they use their skills and knowledge productively leading to a choice of better coping strategies. This echoes with the assertion of Mitlin (2003) who argues for the preponderance of a strong association between education and chronic poverty.

Another factor that has significant effect on the adoption of a given coping strategy is household size. Lokshin and Yemtsov (2004) find a significant positive relationship between household size and choice of active coping strategies.

The welfare of a household before the occurrence of any shock or retirement of the head is another variable that has serious impact on the adoption of a given coping strategy. The findings of Lokshin and Yemtsov (2004) suggest the prevalence of a significant positive correlation between the welfare of a household before the crisis and a probability of a household to choose active coping strategies. The assertion of Skoufias (2003) is in favour of these findings.

The literature on poverty has also indicated that the age of a household head has a significant impact on the choice of a given coping strategy. The findings of Lokshin and Yemtsov (2004) indicate that households with younger heads are significantly more likely to choose active coping strategies than those with older household heads. This is in conformity with the findings of Sesabo and Tol (2005). This is perhaps due to the fact that participation in some economic activities requires enormous energy.

Employment status after the occurrence of a shock is another factor that influences the choice of a coping strategy. The findings of Lokshin and Yemtsov (2004) indicate that households with an unemployed head are significantly less likely to adopt active coping strategies.

In addition, headship of a household by a pensioner is considered to have serious influence on choice of a given coping strategy. Lokshin and Yemtsov (2004) find that households headed by pensioners are significantly less likely to adopt active coping strategies than other households.

Headship of a household by a single parent is another factor that may affect the choice of a coping strategy. The findings of Lokshin and Yemtsov (2004) suggest that single parent households are more likely to adopt weak coping strategies than other households.

A household settlement (rural or urban) has been viewed to have significant influence on the choice of a coping strategy. Lokshin and Yemtsov (2004) find that urban households are less likely to adopt active coping strategy than those in the rural areas.

Land ownership is another factor expected to influence the choice of coping strategy. However, Lokshin and Yemtsov (2004) find no statistically significant relationship between ownership of land and choice of coping strategies. According to Hoddinott, Quisumbing, de Janvry, and Woldehanna (2005) and Sesabo and Tol (2005), the amount of assets a household holds determines whether a family can adopt an active coping strategy.

METHODOLOGY

This section deals with method of data collection, sample size and sampling techniques adopted, variables measurements and method of data analysis used.

Method of Data Collection

On the basis of the nature of this study, secondary cross-sectional data set from National Bureau of Statistics' Nigerian Core Welfare Indicators Questionnaire (CWIQ) Survey of the year 2006 was generated. The 2006 Nigerian CWIQ was a nationwide sample survey conducted to produce welfare indicators for the population at national and sub-national levels, particularly Zones, States and Senatorial Districts. The coverage of the survey cut across both the urban and rural areas of the country.

Sample Size and Sampling Techniques

The sample design employed by the National Bureau of Statistics for National Core Welfare Indicator Questionnaire Survey 2006 was a 2-stage cluster sample design in which Enumeration Areas (EAs) or Primary Sampling Units (PSUs) constituted the first stage sample while the Housing Units (HUs) from EAs made up the second stage sample or the ultimate sampling

units. The EAs as demarcated by the National Population Commission for the 1991 population census served as the sampling frame for the survey.

For National CWIQ survey 2006, the sample size varied from state to state depending on the number of Local Government Areas (LGAs) in each state. Ten (10) EAs were selected systematically in each LGA making a total of 7,740 EAs throughout the federation from the 774 LGAs including Federal Capital Territory (FCT) Abuja.

A listing/updating exercise was carried out in each EA. From each EA, 10 HUs were selected systematically to form the second stage. Overall, 77,400 HUs were drawn at the national level. This made the survey the biggest in the history of the CWIQ in Nigeria (National Bureau of Statistics, 2006).

For the purpose of this study, all households captured in the survey that responded to the relevant questions have been included in the sample.

Variables Measurements

The measurements of different variables captured in the econometrics models for this study are given in Table 1.

To generate the incidence of subjective poverty in order to get statistics of non-poor (rich), relatively poor and absolutely poor, frequency of problems experienced in satisfying food needs has been used.

Table 1: Measurements of variables

Measure of subjective poverty	A dummy variable taking value of 1 if a respondent considers his household as poor, and 0 otherwise.
Non-poor (rich)	A person who has never experienced problem in satisfying food needs
Relatively poor	A person who has seldom or sometimes experienced problem in satisfying food needs
Absolutely poor	A person who has often or always experienced problem in satisfying food needs
Level of education of a household head	A dummy variable taking a value of 1 if the head attended any school and 0 otherwise
Household size	Number of persons living together and eating from the same pot

Household size squared	Quadratic value of Household size
Shocks	Dummy variables capturing two categories of shocks have been included in subjective poverty model: a) Climatic shocks which include drought and loss of livestock and oxen and b) Economic shocks which include problems in terms of access to inputs (both physical access and large increases in price), decreases in output prices, and difficulties in selling agricultural and nonagricultural products, retrenchment, lack of credit facilities to start business, lack of job opportunities, too high price of commodities and hard economic conditions. 1 if any of these shocks is the main cause of poverty, 0 otherwise.
Employment status of a household head	A dummy variable taking the value of 1 if the head is employed, 0 otherwise.
Headship of a household by a pensioner	A dummy variable taking the value of 1 if the head is a pensioner, 0 otherwise
A household Locality (rural or urban)	A dummy variable taking the value of 1 if a household is located in rural area, 0 otherwise.
Coping Strategies	A dummy variable taking the value of 1 if a household adopts active coping strategies (such as: finding supplementary work or second job, formal borrowing e.g., from banks and Petty trading), 0 otherwise (such as: piece of work on farms belonging to other households, relief food or free food from government/other bodies, eating wild food only, substituting ordinary meals with fruits, reducing number of meals, reducing other household items e.g. soap, informal borrowing e.g. from friends, receiving charity, withdrawing children out of school, sale of assets such as cattle, fridge, car, etc, asking from friends, neighbours, relatives, etc and begging from the streets).
Ownership of livestock	Number of cattle and other large livestock owned by the household
Gender of household head	A dummy variable taking the value of 1 if the household is headed by a male, and 0 otherwise.
Age of household head	Age of the household head as at last birthday

Age of household head squared	Quadratic value of the age of a household head
Access to formal credit	A dummy variable taking the value of 1 if a household head had access to formal credit, and 0 otherwise.
Land ownership	Defined as size of farmland (in hectares) the household owns.

Method of Data Analysis

Descriptive statistical method and logistic estimators have been used to achieve different objectives of this paper. Descriptive analysis has been performed at preliminary stage to achieve some objectives of this study and see the clear picture of the variables to be controlled in our econometric models. Other objectives of this research have been achieved by running logistic regression models with robust standard errors. Logistic regressions have been run with robust standard errors as the dependent variables specified in the models are categorical in nature, each having two categories. The models have been run with robust standard errors in order to take care of heteroskedasticity that is commonly associated with cross-sectional data set (Dougherty, 2007; and Yaffee, 2002).

Model Specification

The following models have been used in estimating the coefficients of the variables that have been captured in our econometric models:

$$SUBPOV_i = \beta_0 + \beta_1 shocks_i + \mu_i \underline{\hspace{1cm}} (1)$$

Where:

$SUBPOV_i$	=	A dummy variable measuring subjective poverty (taking value of 1 for poor and 0 otherwise).
β_0	=	Estimated constant parameter or intercept
β_1	=	Vector of the estimated parameters of different shocks
shocks	=	Vector of different shocks.
μ_i	=	Error term.

Equation 1 has been regressed thrice on the basis of locality, geo-political regions and national level

$$SUBPOV_i = \alpha_0 + \alpha_1 hhchar_i + \mu_i \underline{\hspace{1cm}} (2)$$

Where:

SUBPOV$_i$	=	A dummy variable measuring subjective poverty (taking value of 1 for poor and 0 otherwise).
α_0	=	Estimated constant parameter or intercept
α_1	=	Vector of the estimated parameters of different household characteristics
hhchar	=	Vector of different household characteristics.
μ_i	=	Error term.

Equation 2 has been regressed twice on the basis of geo-political regions and national level

$$COPSTRAT_i \quad = \quad \lambda_0 + \lambda_1 H_i + \mu_i \underline{\hspace{1cm}} (3)$$

Where:

COPSTRAT$_i$	=	A dummy variable taking the value of 1 if active coping strategies are adopted, 0 otherwise.
λ_0	=	Estimated constant parameter or intercept
λ_1	=	Vector of estimated parameters of household characteristics that influence the choice of active coping strategies
H	=	Vector of household characteristics that influence the choice of active coping strategies
μ_i	=	Error term.

Equation 3 has also been regressed thrice on the basis of locality, geo-political regions and national level.

RESULTS AND DISCUSSIONS

This section deals with interpretation and discussion of both descriptive and regression results of this study.

The weak coping strategies adopted by households in Nigeria during the year under survey included; piece of work on farms belonging to other households, relief food or free food from government/other bodies, eating wild food only, substituting ordinary meals with fruits, reducing number of meals, reducing other household items e.g. soap, informal borrowing e.g. from friends, receiving charity, withdrawing children out of school, sale of assets such as cattle, fridge, car, etc, asking from friends, neighbours, relatives, etc. and begging from the streets. But active coping strategies adopted included; other piece of work, formal borrowing e.g., from banks, petty trading and others.

Table 2: Descriptive Results of Weak and Strong Coping Strategies Adopted by the affected Households at National and Regional Levels in Nigeria

Region	Weak Strategy	Active Strategy	Total Responses	Percentage of Weak Strategy	Percentage of Active Strategy
National	54,263	16,860	71,123	76.29	23.71
North West	12,269	4,893	17,162	71.49	28.51
North East	8,208	2,328	10,536	77.90	22.10
North Central	8,018	2,364	10,382	77.23	22.77
South West	9,720	3,048	12,768	76.13	23.87
South East	7,171	1,405	8,576	83.62	16.38
South South	8,877	2,822	11,699	75.88	24.12

Source: Author's computations from National Core Welfare Indicators Questionnaire Survey data, 2006, conducted by National Bureau of Statistics, Nigeria

The descriptive results presented in Table 2 indicated that 76.29% of the households adopted weak strategies in coping with shocks in Nigeria and 23.71% of them adopted active coping strategies in dealing with shocks at national level. These findings are similar to those but above the percentage got by Lokshin and Yemtsov (2004), who found that 63% of the respondents adopted cutting expenditure on clothes as a poverty coping strategy in Russia, which is one of the weak coping strategies.

But at regional level, the results varied among the regions. In the North West region, the results showed that 71.49% (below national percentage) of the households adopted weak coping strategies in dealing with various shocks that befell them during the year under survey while 28.51% (above national percentage) of them adopted active coping strategies. However, in the North East region of Nigeria, 77.90% (above the national percentage) of the households adopted weak coping strategies while 22.10% (below the national percentage) were adopting active coping strategies against shocks. In the North Central, 77.23% (above national percentage) of the households were adopting weak coping strategies while 22.77% (below national percentage) of them were adopting active strategies. The results further showed that 76.13% (below the national percentage) of the households in South West region adopted weak coping strategies while 23.87% (above the national percentage) of them adopted active strategies in dealing with various shocks. In the South East, 83.62% (above all the regional and national percentages) of the households adopted weak coping strategies while only 16.38% (below all the regional and national percentages) of them were able to adopt active strategies in coping with shocks. In the South South region however, 75.88% of the households adopted weak coping strategies while 24.12% of them adopted active strategies against various shocks.

Conclusively, at national level, 76.29% of the households adopted weak strategies in coping with shocks in Nigeria and 23.71% of them adopted active coping strategies in dealing with shocks. At regional level, the South East region had the highest percentage of households (83.62%) adopting weak strategies in coping with shocks followed by North East with

77.90%. But a region with lowest percentage of households adopting weak strategies and highest percentage of active coping strategies was North West which recorded 71.49% and 28.51% of the households respectively. Nonetheless, in general, all the regions were adopting higher proportion of weak strategies and lower percentage of active ones in dealing with shocks. This confirms the findings of Begna and Paul (2010) in Ethiopia, where majority of the households adopt weak coping strategies in coping with shocks.

Locality of a household may determine the ability of a household to adopt active or weak coping strategy in dealing with shocks. The descriptive results presented in Table 3 indicated that 75.66% of the households in urban areas adopted weak strategies in coping with various shocks while 24.34% of them adopted active ones. But in rural areas, 76.48% of them adopted weak coping strategies while 23.52% adopted active ones. From these results, it can be seen that greater percentage of rural households adopted weak coping strategies than urban households though in both localities higher percentage of weak strategies had been adopted.

Gender of a household head is another factor that may affect the ability of a household to adopt a given coping strategy. Therefore, the descriptive analysis of the data in line with this assertion had been made and the results presented in Table 4.

Table 3: Descriptive Results of Weak and Strong Coping Strategies Adopted by the affected Households in Nigeria According to Locality.

Locality	Weak Strategy	Active Strategy	Total Responses	Percentage of Weak Strategy	Percentage of Active Strategy
Urban	11,996	3,859	15,855	75.66	24.34
Rural	42,267	13,001	55,268	76.48	23.52

Source: Author's computations from National Core Welfare Indicators Questionnaire Survey data, 2006, conducted by National Bureau of Statistics, Nigeria

From the results in Table 4, it appeared that 77.67% of the households headed by females adopted weak coping strategies while 22.33% of them adopted active coping ones. But 76.08% of the households headed by males adopted weak coping strategies against shocks while 23.92% of them adopted active ones. From the results, it is clear that proportion of households adopting weak coping strategies was greater among female headed households than among those headed by males though the difference is not all that large. This finding also looks similar to that of Lokshin and Yemtsov (2004) who found that 59.3% of the women in the sample decreased their expenditures on food compared to only 48.5% of the men in the sample.

Table 4: Descriptive Results of Weak and Strong Coping Strategies Adopted by the affected Households in Nigeria According to Gender of the Household Head.

Gender	Weak Strategy	Active Strategy	Total Responses	Percentage of Weak Strategy	Percentage of Active Strategy
Female Head	7,568	2,176	9,744	77.67	22.33
Male Head	46,695	14,684	61,379	76.08	23.92

Source: Author's computations from National Core Welfare Indicators Questionnaire Survey data, 2006, conducted by National Bureau of Statistics, Nigeria

Shocks are defined here as a dummy variable capturing two categories of shocks included in subjective poverty model. a) Climatic shocks which include for example drought and loss of livestock and oxen. b) Economic shocks which include problems in terms of access to inputs (both physical access and large increases in price), decreases in output prices, and difficulties in selling agricultural and nonagricultural products, retrenchment, lack of credit facilities to start business, lack of job opportunities, too high price of commodities and hard economic conditions. 1 if any of these shocks is the main cause of poverty, 0 otherwise.

Table 5 presents descriptive results of the subjective poverty incidence at national and regional levels in Nigeria, using poor and not poor responses. At national level, the results revealed that 64.28% of Nigerians considered themselves as poor while 35.72% of them not poor. But at regional level, 50.06% of the Nigerians in North West region considered themselves as poor while 49.94% of them not poor. However, in the North East region of Nigeria, 76.12% of the households subjectively considered themselves as poor while 23.88% of them not poor. In addition, 63.29% of the households in the North Central of Nigeria opined that they were poor while 36.71% of them did not consider themselves as such. Furthermore, in the South West region of Nigeria, 60.44% of the households did consider themselves as poor while 39.56% of them did not. Dramatically, in the South East region, 77.80% of the households considered themselves as poor while only 22.20% did not consider themselves as such. However, in the South-South region of the country, 70.08% of the households graded themselves as poor while 29.92% of them felt satisfied.

Table 5: Descriptive Results of Subjective Poverty Incidence at National and Regional Levels in Nigeria, using poor and not poor responses

Region	Not poor	Poor	Total Responses	Percentage of not poor	Percentage of poor
National	26,552	47,790	74,342	35.72	64.28
North West	8,998	9,018	18,016	49.94	50.06
North East	2,583	8,233	10,816	23.88	76.12
North Central	4,247	7,323	11,570	36.71	63.29
South West	5,213	7,966	13,179	39.56	60.44
South East	2,012	7,053	9,065	22.20	77.80
South South	3,499	8,197	11,696	29.92	70.08

Source: Author's computations from National Core Welfare Indicators Questionnaire Survey data, 2006, conducted by National Bureau of Statistics, Nigeria

Conclusively, during the year under survey, the incidence of subjective poverty in Nigeria at aggregate level was 64.28. However, at regional level, the incidence of poverty differed from one region to the other. South East region of Nigeria had the highest incidence of subjective poverty (77.80) followed by North East region which had 76.12, while North West region had the lowest (50.06), below even the national average. These findings therefore call for urgent policy action that will eradicate poverty in Nigeria by and large and the most affected regions in particular.

This study further analyses the data to compute subjective poverty line and finds the percentage of the households that are considered absolutely poor and those considered as relatively poor using frequency of problems in satisfying food needs. Households that had never faced problem of food needs were considered as rich (not poor). However, those who seldom and sometimes faced food problems were considered relatively poor. But those who often and always faced food problems were considered as absolutely poor. Therefore, Table 6 presents the results of this analysis.

Table 6: Descriptive Results of Relative and Absolute Subjective Poverty Incidence at National and Regional Levels in Nigeria, using Frequency of Problems in Satisfying Food Needs

Region	Not Poor	Relatively Poor	Absolutely Poor	Total Responses	Percentage of not poor	Percentage of Relatively Poor	Percentage of Absolutely Poor
National	27,718	37,330	9,978	75,026	36.94	49.76	13.30
North West	8,417	8,065	1,703	18,185	46.29	44.35	9.36
North East	3,629	5,805	1,429	10,863	33.41	53.44	13.15
North Central	5,720	5,093	903	11,716	48.82	43.47	7.71
South West	5,339	6,471	1,461	13,271	40.23	48.76	11.01
South East	1,648	5,307	2,176	9,131	18.05	58.12	23.83
South South	2,965	6,589	2,306	11,860	25.00	55.56	19.44

Source: Author's computations from National Core Welfare Indicators Questionnaire Survey data, 2006, conducted by National Bureau of Statistics, Nigeria

The results in Table 6 indicated that, at aggregate level, 49.76% of the households in Nigeria during the period under survey were relatively poor while 13.30% of them were absolutely poor. But the level of subjective poverty differed at regional level. In the North West region of Nigeria, 44.35% of the households were relatively poor in terms of satisfying food needs while 9.36% of them were absolutely poor. However, in the North East region, 53.44% of the households were relatively poor while 13.15% of them were absolutely poor. But in the North Central region, 43.47% of the households were considered relatively poor while 7.71% of them were absolutely poor. In addition, South West region have had 48.76% of its households as relatively poor while 11.01% of them were absolutely poor. But in the South East, 58.12% of the households were relatively poor while 23.83% of them were absolutely poor. This region had the highest proportion of both absolute and relative poverty levels, just like as it had the highest incidence of poverty. Similarly, in the South-South region, 55.56% of the households were relatively poor while 13.30% of them were absolutely poor.

To recapitulate these findings, it is clear that at aggregate level, 49.76% of the households in Nigeria during the period under survey were relatively poor while 13.30% of them were absolutely poor. But disaggregating the analysis according to region however, indicates that South East region had the highest proportion of both absolute and relative poverty levels, just like as it had the highest incidence of poverty while North Central region had the lowest levels of both relative and absolute poverty in terms of satisfying food problems.

The incidence of poverty has been considered more of rural problem than urban. In view of this, data analysis along this assertion had been carried out using poor and not poor responses. The results of this analysis are presented in Table 7. The results showed that 58.58% of the households in urban areas considered themselves as poor while up to 65.95% of their counterparts in the rural areas considered themselves as poor. The findings suggest that the proportion of poor is more in

rural than in urban areas. In this regard, policies that will eradicate poverty in general and rural poverty in particular should be pursued vigorously.

Table 7: Descriptive Results of Subjective Poverty Incidence in Nigeria According to Locality, using poor and not poor responses

Locality	Not poor	Poor	Total Responses	Percentage of not poor	Percentage of poor
Urban	6,971	9,861	16,832	41.42	58.58
Rural	19,581	37,929	57,510	34.05	65.95

Source: Author's computations from National Core Welfare Indicators Questionnaire Survey data, 2006, conducted by National Bureau of Statistics, Nigeria

Table 8 presents descriptive results on the relative and absolute poverty according to locality, using frequency of problems in satisfying food needs. The results indicate that 51.11% of the urban households were relatively poor while 12.58% of them were absolutely poor. But on the contrary to our priori expectation, 49.36% of the households in rural Nigeria were relatively poor while 13.51% of them were absolutely poor. Although proportion of relatively poor was higher in urban areas, the proportion of absolutely poor households was greater in rural areas of Nigeria.

Table 8: Descriptive Results of Relative and Absolute Subjective Poverty Incidence in Nigeria According to Locality, using Frequency of Problems in Satisfying Food Needs

Locality	Not Poor	Relatively Poor	Absolutely Poor	Total Responses	Percentage of not poor	Percentage of Relatively Poor	Percentage of Absolutely Poor
Urban	6,148	8,656	2,131	16,935	36.30	51.11	12.58
Rural	21,570	28,674	7,847	58,091	37.13	49.36	13.51

Source: Author's computations from National Core Welfare Indicators Questionnaire Survey data, 2006, conducted by National Bureau of Statistics, Nigeria

The development economics literature also suggests that poverty is more associated with female headed households than among those headed by males. To verify this assertion, an analysis of data along this line had been carried out, using poor and not poor responses. Table 9 presents the descriptive results of this analysis. From the results, it is evident that proportion of poor among female headed households (72.80%) was greater than among those headed by males (62.96%). These findings also have the implication that poverty eradication policies should target female headed households more than their male counterparts.

Table 9: Descriptive Results of Subjective Poverty Incidence in Nigeria According to Gender of the Household Head, using poor and not poor responses

Gender	Not poor	Poor	Total Responses	Percentage of not poor	Percentage of poor
Female Head	2,722	7,287	10,009	27.20	72.80
Male Head	23,830	40,503	64,333	37.04	62.96

Source: Author's computations from National Core Welfare Indicators Questionnaire Survey data, 2006, conducted by National Bureau of Statistics, Nigeria

Table 10 presents descriptive results on relative and absolute poverty on the basis of the gender of the household head, using frequency of problems in satisfying food needs. The results showed that 53.10% of the households headed by females were relatively poor while 18.16% of them were absolutely poor. But among households headed by males, 49.24% of them were relatively poor while 12.55% of them were absolutely poor. This suggests that female headed households were overrepresented at both relative and absolute poverty levels compared to male headed households.

Table 10: Descriptive Results of Relative and Absolute Subjective Poverty Incidence in Nigeria According to Gender of the Household Head, using Frequency of Problems in Satisfying Food Needs

Gender	Not Poor	Relatively Poor	Absolutely Poor	Total Responses	Percentage of not poor	Percentage of Relatively Poor	Percentage of Absolutely Poor
Female Head	2,899	5,355	1,831	10,085	28.75	53.10	18.16
Male Head	24,819	31,975	8,147	64,941	38.22	49.24	12.55

Source: Author's computations from National Core Welfare Indicators Questionnaire Survey data, 2006, conducted by National Bureau of Statistics, Nigeria

To investigate and test the hypothesis that shocks do not have any significant impact on household subjective poverty, logistic regressions with robust standard errors had been run. The results of the test are presented in Table 11.

Table 11: Logistic Regression Results with Robust Standard errors for Shocks and Subjective Poverty at National and Regional Levels

Independent Variables	Dependent Variable: Poor =1, Not Poor = 0						
	1	2	3	4	5	6	7
	National	North West	North East	North Central	South West	South East	South Sourth
Unavailability of Agric Inputs	-0.858 (-1.62)	-0.664 (-2.63)***	1.056 (0.24)	1.066 (0.26)	1.220 (0.65)	-0.547 (-2.16)**	1.423 (0.63)
Low Productivity of Agric of Produce	1.344 (1.90)*	1.247 (0.76)	1.831 (1.41)	1.216 (0.55)	2.122 (2.00)**	-0.742 (-0.81)	1.363 (0.55)
Drought	-0.806 (-0.79)	-0.601 (-1.29)	1.018 (0.02)	1.415 (0.34)	-0.673 (-1.72)*	1.552 (0.78)	-0.811 (-0.25)
Low Price for Agric Produce	1.066 (0.33)	-0.772 (-0.56)	1.435 (0.59)	2.551 (0.34)	-0.847 (-0.58)	-0818 (-0.39)	-0.965 (-0.06)
Loss of Cattle and Oxen due to Diseases	-0.595 (-1.77)*	-0.471 (-1.44)	-0.477 (-1.19)	-----------	-0.294 (-5.12)***	-0.474 (-1.04)	2.302 (1.01)
Lack of Credit Facilities to Start Agric Business	-0.870 (-0.61)	1.648 (0.98)	-0.979 (-0.03)	-0.347 (-2.23)**	1.053 (0.14)	1.044 (0.06)	-0.642 (-0.66)
Lack of Job Opportunities	1.540 (2.72)***	2.089 (1.60)	1.238 (0.40)	1.036 (0.08)	1.969 (1.87)*	1.658 (1.37)	1.184 (0.58)
Retrenchment/Redundancy	-0.513 (-2.02)**	-0.216 (-2.38)**	-0.525 (-0.60)	-0.638 (-0.44)	-0.385 (-3.69)***	1.384 (0.57)	-0.138 (-2.14)**
Too High Price of Commodities	1.613 (2.52)**	5.840 (3.11)***	1.335 (0.43)	-0.834 (-0.42)	1.861 (1.87)*	1.003 (0.01)	1.717 (0.81)
Hard Economic Conditions	1.499 (3.31)***	1.233 (0.80)	-0.897 (-0.40)	1.424 (0.99)	2.314 (3.16)***	1.659 (1.45)	1.558 (1.29)
Pseudo R^2	0.004	0.013	0.009	0.006	0.013	0.009	0.005
Wald Chi-Square Value	38.44***	30.33***	17.87*	9.06	43.65***	12.01	12.21
No. of Observations	47,827	9,022	8,229	7,280	7,942	7,059	8,198

Significant at 10% (*); 5% (**) and 1% (***)

The logistic regression results indicate that unavailability of agricultural inputs as part of economic shocks has no significant impact on subjective poverty at national level and in 4 out of 6 regions in the country. But at regional level, puzzling results are found in North West and South East regions, indicating a significant negative impact of unavailability of agricultural inputs on subjective poverty. These results indicate that unavailability of agricultural inputs is more likely to reduce the level of subjective poverty in North West and South East regions of Nigeria. This is contrary to our a priori expectation. However,

low productivity of agricultural produce as part of climatic shocks has significant positive influence on household subjective poverty at national level and in South West region of Nigeria. This suggests that low production of agricultural produce is more likely to worsen subjective poverty at national level and in South West region of the country. But this variable has no significant impact in other five regions of the country at regional level. This may be associated with high level of importation of agricultural produce to the extent that low level of domestic agricultural production does not make any impact on poverty in these regions.

Another climatic shock variable is drought. The results presented in Table 11 indicate that drought does not have any significant influence on household subjective poverty at national level and in 5 out of the 6 regions in the country. This may also be as a result of high level of importation of food stuff in the country. These findings are contrary to those found by Dercon *et al.* (2005), who find that experiencing a drought at least once in the previous five years lowers significantly per capita consumption by approximately 20 percent. But amazingly, this variable exerts a significant negative influence on subjective poverty in South West region of the country. This suggests that drought is more likely to reduce subjective poverty in South West region of Nigeria. This may be as a result of frequent rainfall that may destabilise economic activities in the region. Therefore, with drought, the households will be able to carry out their daily economic activities easily. From the results presented in Table 11, it is clear that low price for agricultural produce does not exert any significant influence on subjective poverty, both at national and regional levels in Nigeria. Another puzzling finding is that loss of cattle and oxen due to diseases as another climatic shock variable does influence subjective poverty negatively at national level and in South West region of Nigeria only. Going by these findings, an increase in loss of cattle and oxen is more likely to reduce subjective poverty at national level and in South West region of Nigeria. This is against our a priori expectation. However, this may happen because loss of cattle and oxen as a result of spread of diseases could make some individuals who are interested in using dead animals better off.

The results also show that in 5 out of 6 regions of the country and at national level, lack of credit facilities to start business does not influence household subjective poverty. But surprisingly, this variable exerts a significant negative impact on subjective poverty in North Central region of the country. This finding suggests that lack of credit is more likely to reduce subjective poverty in North Central region of Nigeria. This may not be unconnected with corruption and high interest charged on loans in Nigeria.

Some of the interesting findings of this study are the indication that too high prices of commodities, hard economic conditions and lack of job opportunities are more likely to have significant positive impact on household subjective poverty at national level and in South West region of the country. These findings suggest that the variables mentioned are more likely to increase subjective poverty in Nigeria.

Locality difference may make shocks affect household subjective poverty differently. To investigate this assertion, logistic regressions with robust standard errors have been applied. The results of the regressions are presented in Table 12.

The results presented in Table 12 are puzzling, indicating that although unavailability of agricultural inputs reduces subjective poverty in urban areas, it does not exert any significant impact on poverty in rural areas of Nigeria. However, the results indicate that although low productivity of agricultural produce promotes subjective poverty in rural areas in Nigeria, it does not have any significant influence on household subjective poverty in urban areas. Some of the puzzling findings of this study show that loss of cattle and oxen as a result of diseases is more likely to reduce subjective poverty in rural areas while in the urban areas, it does not have any significant impact on subjective poverty. Similarly, the results also indicate that retrenchment/redundancy is more likely to reduce subjective poverty in rural Nigeria but in urban areas, it does not exert any significant impact on poverty. However, the results suggest that high average level of commodities prices is more likely to promote the level of subjective poverty in rural Nigeria but it does not have any significant impact on poverty in urban areas.

Furthermore, the results show that drought and low prices for agricultural produce do not exert any significant impact on subjective poverty in both urban rural Nigeria. In addition, lack of credit facilities does not have any significant influence on subjective poverty in both urban and rural Nigeria.

Table 12: Logistic Regression Results with Robust Standard errors for Shocks and Subjective Poverty at Different Localities

	Dependent Variable: Poor =1, Not Poor = 0	
Independent Variables	1	2
	Urban Areas	Rural Areas
Unavailability of Agric Inputs	-0.480	-0.949
	(-3.67)***	(-0.49)
Low Productivity of Agric of Produce	1.017	1.377
	(0.05)	(1.87)*
Drought	-0.538	-0.889
	(-1.11)	(-0.38)
Low Price for Agric Produce	1.469	1.000
	(0.69)	(0.00)
Loss of Cattle and Oxen due to Diseases	1.005	-0.555
	(0.01)	(-1.87)*
Lack of Credit Facilities to Start Agric Business	-0.540	1.118
	(-1.61)	(0.39)
Lack of Job Opportunities	2.208	1.386
	(2.24)**	(1.84)*
Retrenchment/Redundancy	-0.743	-0.422
	(-0.46)	(-2.29)**
Too High Price of Commodities	1.656	1.620
	(1.42)	(2.14)**
Hard Economic Conditions	1.712	1.440
	(2.29)**	(2.54)**
Pseudo R^2	0.015	0.003
Wald Chi-Square Value	32.74***	24.47**
No. of Observations	9,860	37,963

Significant at 10% (*); 5% (**) and 1% (***)

But interestingly, the results indicate that lack of job opportunities and hard economic conditions both are more likely to increase the incidence of subjective poverty in both urban and rural Nigeria. These findings suggest that lack of job opportunities and economic hardship stimulate subjective poverty in both urban and rural areas of Nigeria.

To test the hypothesis that there is no significant relationship between household characteristics and subjective poverty in Nigeria, the author applied logistic regressions with robust standard errors. The results of the test are presented in Table 13. The logistic regression results indicate that gender of a household head has significant negative influence on subjective

poverty at both national (aggregate) and regional levels. In other words, a male headed household is more likely to reduce subjective household poverty than female headed one. These findings are in conformity with those of Dercon *et al.* (2005).

Table 13: Logistic Regression Results with Robust Standard errors for Household Characteristics and Subjective Poverty at National and Regional Levels

	Dependent Variable: Poor =1, Not Poor = 0						
Independent Variables	1	2	3	4	5	6	7
	National	North West	North East	North Central	South West	South East	South Sourth
Household Head Gender	-0.654	-0.794	-0.501	-0.751	-0.796	-0.844	-0.898
	$(-16.23)^{***}$	$(-2.01)^{**}$	$(-4.79)^{***}$	$(-4.02)^{***}$	$(-4.44)^{***}$	$(-2.32)^{**}$	$(-1.93)^{*}$
Household Head Level of Education	1.020	-0.801	-0.649	1.010	-0.761	-0.695	-0.559
	(1.15)	$(-5.58)^{***}$	$(-8.39)^{***}$	(0.21)	$(-5.65)^{***}$	$(-5.01)^{***}$	$(-9.47)^{***}$
Employment Status of the Head	-0.766	1.029	-0.716	-0.741	-0.706	-0.614	-0.536
	$(-15.62)^{***}$	(0.86)	$(-6.75)^{***}$	$(-6.77)^{*}$	$(-7.84)^{***}$	$(-8.42)^{***}$	$(-13.28)^{***}$
Household Size	-0.984	1.003	1.001	1.008	1.013	-0991	-0.956
	$(-2.56)^{***}$	(0.20)	(0.06)	(0.43)	(0.69)	(-0.42)	(-1.50)
Household Size Squared	-1.000	-0.998	-0.999	1.000	-0.998	-0.999	1.007
	(-0.73)	$(-2.07)^{**}$	(-0.82)	(0.24)	(-1.30)	(-0.66)	$(2.46)^{**}$
Land Ownership	1.000	-1.000	1.000	1.000	-1.000	1.000	1.000
	$(2.31)^{**}$	(-1.48)	(0.17)	$(2.20)^{**}$	(-0.13)	$(2.73)^{***}$	(0.63)
Ownership of Livestock	-1.000	-1.000	1.000	-1.000	1.000	-1.000	-1.000
	(-0.53)	$(-2.09)^{**}$	$(2.09)^{**}$	$(-1.79)^{*}$	$(2.69)^{***}$	$(-2.03)^{**}$	$(-2.41)^{**}$
Age of Household Head	1.002	-0.985	-0.964	1.002	1.001	1.008	1.000
	(0.95)	$(-2.25)^{**}$	$(-3.47)^{***}$	(0.29)	(0.88)	(0.74)	(0.08)
Age of Household Head Squared	1.000	1.000	1.000	1.000	-1.000	-1.000	-1.000
	(0.53)	$(2.13)^{**}$	$(2.86)^{***}$	(0.80)	(-1.27)	(-0.66)	(-0.60)
Pensioner Household Head	-0.799	1.062	-0.937	-0.681	0.774	-0.731	-0.872
	$(-4.66)^{***}$	(0.41)	(-0.33)	$(-3.39)^{***}$	$(-2.75)^{***}$	$(-2.47)^{**}$	(-1.27)
Locality of a Household	1.293	1.214	1.151	1.482	1.090	1.872	1.378
	$(13.08)^{***}$	$(3.91)^{***}$	$(2.36)^{***}$	$(7.56)^{***}$	$(2.15)^{**}$	$(10.70)^{***}$	$(6.19)^{***}$
Pseudo R^2	0.011	0.005	0.019	0.016	0.014	0.043	0.036
Wald Chi-Square Value	1037.17^{***}	112.95^{***}	201.12^{***}	225.74^{***}	228.74^{***}	340.42^{***}	420.52^{***}
No. of Observations	69,316	16,665	9,946	10,890	12,370	8,545	10,900

Significant at 10% (*); 5% (**) and 1% (***)

However, the results indicate that household head's level of education does not exert any significant influence on household subject poverty at national level. This contradicts the findings of Okojie (2002), Bogale *et al.* (2002), Enidun (1996) and Jalan and Ravallion (1998) but confirm those of Canabal (1997). This may be as a result of poor salaries paid to educated workers in Nigeria. But at regional level, education of a household head indicates significant negative influence on subjective poverty in all the regions with exception of North Central. These findings confirm those of Okojie (2002), Bogale *et al.* (2002), Enidun (1996) and Jalan and Ravallion (1998) who find a significant negative relationship between household head's level of education and poverty. This suggests that level of education of a household head is more likely to reduce level of subjective poverty at regional levels in Nigeria.

Similarly, another household characteristic that has significant negative impact on household subjective poverty is employment status of a household head. The results in Table 13 indicate that employment status of a household head has a significant negative influence on subjective poverty in Nigeria, both at national and regional levels with exception of North West. The findings suggest that an employed household head is more likely to reduce household subjective poverty than an unemployed head.

Another household characteristic that may affect household poverty is household size. From the results in Table 13, it is evident that household size has a significant negative effect on subjective poverty at national level in Nigeria. This suggests that, at aggregate level, as household size increases, there is likelihood for subjective poverty to decrease. But at regional levels, household size does not have any significant influence on subjective poverty in all the regions. But when quadratic value of household size is added among the regressors, there is no significant non-linear relationship between household size and subjective poverty at national level. However, at regional level, mixed results have been found. In the North West region, household size exerts a significant non-linear negative influence on subjective poverty, suggesting that after a given number of household members, any increase in household size is more likely to reduce the level of subjective poverty. But on the contrary, any increase in household size after a given threshold is more likely to increase the level of poverty in South South region of Nigeria. On the contrary, household size does not exert any significant influence on subjective poverty in the remaining four regions of Nigeria.

Another variable that may have significant impact on subjective poverty is land ownership. The results in Table 13 indicate that land ownership has a significant positive impact on subjective poverty at national level and at regional level in North Central and South East regions. This suggests that as number of hectares owned by a household increases, subjective poverty also increases. This is contrary to a priori expectation. Nonetheless, these findings may not be puzzling because land rich households are more likely to engage their children in farm work, which may mortgage future earnings of the households, hence spur their poverty level. But in other four regions, land ownership is not likely to influence subjective poverty. This calls for regional diversity in land ownership policy to deal with poverty.

Among other household characteristics that may influence poverty is household ownership of livestock. From the results in Table 13 it appears that household ownership of livestock is not likely to have significant influence on household subjective

poverty at national level, though the coefficient of the variable has correct sign. But at regional level, ownership of livestock exerts a significant negative influence on subjective poverty in all the regions. This suggests that household ownership of livestock is more likely to reduce subjective poverty in all the geo-political regions of Nigeria. In view of this, agricultural policies that strengthen household ownership of livestock should be pursued.

A variable identified to might have significant influence among others, on subjective poverty is age of the household head. The results presented in Table 13 show that the age of a household head does not have significant influence on household subjective poverty at national level and in four out of 6 six geo-political regions of Nigeria. However, in 2 out of the six regions, age of a household head tends to have a significant negative influence on household subjective poverty in Nigeria. This indicates that as the age of a household head increases, household subjective poverty decreases in North West and North East regions of Nigeria. Interestingly however, is, when adding the quadratic value of household head's age among the regressors, it appears that the age of a household head has a significant non-linear positive influence on household subjective poverty in North West and North East regions of Nigeria. This means that, at younger age of a household head, poverty decreases with increase in age but continues to increase with increase in the age of a head at old age. This suggests that households headed by old members are more likely to fall in subjective poverty trap. This calls for a poverty eradication policy that will target households that are headed by old members.

Another variable that might influence household subjective poverty is a household headed by a pensioner. The results in Table 13 indicate that a household headed by a pensioner is more likely to have reduction in subjective poverty at national level and in 3 out of 6 regions of Nigeria. These findings are contrary to our a priori expectation. These puzzling findings may be as a result of the improvement in the amount of money received by pensioners as pension in recent years in Nigeria. Furthermore, most of the pensioners in Nigeria are engaged in some contract appointments, earning additional incomes. However, in other 3 out of 6 geo-political regions of Nigeria, being a pensioner household head does not have significant impact on subjective poverty.

A factor that is considered to have significant influence on poverty is the locality of a household. The results in Table 13 indicate that locality of a household has a significant positive impact on poverty at both national and regional levels. This suggests that households living in rural areas are more likely to be subjectively poor than those in urban areas, both at national and regional levels. Therefore, policies that alleviate poverty in rural areas should be given prominence.

Interestingly however, all the models run are statistically adequate at 1% level of significance, though, with low R^2 values. The low R^2 values should be expected given the nature of the data set, i.e., cross-sectional nature of the data set. This does not have any negative effect on the quality of the findings since the overall measure of fit (Wald Chi-Square values) are statistically significant.

It has been identified that some household characteristics may influence the ability of a household to adopt active strategies in coping with various shocks. To investigate this assertion, this study tests a hypothesis which states household

characteristics do not exert any significant impact on the ability of a household to adopt active coping strategies. The results of the test are presented in Table 14.

From the logistic regression results presented in Table 14, it is evident that household subjective poverty has a significant negative impact on a household ability to adopt active coping strategies at both national and regional levels in Nigeria with exception of North East region. The assertion of Skoufias (2003) is in favour of these findings. The findings therefore suggest that increase in subjective poverty is more likely to reduce the ability of a household to adopt active strategies in coping with shocks.

However, the logistic regression results indicate that gender of a household head does not have any significant influence on the ability of a household to adopt active coping strategies at national level and in 4 out of 6 regions. But surprisingly, in 2 (South West and South East) out of 6 regions in the country, gender of a household head has significant negative impact on the ability of a household to adopt active coping strategies, indicating that a male head of a household is more likely to reduce a household ability to adopt active coping strategies. This may be as a result of the active role plaid by women of those regions in taking care of the households. Another amazing finding is that educational level of a household head is more likely to reduce the ability of a household to adopt active coping strategies at national level and in North Central region of Nigeria. These findings are at variance to those of Lokshin and Yemtsov (2004) who find that households with higher levels of education are significantly more likely to adopt active coping strategies than the others. The findings are also in deviance to the human capital theory.

Table 14: Logistic Regression Results with Robust Standard errors for Determinants of Coping Strategy at National and Regional Levels

Independent Variables	Dependent Variable: Active Strategy =1, Weak Strategy = 0						
	1	2	3	4	5	6	7
	National	North West	North East	North Central	South West	South East	South Sourth
Poverty	-0.734	-0.826	-0.942	-0.882	-0.684	-0.599	-0.759
	$(-16.18)^{***}$	$(-5.35)^{***}$	(-1.03)	$(-2.44)^{***}$	$(-8.58)^{***}$	$(-7.23)^{***}$	$(-5.59)^{***}$
Household Head Gender	-1.000	-0.887	1.239	-0.923	-0.779	-0.797	1.011
	(-0.01)	(-0.92)	(1.55)	(-0.95)	$(-4.27)^{***}$	$(-2.82)^{***}$	(0.19)
Household Head Level of Education	-0.937	1.034	-0.933	-0.901	1.087	1.356	1.271
	$(-3.22)^{***}$	(0.74)	(-1.23)	$(-1.87)^{*}$	(1.47)	$(3.76)^{***}$	$(3.88)^{***}$
Employment Status of the Head	1.041	-0.891	1.123	1.129	-0.914	1.261	1.139
	$(2.02)^{**}$	$(-3.02)^{***}$	$(2.24)^{**}$	$(2.23)^{**}$	$(-1.72)^{*}$	$(3.51)^{***}$	$(2.66)^{***}$
Age of Household Head	-0.993	-0.998	-0.982	1.004	1.001	1.012	1.006
	$(-2.07)^{**}$	(-0.20)	$(-1.68)^{*}$	(0.42)	(0.09)	(0.89)	(0.78)
Age of Household Head Squared	1.000	-1.000	1.000	-1.000	1.000	-1.000	-1.000
	(1.13)	(-0.31)	(0.99)	(-1.09)	(0.19)	(-0.40)	(-0.18)
Household Size	1.022	-0.980	-0.995	1.082	1.064	-1.000	1.004
	$(2.87)^{***}$	(-1.22)	(-0.26)	$(4.36)^{***}$	$(2.63)^{***}$	(-0.14)	(0.16)
Household Size Squared	-1.000	1.002	1.001	-0.999	-0.996	1.022	-1.000
	(-0.33)	$(1.75)^{*}$	(0.74)	(-1.38)	$(-2.00)^{**}$	(0.79)	(-0.50)
Land Ownership	1.000	1.000	1.000	-1.000	1.000	1.000	-1.000
	(0.33)	$(2.43)^{**}$	(0.39)	$(-1.84)^{*}$	(0.25)	$(3.26)^{***}$	$(-2.65)^{***}$
Ownership of Livestock	1.000	-1.000	1.000	-1.000	-1.000	1.000	1.000
	(0.19)	(-1.30)	(0.95)	(-0.82)	(-0.44)	(0.13)	(1.05)
Pensioner Household Head	1.002	-0.976	-0.863	-0.838	1.002	1.038	-0.929
	(0.04)	(-0.14)	(-0.64)	(-1.15)	(0.02)	(0.24)	(-0-62)
Locality of a Household	-0.971	1.064	-0.906	-0.827	1.120	-0.824	-0.823
	(-1.29)	(1.07)	(-1.50)	$(-3.01)^{***}$	$(2.35)^{**}$	$(-2.70)^{***}$	$(-3.46)^{***}$
Pseudo R^2	0.005	0.003	0.003	0.001	0.001	0.018	0.008
Wald Chi-Square Value	352.32^{***}	60.72^{***}	33.47^{***}	87.50^{***}	102.81^{***}	130.10^{***}	101.93^{***}
No. of Observations	65,284	15,612	9,544	9,583	11,860	7,961	10,704

Significant at 10% (*); 5% (**) and 1% (***)

But in 2 regions (South East and South-South) out of 6, educational level of a household head tends to increase the ability of the household to adopt active coping strategies. Therefore, these findings concur with those of Lokshin and Yemtsov (2004) and assertions of human capital theory, Moser (1998) and Mitlin (2003).

Interestingly, the logistic regression results also indicate that employment status of a household head is more likely to play a significant positive impact on the ability of a household to adopt active coping strategies in dealing with various shocks both at national and regional levels with exception of North West region of Nigeria, where it has negative impact. Therefore, an employed household head is more likely to promote the ability of a household to adopt active coping strategies in dealing with shocks in Nigeria. These findings lend a support to those of Lokshin, and Yemtsov (2004) which indicate that households with an unemployed head are significantly less likely to adopt active coping strategies. The implication of this finding is that for a household to be able to adopt active coping strategies to deal with shocks, enabling environment for employment opportunities must be created by the government.

Another variable that may influence the ability of a household to adopt active coping strategies is age of a household head. The logistic regression results indicate a significant negative relationship between the age of a household head and his ability to adopt active coping strategies at national level and in the North East region of the country. This means that the older the household head is the more likely it is to reduce the ability of a household to adopt active coping strategies. This is in conformity with the findings of Sesabo and Tol (2005). But after adding the quadratic value of the age of the household head, it turns out that there is no significant non-linear relationship between age of a household and ability to adopt active coping strategies at both national and regional levels.

The logistic regression results further indicate a significant positive relationship between size of a household and its ability to adopt active coping strategies at national level and in the North Central and South West regions of the country. These findings support those of Lokshin and Yemtsov (2004) who find a significant positive relationship between household size and choice of active coping strategies. This suggests that household size is more likely to help in adopting active strategies to cope with various shocks in Nigeria. In addition, when quadratic value of household size is added to the regressors, it appears that as household size increases, the ability of a household to adopt active coping strategies increases up a point beyond which any increase in house size is more likely to reduce the ability of a household to adopt active strategies in South West region of the country.

But land ownership gives mixed results. At national level, land ownership is not likely to exert any significant influence on the ability of a household to adopt active coping strategies while at regional level it tends to do so particularly in North West and South East regions of the country. This is true for the following reasons: first, land ownership tends to influence the ability of a household in the North West since farming is the pride of that region. Second, it also affects positively the ability of a household in the South East region as a result of high value attached to it due to its scarcity. These findings are in deviance to those of Lokshin and Yemtsov (2004) which indicate no statistical significant relationship between ownership of land and choice of coping strategies. This suggests the need for encouraging households to own land in order to be able to

adopt active coping strategies in some regions of Nigeria. But in the North Central and South South, an increase in land ownership is more likely to reduce significantly the ability of a household to adopt active coping strategies. Therefore, nature of the influence of this variable depends on the region in the country.

However, a pensioner household head and ownership of livestock are unlikely to exert any significant impact on the ability of a household to adopt active coping strategies, both at national and regional levels. These findings are in divergence from those of Lokshin, and Yemtsov (2004) who find that households headed by pensioners are significantly less likely to adopt active coping strategies than other households. The findings of Zvikomborero and Chigora (2010) also indicate that ownership of livestock enables households cope with food insecurity in Zimbabwe.   But locality of a household tends to have a significant negative influence on the ability of a household to adopt active coping strategies in North Central, South West, South East and South-South regions of Nigeria. This suggests that rural households are more likely to adopt weak coping strategies than active ones compared to those households in urban areas. These findings counter those of Lokshin and Yemtsov (2004) which indicate that urban households are less likely to adopt active coping strategy than those in the rural areas. Therefore, policies that will help improve the ability of rural households to adopt active coping strategies should be given much emphasis in Nigeria.

CONCLUSIONS AND POLICY IMPLICATIONS

In conclusion, all the regions and both urban and rural areas were adopting higher proportion of weak strategies in dealing with shocks. On the basis of descriptive results, 76.29% of the households in Nigeria adopted weak strategies in coping with shocks and 23.71% of them adopted active coping strategies in dealing with shocks at national level. At regional level, results varied from one region to the other, ranging from the lowest percentage of households (71.49%) adopting weak strategies to the highest percentage of households (83.62%) adopting weak strategies in coping with shocks. From the findings, it is evident that greater percentage of rural households adopted weak coping strategies than urban households, though in both localities higher percentage of weak strategies had been adopted. It also appeared that the proportion of households adopting weak coping strategies was greater among female headed households than among those headed by males, though the difference was not all that large. As regards incidence of subjective poverty, it is evident that 64.28% of Nigerians considered themselves as poor while 35.72% of them not poor at national level. But at regional level, the incidence varied among the regions, ranging from 50.06% to 77.80%.

The evidence from the logistic regression results leads to the conclusion that unavailability of agricultural inputs as part of economic shocks has no significant impact on subjective poverty at national level and in 4 out of 6 regions in the country. However, low production of agricultural produce is more likely to aggravate subjective poverty at national level and in South West region of the country. This calls for policy intervention to improve agricultural productive in Nigerian.

From the results of this study, it is concluded that drought does not have any significant influence on household subjective poverty at national level and in 5 out of the 6 regions in the country. From the results it is also clear that low price for agricultural produce does not exert any significant influence on subjective poverty both at national and regional levels in

Nigeria. It is also clear that lack of credit facilities to start agricultural business does not influence household subjective poverty at national level and in 5 out of 6 regions in the country.

It can also be concluded that too high prices of commodities, hard economic conditions and lack of job opportunities are more likely to increase the incidence of subjective poverty in Nigeria. Consequently, there is a need for policy makers in Nigeria to formulate and pursue policies that will provide job opportunities, control inflation rate and economic hardship in the country. From the results also it is clear that although unavailability of agricultural inputs reduces subjective poverty in urban areas, it does not exert any significant impact on poverty in rural areas of Nigeria. Similarly, the results suggest that although low productivity of agricultural produce promotes subjective poverty in rural areas in Nigeria, it does not have any significant influence on household subjective poverty in urban areas. Furthermore, it can be concluded from the results that loss of cattle and oxen as a result of diseases does mitigate subjective poverty in rural areas while in the urban areas, it does not have any significant impact on subjective poverty. Similarly, it can be concluded that retrenchment/redundancy is more likely to reduce subjective poverty in rural Nigeria but in urban areas, it does not exert any significant impact on poverty. In addition, the results indicate that too high price of commodities is more likely to promote subjective poverty in rural Nigeria but it does not have any significant impact on poverty in urban areas.

However, the results reveal that drought and low prices for agricultural produce do not exert any significant impact on subjective poverty in both urban and rural Nigeria. In addition, lack of credit facilities does not have any significant influence on subjective poverty in both urban and rural Nigeria. But the results suggest that lack of job opportunities and economic hardship stimulate subjective poverty in both urban and rural areas of Nigeria. By implication therefore, there is an urgent need for policy makers in Nigeria to formulate and pursue policies that will provide better job opportunities and reduce economic hardship in the country.

As regards the influence of household characteristics on subjective poverty, the results indicate that a male headed household is more likely to reduce subjective household poverty than female headed one. In view of this, poverty eradication policies in Nigeria should target vulnerable households in general and female headed households in particular. The results further show that household head's level of education does not exert any significant influence on household subject poverty at national level. However, at regional level, education of a household head indicates significant negative influence on subjective poverty in all the regions with exception of North Central. This calls for policy intervention that will ensure promotion of educational level households in Nigeria. The findings also suggest that an employed household head is more likely to reduce household subjective poverty than an unemployed head. Therefore, enabling environment for employment opportunities must be created by the government.

Similarly, at aggregate level, as household size increases, there is likelihood for subjective poverty to decrease. Therefore, households should be encourage increase their sizes. However, at regional level, mixed results have been found. In the North West region, after a given number of household members, any increase in household size is more likely to reduce the level of subjective poverty. But on the contrary, any increase in household size after a given threshold is more likely to increase the

level of poverty in South-South region of Nigeria. But household size does not exert any significant influence on subjective poverty in the remaining four regions of Nigeria. The results also indicate that land ownership has a significant positive impact on subjective poverty at national level and at regional level in North Central and South East regions. This suggests that as number of hectares owned by a household increases, subjective poverty also increases. The results also suggest that household ownership of livestock is more likely to reduce subjective poverty in all the geo-political regions of Nigeria. In view of this, agricultural policies that strengthen household ownership of livestock should be pursued.

From the results of this study, it appears that at younger age of a household head, poverty decreases with increase in age but continues to increase with increase in the age of a head at old age. This suggests that households headed by old members are more likely to fall in subjective poverty trap. This calls for a poverty eradication policy that will target households that are headed by old members. From the findings of this study, it is concluded that households living in rural areas are more likely to be subjectively poor than those in urban areas. Therefore, policies that alleviate poverty in rural areas should be given prominence.

Concerning the determinants of active coping strategies, the findings suggest that an increase in subjective poverty is more likely to reduce the ability of a household to adopt active strategies in coping with shocks. This suggests a need for policy makers in Nigeria to pursue vigorously poverty eradication policies to enable household adopt active strategies in dealing with shocks. However, the results indicate that gender of a household head does not have any significant influence on the ability of a household to adopt strong coping strategies at national level and in 4 out of 6 regions. But surprisingly, in 2 out of 6 regions, the presence of a male head of a household is more likely to reduce a household ability to adopt active coping strategies. Another amazing conclusion is that educational level of a household head reduces the ability of a household to adopt active coping strategies at national level and in North Central region of Nigeria. But in 2 regions (South East and South-South) out of 6 in the country, educational level of a household head tends to increase the ability of the household to adopt active coping strategies. Therefore, policies that will enhance the educational level of households should be underscored.

Interestingly, an employed household head is more likely to promote the ability of a household to adopt active coping strategies in dealing with shocks in Nigeria. The implication of this finding is that for a household to be able to adopt active coping strategies to deal with shocks, employment opportunities must be made available by either private employers or government. From the logistic regression results also it is concluded that the older the household head is the more likely it is to reduce the ability of a household to adopt active coping strategies. It is also concluded that household size up to a threshold level helps in adopting active strategies to cope with various shocks in Nigeria.

But the ability of land ownership to play a role in adopting active coping strategies depends on the region. At national level, land ownership does not exert any significant influence on the ability of a household to adopt active coping strategies while at regional level it tends to increase significantly the ability of a household to adopt active strategies in North West and South

East regions of the country. This suggests the need for encouraging households to own land in order to be able to adopt active coping strategies in some regions of Nigeria, particularly in North West and South East regions.

However, a pensioner household head and ownership of livestock do not exert any significant impact on the ability of a household to adopt active coping strategies. But rural households are more likely to adopt weak coping strategies than active ones compared to those households in urban areas. Therefore, policies that will help improve the ability of rural households to adopt active coping strategies should be given much emphasis.

Since some shocks have been found to be important causes of subjective poverty and reduction in welfare, there is need for finding better ways of providing protection against the effects of shocks as part of poverty reduction policies. The viable policy measures in the form of safety nets and cargo nets that will help households to adopt active coping strategies to withstand climatic and economic shocks and hardships can have a crucial impact on welfare of the Nigerians. Such measures should include in the event of any disaster: emergency employment programmes; direct cash grants targeted to the poorest, conditioned on favorable behavior (such as school attendance and/or health center visits); and pensions for elderly persons in informal sector. Other measures include: unemployment insurance, including systems of mandatory severance payments (as a function of the number of years worked, normally, this is about one month's salary for every year of service, up to some maximum) upon termination of appointment as suggested by Hicks and Wodon (2000). Emergency employment programme which provides employment through specifically designed public works projects should also be embarked upon. The classic example is Trabajar in Argentina (Hicks and Wodon, 2000). In this program, projects are identified by local governments, NGOs and community groups, and can provide employment for no more than 100 days per participant. Project proposals are reviewed by a regional committee, and projects with higher poverty and employment impacts are favoured. Moreover, wages are set to be no higher than 90 percent of the prevailing market wage, so that the workers have an incentive to return to private sector jobs when these are available. The measures may facilitate the creation of inclusive communities that will allow the vulnerable groups to develop their economic potentials and eventually strengthen their independent economic life.

The extent of the long-term losses due to adoption of passive coping strategies such as child labor as a result of withdrawal from school calls for the design of programs to help parents keep their children in school, especially during economic crises. Linking cash grants with school attendance or other desirable behavior has been introduced in various degrees in such countries as Brazil (Bolsa Escola), Argentina (Beca Secundaria), Mexico (Progressa), and Honduras (PRAF), among others (Hicks and Wodon, 2000). School-based conditional cash transfers programs reduce the opportunity costs for poor parents of keeping their children in school. This opportunity cost is essentially the loss in child wages or in the value of the domestic work done by the children, which cannot be enjoyed when the children go to school. At what level of schooling should the grants be provided? According to Hicks and Wodon (2000) this will depend on the characteristics of the country. In Brazil and Argentina, the programs focus on secondary school, since these are the children who are more likely to be pulled out of school during a crisis. In Honduras, the program focuses on the first four years of primary school. In Mexico, the program covers the end of primary schooling, and the lower secondary school cycle. In Venezuela, the program covers primary school children. In some cases, these programs are tied not only to attendance, but also to school performance, including passing on

to the next grade. While this may provide valuable incentives, one has to make sure that such conditions do not exclude the poorest section of the society, which may have more difficulties in succeeding at school.

However, these conclusions may not be final. Further research may be conducted especially by applying quantitative data set to make room for comparison between the results of subjective poverty measure and those of objective poverty measures in Nigeria.

ACKNOWLEDGEMENTS

REFERENCES:
Ando, A. and F. Modigliani (1963). The Life-Cycle Hypothesis of Saving: Implications and Tests, *American Economic Review*, 53(1), 55-84.

Becker, G. (1964). *Human Capital*. New York: National Bureau of Economic Research.

Begna, Bilusie and Issac Paul (2010). An Assessment of Rural Poverty: The Case of Selected Kebeles of Shashemane Woreda, Ethiopia**, *Journal of Sustainable Development in Africa,* 12(4), 270-280.

Ben-Porath, Y. (1967). The Production of Human Capital and the Life of Earnings, *Journal of Political Economy*, 75(4), 352-356.

Beuran, Monica and Ekaterina Kalugina (2005). *Subjective Welfare and the Informal Sector: The Case of Russia*, Discussion paper. Paris 1 University and Higher School of Economics, Moscow.

Bogale, A.; K. Hagedorn; and B. Korf (2002). *Why does Poverty Persist in Rural Ethiopia?* Contributed paper selected for presentation at the 25th International Conference of Agricultural Economists, August 16-22, Durban, South Africa.

Canabal, M.E. (1997). *Poverty Among Puerto Ricans in the United States,* Working Paper Series, No. 32, June. Julian Samora Research Institute.

Canagarajah, Sudharshan, and Saji Thomas (2001). Poverty in a Wealthy Economy: The Case of Nigeria, *Journal of African Economies*, 10(2), 143-173.

Chhibber, Ajay and Rachid Laajaj (2006). *Disasters, Climate Change, and Economic Development in Sub-Saharan Africa: Lessons and Directions,* Paper presented at plenary session of African Economic Research Consortium's Biannual Workshop held at Hotel Intercontinental, Nairobi, Kenya, December 2-7.

CPRC (Chronic Poverty Research Centre) (2005). *Chronic Poverty Report 2004-2005*. A publication of Chronic Poverty Research Centre. Manchester: Institute for Development Policy and Management, University of Manchester.

Dercon, Stefan (2002). *Income Risk, Coping Strategies and Safety Nets*, Discussion Paper NO.20002/22*.* World Institute for Development Economics Research, United Nation University.

Dercon, Stefan; J. Hoddinott; and T. Woldehanna (2005). Vulnerability and Shocks in 15 Ethiopian Villages, 1999-2004, *Journal of African Economies*, 14(4), 559-585.

Dercon, Stefan (2006). *Fate and Fear: Risk and its Consequences in Africa*, Paper presented at plenary session of African Economic Research Consortium's Biannual Workshop held at Hotel Intercontinental, Nairobi, Kenya, December 2-7.

Dougherty, Christopher (2007). *Introduction to Econometrics 3e: Study Guide.* www.londonexternal.ac.uk

Enidun Ventures Limited (1996). *Poverty Assessment in Sokoto State Agricultural and Community Development Project Area*, A Study Sponsored by Sokoto Agricultural and Community Development Project, Nigeria,March.

Federal Office of Statistics [FOS] (1998). *Poverty Profile for Nigeria: 1985-1996.* Federal Office of Statistics, Abuja, Nigeria

Garba, Tukur (2006). *Rural Household Poverty in Sokoto State of Nigeria: Determinants and Consequences on Child Work and Educational Attainment*, Unpublished Ph.D. Thesis in Economics, Department of Economics, Usmanu Danfodiyo Uninversity Sokoto, Nigeria, May.

Hanna, S.; J. X. Fan; and Y. R. Chang (1995). Optimal Life-Cycle Savings, *Financial Counsel and Planning*, 6, 1-15.

Hicks, Norman and Quentin Wodon (2000). *Economic Shocks, Safety Nets, and Fiscal Constraints: Social Protection for the Poor in Latin America*, Paper prepared for the XII Seminario Regional de Politica Fiscal in Chile, in January.

Hoddinott, John; Agnes Quisumbing; Alain de Janvry; and Tassew Woldehanna (2005). *Pathways from Poverty: Valuating Long-Term Strategies to Reduce Poverty*, Basis Brief Number 30. Collaborative Research Support Programme, Department of Agricultural and Applied Economics, University of Wisconsin, Madison, USA, May.

Jalan, J. and M. Ravallion (1998). *Determinants of Transient and Chronic Poverty: Evidence from Rural China*, World Bank Working Paper No. 1936, June.

Jappelli, T. (1999). *The Age-Wealth Profile and the Life-Cycle Hypothesis: A Cohort Analysis with a Time Series of Cross-Chapters of Italian Households*, Working Paper, No. 14, January. Centre for Studies in Economics and Finance.

Lokshin, M. Michael and Ruslan Yemtsov (2004). Household Strategies of Coping with Shocks in Post-crisis Russia, *Review of Development Economics*, 8(1), 15-32.

Mikailu, A.S. (2000). A Reflection on the Phenomenon of Poverty in Nigeria and the Islamic Framework for Reform, *Al-Ijtihad, The Journal of Islamisation of Knowledge and Contemporary Issues*, 1(2), 25-43, July.

Mincer, J. (1970). The Distribution of Labor Incomes: A Survey with Special Reference to the Human Capital Approach, *Journal of Economic Literature*, 8(1), 1-26.

Mincer, J. and Y. S. Polachek (1974). Family Investment in Human Capital: Earnings of Women, *Journal of Political Economy*, 82(2), S76-S108.

Mitlin, Diana (2003). *The Economic and Social Processes Influencing the Level and Nature of Chronic Poverty in Urban Areas*, CPRC Working Paper No 29. Chronic Poverty Research Centre, Institute for Development Policy and Management, University of Manchester.

Moser, O. N. Caroline (1998). Reassessing Urban Poverty Reduction Strategies: The Asset Vulnerability Framework, *World Development,* 26(1), 1-19.

National Bureau of Statistics (2006) *National Core Welfare Indicators Questionnaire Survey*. Abuja: National Bureau of Statistics, Abuja, Nigeria

NEC, NSO and IFPRI (2001). *The Determinants of Poverty in Malawi, 1998: An Analysis of the Malawi Integrated Household Survey, 1997-1998*, An Unpublished study. The National Economic Council (NEC), Lilongwe, Malawi, The

National Statistical Office (NSO), Zomba, Malawi, and The International Food Policy Research Institute (IFPRI), Washington, DC, USA, June.

Oduro, D. Abena and Ivy Aryee (2003). *Investigating Chronic Poverty in West Africa*, Working paper No. 28. Manchester: Chronic Poverty Research Centre, Institute for Development Policy and Management, University of Manchester.

Okojie, C.E.E. (2002). *Gender and Education as Determinants of Household Poverty in Nigeria*, Discussion Paper No. 2002/37. United Nations University: World Institute for Development Economic Research.

Reimers, F. (1999). Educational Chances of the Poor at the End of the XX century, *Prospects*, 29(4), 1-13.

Sanda, A.U.; M.L.A. Bashar; and I.S. Muhammad (2001). "Micro-Credit and Poverty Alleviation: Evidence from Gudu and Yabo Local Government Areas of Sokoto State of Nigeria." Paper presented at Annual Social Sciences National Conference entitled "Social Sciences and Administration in the 21st Century", Organised by the Faculty of Social Sciences and Administration, Usmanu Danfodiyo University, Sokoto, on 22nd January.

Sesabo, J. K. and R. S. J. Tol (2005). *Factors affecting Income Strategies among households in Tanzanian Coastal Villages: Implications for Development-Conservation Initiatives*. Working Paper FNU-70. International Max-Planck Research School for Maritime Affairs, Hamburg, Germany.

Skoufias, Emmanuel (2003). *Consumption Insurance and Vulnerability to Poverty: A Synthesis of the Evidence from Bangladesh, Ethiopia, Mali, Mexico and Russia*. Paper presented at the conference "Staying Poor: Chronic Poverty and Development Policy" held at the University of Manchester, 7 to 9 April.

Yaffee, A. Robert (2002). *Robust Regression Analysis: Some Popular Statistical Package Options,* Statistics, Social Science, and Mapping Group, New York University, December.

Zimmerman, J. Frederick and Michael R. Carter (2003). Asset Smoothing, Consumption Smoothing and the Reproduction of Inequality under Risk and Subsistence Constraints, *Journal of Development Economics*, Vol. 71(2), 233– 260.

Zvikomborero, E. Munaku and Percyslage Chigora (2010). An Analysis of the Coping Strategies Arising out of Food Shortages in Zimbabwe: A Case of Chitse and Kamutsedzere Wards of Mt Darwin District from 2007-2008, *Journal of Sustainable Development in Africa,* 12(2), 1-34.

ABOUT THE AUTHOR:

Tukur GARBA: Department of Economics, Usmanu Danfodiyo University Sokoto, Nigeria.