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HOUSEHOLDS' VULNERABILITY TO POVERTY IN IBADAN METROPOLIS, OYO STATE, NIGERIA

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Abstract

This paper empirically assessed vulnerability to poverty at the household level using a two-period panel data set obtained from 150 households sampled from two local government areas within Ibadan Metropolis. Data were analysed using descriptive statistics, poverty indices and probit regression analysis. Analysis of the socio-economic characteristics and their relationship with vulnerability to poverty revealed that large-sized households headed by men who were old, widowed, self-employed, uneducated or who had only primary school education and no access to any form of credit, were more vulnerable than other households. The estimated probit regression model showed that marital status and tertiary education status of respondents reduced vulnerability to poverty while primary education status and household size enhanced households vulnerability to poverty.

Introduction

The high incidence of poverty in Nigeria, despite myriads of interventions by governments and NGOs to reduce it through poverty alleviation/reduction programmes and projects has brought the issue of vulnerability to the attention of policy makers. Vulnerability, has been defined as the likelihood that at a given time in the future, an individual will have a level of welfare below

some norm or benchmark (Quisumbing, 2002).One likely reason poverty has been on the increase may be that it has been seen by several researchers as a static phenomenon rather than a dynamic one. Recent studies have however observed movements in and out of poverty of households in developing countries (Adams and He,1995). This is an indication that poverty is not a static phenomenon as people can move out of and fall into poverty. According to Baulch and McCulloch (1998) "a high percentage of households move into poverty due to temporary shocks (such as illness or loss of employment) that are reversed just one or two years later. Similarly, many of the people who escape poverty or who are not vulnerable now only succeed in doing or being so for one or two years before a reverse in their circumstances forces them back below poverty line which makes them vulnerable".

Ligon and Schechter (2003) defined the essence of vulnerability as the uncertainty of future income streams and associated loss of welfare caused by this uncertainty. They noted that "a household with very low expected consumption expenditures but with no chance of starving may well be poor but it still might not wish to trade places with a household having a higher expected consumption but greater consumption risk". However, it is not every time people are exposed to risk that they are vulnerable i.e. a shock might occur, but may not necessarily lead to the households being vulnerable. The concept of vulnerability therefore, is dynamic and is broadly an ex-ante or forward looking measure of a household's well being or (lack thereof). Hence, when thinking about forward-looking anti-poverty interventions that aim to prevent rather than alleviate poverty, what really matters is the vulnerability of households to poverty".

Poverty assessments draw on cross-sectional household survey to provide a detailed profile of the poor, and to document the incidence of poverty in various segments of the population. The incidence of poverty in Nigeria however remains high. The World Bank (1996) statistics on income and social indicators show poverty in Nigeria to be widespread, severe and most certainly increasing. This brings to the fore, the issue of vulnerability which is defined as the probability that a household if currently poor, will remain in poverty or if currently non-poor will fall below the poverty line in explaining the ever-increasing level of poverty.

Vulnerability however, which suggests exposure to the possibility of an adverse outcome in the future, has not been widely used alongside poverty in discussions of poverty reduction strategies even though the risks that households face are an important aspect of their wellbeing. This shows a limited understanding of a household vulnerability to poverty. While it is commonly asserted that the poor are among the most vulnerable in any society (e.g. World Bank, 2001), the overlap between poverty and vulnerability is not perfect. There seems to be general agreement that poverty is a static concept, defined at a single point in time, while the concept of vulnerability situated in a dynamic context is less well defined. Clarifying the distinction between poverty and vulnerability is important especially since social protection strategy is moving from *ex-post* poverty strategies to *ex-ante* vulnerability considerations (Holzman, 2001).

In most developing economies, estimation of vulnerability has been mainly through the use of cross-sectional household survey data but in principle the use of panel data permits the estimation of vulnerability

within a more general framework and allows for the inclusion of time-invariant household effects and dynamic effect and in some cases to get a sense of the magnitude of biases in estimates of vulnerability generated from cross-sectional data (Chaudhuri, 2000).This study will therefore attempt to contribute to an understanding of vulnerability of households to poverty in Nigeria since a pre-condition for successful anti-vulnerability policies is the identification of the group of vulnerable households, together with an understanding of the sources of vulnerability. Consequently, there is a need for government to proactively take measures to protect vulnerable households and in order to do so, vulnerable households have to be identified. The nature of their vulnerability also needs to be examined. The main objective of the study is to assess the vulnerability of households to poverty in Ibadan Metropolis. The rest of the paper is in four sections. Section two presents the literature review while section three describes the methodology of the study. Section four presents the empirical findings while section five concludes the paper.

2. Literature review

2.1 *Risks, vulnerability and poverty*

There are many definitions of vulnerability, and seemingly, no consensus on its definition and measurement. (Chaudhuri, 2000; Christiaensen and Subbarao, 2001) define vulnerability as the ex-ante potential of a decline in future well being, or the ex-ante probability of falling below the poverty line at some future date. In support of this, McCulloch and Calandrino (2003) view vulnerability as the probability of being below the poverty line in any one year. Vulnerability is multidimensional, and households face a number of risk. The risk faced by an individual/household relates to events possibly

occurring i.e. with less than certainty. Individuals/households have some *a priori* sense of the likelihood of these events occurring, without direct control over its likelihood. The lack of direct control over the risk they face is crucial and distinguishes it from the responses one can observe from individuals, households and communities given the risk they face. While the concept of risk refers to uncertain events that can damage the well being of people such as falling ill, (Christiaensen and Subbarao, 2001), vulnerability is a function of the risk characterization of a person's environment - the nature, frequency and severity of the shocks he is exposed to, his exposure to these risks as well as his ability to cope with it when the shock materializes which is determined by his asset endowments and his ability to insure himself (formally or informally) (Alayande, 2002). Vulnerability is therefore the product of risk, but also of household conditions and actions (Dercon, 2001).

A World Bank study on risk management in South Asia also defines vulnerability as the likelihood of being adversely affected by a shock that usually causes consumption levels, or other factors that affect well-being to drop (World Bank, 2001b). On the other hand, Chambers (1989) opined that vulnerability is one among the different dimensions of deprivation, which include such other concepts as physical weakness, isolation, poverty and powerlessness. Therefore in addition to risk exposure, which signifies the probability that a person will be affected by uncertain events which may lead to welfare loss, vulnerability reflects the lack of capacity to cope with a shock ex-post. It is concerned with the ex-ante potential of a decline in well-being in the future. Thus, it is a dynamic concept that generally involves a sequence of events following some shocks (Alayande, 2002).

Concepts of vulnerability and poverty (which is also multidimensional) are linked but not identical. For example, Chaudhuri, *et al.* (2002), submit that vulnerability is an ex-ante (forward-looking) rather than an ex-post concept. Whereas poverty status can be observed at a specific time period, given the welfare measure and the poverty threshold, household vulnerability is not directly observed, rather it can only be predicted. The observed poverty status of a household (defined simply by whether or not the household's observed level of consumption expenditure is above or below a pre selected poverty line) is the ex-post realization of a state, the ex-ante probability of which can be taken to be the household's level of vulnerability. Therefore, while it is possible to make statements about whether or not a household is currently poor, it is not possible make statements about household's level of vulnerability. Also, while we can estimate or make inferences about whether a household is currently vulnerable to future poverty, we can not directly observe a household's current vulnerability level (Chaudhuri, *et al.* 2002). According to Ligon and Schechter (2003), traditional poverty measures neglect several important dimensions of household welfare while vulnerability measures allow the quantification of welfare loss associated with poverty as well as the loss associated with any of a variety of different sources of uncertainty. Again, while poverty is concerned with not having enough now, vulnerability is about a high probability now of suffering a future shortfall (Christiaensen and Boisvert, 2000). However, it is pertinent to say that though in practice, the poor are often also vulnerable, both groups (poor and vulnerable) are not typically identical (Sen 1998, Baulch and Hoddinot 2000).

According to Alayande (2002), the measurement of vulnerability has two elements. First is one due to a low level of and limited variance in consumption and a second due to high level of and much variance of consumption. However, measuring income and consumption dynamics and variability requires specific types of data: These include cross sectional data and longitudinal data. Relying on single cross-sectional data requires making stringent assumptions regarding the stochastic process generating consumption e.g. that cross sectional variability proxies interpersonal variation. These sets of data are always available because they are relatively cheaper to obtain especially for developing countries. According to Hoddinot and Quisumbing (2003a), carefully collected cross-sectional data reveal much about risk and vulnerability, particularly if they are augmented by use of secondary sources, community and qualitative field work. On the other hand, the scope of risk and vulnerability assessment is greatly enhanced if longitudinal household data are available because longitudinal data allow the same household to be tracked over a sufficient length of time. These permit the direct estimation of the inter-temporal variance of consumption at the household level without the need for strong assumptions. However, this should not be taken to imply that longitudinal data are both necessary and sufficient for vulnerability assessments because their dearth and limited cross-sectional coverage render them not quite useful for policy analysis that requires nationally representative samples (Chaudhuri, 2000). They are also time-consuming to collect and their collection requires strong data documentation skills so that interviewers can find individuals and households in order to re-interview them. However, the consensus in literature (e.g. Glewwe and Hall, 1998; Chaudhuri 2000) is that longitudinal data are most appropriate for the study of

vulnerability. It is in this context that this study utilized longitudinal data in the examination of vulnerability of households in Ibadan Metropolis.

3. Methodology

3.1 Data

The study was conducted in Ibadan metropolis, the capital of Oyo State. The metropolis is composed of 11 Local government areas, 6 at the outskirts and 5 at the centre. The latter are: Ibadan South East, Ibadan North East, Ibadan North West, Ibadan South West and Ibadan North Local Government Areas. Ibadan is located between longitude 7^0 20" and 7^0 40" East of the Greenwich meridian and between latitude 3^0 55" and $4^0 10$" North of the equator. The city is in the equatorial rain forest belt and has a land area of between 445 and 455km^2 with an estimated population of 1,991,367 persons according to the 1991 population census. Ibadan metropolis is an important commercial centre and it comprises of people of different cultural and socio-economic backgrounds. Predominantly, food crops such as yam, maize, cowpea, okro, melon which reflect the dietary habits of the inhabitants are grown as is clearly seen in the type of meals taken by the people. Data used in this survey were collected from a two-round panel survey undertaken at 3-month interval to allow measurement of seasonal variation in behaviour and outcome and to balance both the cross-sectional and time series requirements of panel data. The first round was in May 2005, while the second survey was in August 2005.The primary source of data were collected with the use of structured questionnaire containing both open- and close-ended items. The questionnaire administration was cross-sectional in nature.

The study used a multistage sampling technique in selecting the representative households. The first stage was the selection of two local government areas in Ibadan city, namely, Ibadan North and Ibadan South West. The second stage involved random sampling of areas within these local government areas. These areas include: University of Ibadan, Agbowo, Bodija, UCH, Orogun for Ibadan North, and Odo Ona, Oluyole, Oluyole Extension, Iyaganku for Ibadan South West. In the third stage, the households surveyed were randomly selected to make them representative of the two Local Governments. In the second survey round, the same households were selected in order to track the characteristics of the households at the two different periods. A hundred and fifty (150) households were interviewed in the first survey exercise but only 133 households could be re-interviewed in the second round. Hence, only the data from these 133 households were used for analysis in this study.

3.2 Analytical tools

3.2.1 Poverty measures

The Foster, Greer and Thorbecke (1984) weighted poverty index was used for the quantitative poverty assessment, the FGT measure for the ith sub group (P_{ai}) is given as:

$$P_{ai}^i = \frac{1}{n}\sum_{i=1}^{q}\left[(z-y)\Big/Z\right]^{\alpha}$$

$$when \ \alpha=0, \quad P_0 = \frac{1}{n}\sum_{i=1}^{q}\left[(z-y)\Big/Z\right]^0 = \frac{q}{n} \quad \rightarrow Poverty incidence or head count$$

$$\alpha=1, \quad P_1 = \frac{1}{n}\sum_{i=1}^{q}\left[(z-y)\Big/Z\right]^1 \quad \rightarrow Poverty gap or depth$$

$$\alpha=2, \quad P_2 = \frac{1}{n}\sum_{i=1}^{q}\left[(z-y)\Big/Z\right]^2 \quad \rightarrow Poverty severity$$

Where,

P_{ai} = weighted poverty index for the ith sub group

n_i = total numbers of the ith subgroup in poverty

$y_j i$ = Per capita expenditure of households in subgroups

Z_i = Poverty line for the subgroup

α_i = degree of concern for the depth of poverty

$\alpha = 0$ gives incidence of poverty (Head count index) and is used to determine the percentage of the poor.

$\alpha = 1$ gives depth of poverty which is defined as the difference between poverty line and mean expenditure of the poor as a ratio of the poverty line.

The households were subdivided into two based on the measures of poverty as follows:-

- The probability of being always poor defined as being poor in the two survey rounds.
- The probability of becoming poor defined as being non-poor in the first round but poor in the second survey.

Vulnerable households were then defined as a combination of those becoming poor and always poor i.e. vulnerable = (becoming poor + always poor). Table 1 show the implicate transitional matrix.

Where,

n_1 = numbers of households that were vulnerable in the two survey rounds

n_2 = numbers of households that were vulnerable in the first survey round but non- vulnerable in the second survey round.

n_3 = numbers of households that were non-vulnerable in the first survey round but vulnerable in the second survey.

n_4 = numbers of households that were non vulnerable in the two survey rounds.

Y = Total numbers of respondents i.e. (n_1 + $n_2 + n_3 + n_4$).

Vulnerability index

Vulnerability index for each subgroup was calculated as:

Number of vulnerable households in the subgroup

Total numbers of households in the subgroup

Table 1: Transitional matrix box

	Vulnerable	Non-vulnerable	Total
Vulnerable	n_1	n_2	$n_1 + n_2$
Non-vulnerable	n_3	n_4	$n_3 + n_4$
Total	$n_1 + n_3$	$n_2 + n_4$	Y

3.2.1 *Model specification for vulnerability measurement*

In order to ascertain the effect of certain fctors on the vulnerability of households to poverty, a probit model was estimated using data from the panel. The probit regression analysis was used since the OLS estimation procedure will not be appropriate, especially when most of the independent variables are dichotomous. This arises due to the following reasons:- Non normality of the disturbances u_i; Heterescedasticity of the disturbance-term; The predictions of the logit – probit model offered by OLS lack boundedness since nothing constrains it from being either less than 0 or greater than 1. Backward regression was carried out in which the most insignificant variable was excluded from the model and the regression run again at each time until the model consists only of significant variables. The probit model assumes that while we observe the values of 0 and 1 for the variable Y_1 there is a latent, unobserved continuous variable Y^* that determines the value of Y, we assume that Y^* can be specified as follows:

$$Y^* = B_o + B_1 X_{ii} + B_2 X_{2i} + \ldots B_k X_{ki} + U_i \ldots\ldots\ldots\ldots\ldots (1)$$

and that: $Y_i = 1$ if $Y^* > 0$

$$Y_i = 0 \text{ otherwise}$$

Where

Y_i = poverty level (poor = 1, 0 = non poor)

$X_{1i} \ldots X_{ki}$ = Vector of Independent variables

B_o = constant

B_1 = coefficient estimates

U_i = random disturbance term

$$P_r (Y_i = 1) = (B_o + B_1 X_{1i} + B_2 X_{2i} \ldots.. B_k X_{ki} + U_i > 0 \ldots\ldots.. (2)$$

Rearranging terms

$$P_r (Y_i=1) = P_r [U_i > -(B_o + B_1 X_{1i} + B_2 X_{2i} + \ldots. B_k + K_i)]$$

$$= 1 – P_r [U_i < - (B_o + B_1 X_{1i} + B_2 X_{2i} + \ldots.. B_k + K_i] \ldots\ldots\ldots..(3)$$

If we make the usual assumption that U is normally distributed, we have

$$P_r (Y=1) = 1 - \phi [-(B_o + B_1 X_{1i} + B_2 X_{21} + \ldots.. B_k X_{ki})]$$

$$= 1 - \phi (-X_1 B_3)$$

$$= \phi (X_1 B) \ldots\ldots..(4)$$

where

ϕ = standard cumulative normal distribution using data from panel

X_1 = vector of independent variables

B's = estimates of coefficients which give the impact of the independent variables on the latent variable Y^*.

The model is stated explicitly as:-

$$Y = f (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, X_{11}, X_{12}, X_{13}) \ldots\ldots\ldots (5)$$

Where

Y = 1 if vulnerable (becoming poor + always poor)

= 0 if otherwise

X_1 = Sex of household head (D =1 If male, 0 if otherwise)

X_2 = Age of household head (years)

X_3 = Marital status of household head (D = 1 if married, 0 if otherwise)

X_4 = Marital status of house hold head (D = 1 if widowed 0 if otherwise)

X_5 = Household size (number)

X_6 = Primary Education of household head (D=1 if primary education and 0 if otherwise)

X_7 = Secondary Education of household head (D=1 if secondary education and 0 if otherwise)

X_8 = Tertiary Education of household head (D=1 if tertiary education and 0 if otherwise)

X_9 = Occupation of household head (D = 1 if wage earning and 0 if otherwise)

X_{10} = Exposure to Covariate shocks dummy of household head

X_{11} = Exposure to Idiosyncratic shocks dummy of household head

X_{12} = Number of risks exposed to by the household head

X_{13} = Access to formal credit dummy of the household head (D= if yes and 0 if otherwise)

4. **Results and discussion**

4.1 Poverty status of households

Poverty line was computed differently for the two survey rounds. On the basis of relative poverty, the mean per capita household expenditure (MPCHHE) for the respondents stood at ₦8, 292.21 while the two-thirds MPCHEE amounted to ₦5, 528.14 for the first survey round. Likewise, in the second survey, the MPCHHE stood at ₦9, 917.95 while the two-thirds MPCHHE amounted to ₦6, 612. This means that any household that had MPCHHE below or equal to ₦5,528.14 or ₦6,612 was considered to be poor for first and second survey rounds respectively, while households with per capita expenditure above the amounts were considered to be non-poor. Table 2 presents the transitional matrix of households in the study area. The table reveals that 63 households were vulnerable in both surveys while 7 households were vulnerable in the first survey but non-vulnerable in the second survey round. Further, 7 households which were non-vulnerable in the first survey round had become vulnerable in the second survey round while fifty six households were non-vulnerable in the 2 survey rounds. In all, the total number of vulnerable households in the study area stood at 70 and that of non-vulnerable households at 63.

The poverty and vulnerability profile of households as presented in Table 3 revealed that poverty and vulnerability incidence were higher in the second survey period when compared with the first survey period. Specifically, in the first and second survey rounds, households with heads older than 65 years were found to be the poorest. Also, while male- headed households were found to be poorer compared with their female counterparts in the first round, the reverse was the case in the second round.

This implies that both male and female-headed households can indeed be poor depending on their level of exposure to risks.

Table 2: Transitional matrix of households in study area

	Vulnerable	Non-vulnerable	Total
Vulnerable	63	7	70
Non-vulnerable	7	56	63
Total	70	63	133

Table 3: Poverty incidence and vulnerability by socio-economic characteristics

Age	Poverty Incidence		Vulnerability Index
	May	August	
25 – 45	0.29	0.48	0.48
46 – 65	0.44	0.61	0.62
> 65	0.90	0.75	0.75
Sex:			
Male	0.38	0.45	0.56
Female	0.20	0.52	0.44
Household size			
1 – 4	0.25	0.35	0.42
5 – 9	0.32	0.50	0.65
7 – 9	0.39	0.53	0.75
Education Level			
No education	0.45	0.64	0.54
Primary	0.47	0.47	0.87
Secondary	0.30	0.44	0.46
Tertiary	0.28	0.35	0.44
Marital status			
Single	0.58	0.60	0.58
Married	0.34	0.43	0.51
Widowed	0.80	0.80	0.60
Occupational Status			
Wage earners	0.26	0.36	0.51
Non-wage earners	0.32	0.44	0.54
Access to credit			
None	0.39	0.50	0.63
Formal	0.33	0.34	0.56
Informal	0.31	0.47	0.39
All	0.36	0.44	0.47(May), 0.53(Aug)

Poverty was also found to increase with increase in household size. This may be owing to the fact that a large household size tends to reduce per-capita expenditure although it could enhance it depending on the distribution of household members between adult and children and whether such adults are working. This means that having a family, which includes more income earning members thus a lower dependency ratio, reduces poverty. In support of this, vulnerability of a household to poverty was found to increase with age of the household head with vulnerability index highest for both household head aged above 65 years and also large sized households.

The educational status of the respondents showed that poverty and vulnerability decreased with increase in educational attainment, although vulnerability index was found to be highest for those with primary education. This may be because their level of education may tempt them to seek paid employment. Consequently, they end up in low cadre positions with a low level of income. Households where the household heads were married were found to be less poor and less vulnerable than those with either single or widowed heads. The occupational status of the respondents revealed that wage earners were less poor and less vulnerable than non-wage earners in the two survey rounds. This may be connected to the fact that being employed with a stable income reduces the likelihood of being poor and of severe welfare loss whenever confronted with a risk.

Also, household heads without access to any form of credit in the two survey rounds were found to be the poorest and the most vulnerable. This implies that access to credit reduces the likelihood of being poor. However, those with access to formal credit were found to be more vulnerable than those with access to informal credit. This may be due to the timely access to informal credit as against the lengthy appraisal of applications for formal credit and requests for collateral made by financial institutions which is practically non-existent for the poor.

4.2   *Household Vulnerability to poverty*

Following the outlined analytical procedure, the probit model was used. This model has been used in many vulnerability studies e.g. Skoufias and Quisumbing (2002) in their work on consumption insurance and vulnerability and Byett (2002) in his work on measures of household vulnerability in which the probit regression was used to model the probability of a bank crisis. The results of the Probit Analysis (backward regression) are presented in tables 4 and 5. Table 4 presents the initial analysis while table 5 presents the final result of analysis after all the insignificant variables had been excluded. Large household size invariably reduces welfare of household members and therefore can be said to enhance vulnerability to poverty. Expectedly, the result of the probit analysis showed that married household heads were less vulnerable than single or widowed household heads. This is so, considering the negative sign of the coefficient representing marital status. The possible reason for this could be the ease of risk sharing and pooling of resources together to jointly cater for household needs better. Also, the sign of the coefficient of tertiary education status was negative. This is an indication that the higher the years of formal education obtained by household heads, the lower the odds of the household heads being vulnerable.

Table 4: Determinants of Vulnerability to poverty of households (Initial)

Variable	Coefficient	Z
Constant	0.282	-0.215
Sex	0.526	1.447
Age	-0.032	-1.819*
MS1	-0.607	-1.147
MS2	0.743	0.631
HHS	0.436	3.870***
EDUST1	1.623	2.343**
EDUST2	-0.596	-0.879
EDUST3	-1.228	1.299
HHOCC	-0.228	-0.754
EXPTOCO	1.166	1.299
EXPTOIDI	0.045	0.113
NOSOFRIS-	-0.203	-1.272
ACCESSTO CR	0.093	0.321
Log likelihood function	-63.946	
Restricted log likelihood	-92.004	
Chi-squared	56.115	
Degrees of freedom	13	
significance level	0.000	

***, ** and * denote significance of coefficient at 1, 5 and 10 percent respectively.

Table 5: Determinants of Vulnerability to poverty of households (Final)

Variable Name	Coefficient	Z
Constant	-0.520	-1.115
MS1	-0.823*	-1.890
HHS	0.329***	3.740
EDUST1	1.362**	2.150
EDUST 3	-0.789***	-3.068
Log likelihood function	-67.667	
Restricted log likelihood	-92.004	
Chi-squared	48.672	
Degrees of freedom	4	
Significance level	0.000	

***, ** and * denote significance of coefficient at 1, 5 and 10 percent respectively.

This suggests that improving the educational attainment of household heads assists in getting good jobs and taking opportunities which otherwise would not have been possible. The overall effect of this is increased income, which translates to increased per capita expenditure and consequently improved welfare and standard of living of household members. On the other hand, the coefficients of household size and primary education were positive implying that large household size and low level of education attainment enhanced vulnerability in the study area. In sum, it can be inferred from the result obtained that low level of educational attainment, large household size and widowed or single – all increase or enhance vulnerability to poverty in the study area.

5. **Conclusion and Recommendations**

The study concludes that most of the households in the study area were vulnerable. However, household heads were found to be more vulnerable in the second survey round with 53% vulnerability compared with the first survey round with 47% vulnerability. Also, vulnerable household heads were found to be mostly uneducated or have at least primary education. While primary education status and household size enhanced vulnerability to poverty, marital status and tertiary educational status reduced it. Thus, considering the level of vulnerability in the two periods, having in mind the various risks exposed to by the respondents, (which may easily reverse their situations – especially macroeconomic risks) a lot needs to be done to improve the factors that reduce vulnerability to poverty. If the currently poor are targeted, a large proportion of the households will move out of poverty between one period and the other and policy

interventions that help the currently poor cannot be assumed to lead to a reduced incidence of poverty in the next period ahead (i.e. vulnerability to poverty). This suggests that different policies may be needed for poverty reduction because focusing anti-poverty efforts on the correlates of current poverty status (which could be as a result of exposure to a shock at that time) may not have any significant impact on the probability of being poor in the future but forward looking anti-poverty interventions that aim to prevent rather than alleviate poverty could be embarked upon.

The implication of the above findings is that large sized households with old, widowed heads who have no access to credit, earn low income and have no or low educational qualification are the most vulnerable to poverty in the study area. Thus, following from the above, improvement in the level of educational attainment is a major policy prescription emanating from this study. This is pertinent since having primary education predisposed people to vulnerability in urban areas according to this study. It is envisaged that the government and all concerned will follow through the Universal Basic Education Programme (UBE) which prescribed a nine-year mandatory education for all citizens. This will enable people to acquire better education which can lead to improved income and by extension reduced vulnerability to poverty. This is amply demonstrated by the fact that those that have tertiary education are less vulnerable to poverty. In addition, there is need for increased awareness on benefit of small family size which can be incorporated into family planning activities, while safety net programmes should be specifically targeted at aged and widowed heads. Lastly, credit/loan facilities should be made available and accessible to target households at moderate

interest rates to reduce the impact of income risks and Government could assist through relaxation of any stringent guidelines in securing such assistance (especially in the case of formal credit).

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