Using vulnerability mapping to identify and quantify dimensions of Child Poverty

Dr. Mike Griffiths, Director of Research, Social Policy & Poverty Research Group

Keywords: child poverty, vulnerability, poverty reduction

Research Objectives: this research will utilize household vulnerability mapping to identify the dimensions of child poverty in Myanmar, to provide an evidence base for poverty reduction programmes

Literature review: Child poverty is known to be multi-dimensional[i], and an understanding of the dimensions of child poverty, as differing from adult poverty, are essential in planning effective poverty reduction[ii]. The link between vulnerability and poverty is well documented[iii]. However, the application of vulnerability mapping to explore and measure dimensions of child poverty remains fairly recent.

Methodology: using the 'Umbrella Model', vulnerability and poverty data was collected on 3,808 households in 35 villages in Magwe Division, central Myanmar, in July 2012. Details of this method are available in previously published papers (www.spprg.org). Analysis was conducted to identify and sub-stratify households with no children, with a child: adult ration of one or less, and households with a child: adult ratio greater than 1:1. A child was defined as a normally resident person aged 16 or less. Comparisons of proportions were made to calculate Odds Ratio with 95% confidence interval, and calculations of significance of differences in means were made using the Student's T-test.

Findings and analysis: Analysis of 3,808 household sample yielded 1,343 households with no children (35%), 2,120 households with a ratio of 1:1 or less (56%) and 345 households with a child: adult ratio greater than 1:1 (9%). Compared with households with no children or households with a child: adult ratio of 1:1 or less, households with a child: adult ratio greater than 1 had increased rates of vulnerability (OR 1.52, CI 1-1.65), problem debt (p=0.09), landlessness (OR 1.3, CI 1-1.58), food insecurity (p<0.001) and food poverty (OR 1.05, CI 0.82-1.3). Additionally, they had poorer asset profile (p<0.001) housing (p<0.001) and livelihood diversity (p<0.001).

Table 1: comparison rates of sub-stratified child ratio households

Household (ratio of children <16 to adults)	Vulnerability [iv]	Food Poverty [v]	Health expenditure [vi]	Debt profile [vii]	Landless	Livelihood diversity [viii]	Asset profile [ix]	Food security [x]	Water & sanitation [xi]	Housing [xii]	Decision making [xiii]
No Children <16	22.7%	27%	17%	0.7	37%	0.57	0.55	0.87	0.65	4.11	0.312
Ratio of 1:1 or less	18.8%	32%	14%	0.69	42%	0.31	0.54	0.85	0.59	4.04	0.33
Ratio greater than 1:1	27%	30%	12.9%	0.65	52%	0.27	0.48	0.81	0.59	3.62	0.31

Households with a ratio of greater than one child per adult experienced higher rates of vulnerability, food poverty and landlessness, and had comparatively poor debt profile, asset profile, livelihood diversity and housing. Likewise, such households were more likely to experience food insecurity. Although slight differences are demonstrated in decision making and water and sanitation related vulnerability, these differences were not significant. Interestingly, households with children had comparatively lower proportions of household expenditure on health. However, the differences are minimal when corrected for excess expenditure presumed to be related to health issues in older persons. Overall, these findings illustrate the dimensions of child poverty, and enable policy makers to identify and profile vulnerable households, leading to the design and implementation of more targeted programmes for child social protection and poverty reduction.

i Roelen K. and Gassmann F. (2008), \Measuring Child Poverty and Well-Being: a literature review", MPRA Paper
ii Feeny T. and Boyden J. (2003), Children and Poverty: A Review of Contemporary Literature and Thought on Children and Poverty, Christian Children's Fund, Richmond.
iii Prowse, M. (2003), ―Towards a clearer understanding of 'vulnerability' in relation to chronic poverty‖, Working Paper No. 24, CPRC, University of Manchester.
iv Defined as three or more factors scoring greater than one standard deviation below the population mean
v Defined as >30% of household expenditure spent on food
vi % of total household expenditure on health needs
vii Derived from a weighted formula measuring proportion of expenditure on debt repayments and credit risk of creditors. A high number is good, a low number is bad
viii Derived from a formula assessing number and seasonal variations of income sources per household member. A high number is good, a low number is bad.
ix Derived from formula measuring ownership of livelihood, household, transport and other household assets. High number is good, low number is bad.
x From UNDP/WFP indicator, modified and converted to a 0-1 score, where a high number indicates good food security, and a low number indicates food insecurity.
xi Derived from formula based on time taken to obtain household water. High number is good, low number is bad.
xii Scoring system for housing quality. High number indicates better quality, lower number indicates poor quality
xiii Formula derived from questionnaire on household participation in community decision making. High number is good, low number indicates relative disempowerment.